



Republic of the Philippines
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Office of the University President

Memorandum Order No. **367-a**
Series of 2021

TO : ALL CONCERNED

THRU : VICE PRESIDENTS AND CHANCELLORS

SUBJECT : IMPLEMENTATION OF GREEN MANAGEMENT PRACTICES IN THE UNIVERSITY IN RELATION TO THE REQUIREMENTS OF RELEVANT LAWS, RULES AND REGULATIONS

DATE : 30 JUNE 2021

In relation to the state policy of protecting and advancing the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature (Section 16, Article II, 1987 Philippine Constitution), the following provisions of the relevant environmental laws are hereby adopted for implementation of all offices concerned:

A. THE PHILIPPINE GREEN BUILDING (GB) CODE

1. Energy Efficiency:

- 1.1. The University shall adopt efficient practices, designs, methods and technologies that reduce energy consumption resulting in cost savings (Section 10, GB Code);
- 1.2. In the planning, design, construction and management of buildings, all offices concerned must assure compliance with the requirements under Sections 10.1 (Building Envelope), 10.2 (Natural Ventilation), 10.3 (Building Envelope Color), 10.4 (Roof Insulation), 10.5 (Mechanical Systems), and 10.6 (Electrical Systems);

2. Water Efficiency:

- 2.1. The University shall adopt efficient practices, plan, design, materials, fixtures, equipment and methods that reduce water consumption resulting in cost savings (Section 11, GB Code);
- 2.2. In the planning, design, construction and management of buildings, all offices concerned must assure compliance with the requirements under Sections 11.1 (Efficient Water Fixtures), and 11.2 (Efficient Water Management);
- 2.3. In relation to Efficient Water Management, all offices concerned shall give primordial consideration in rainwater harvesting from roofs and hardscape and reuse thereof for non-potable purposes (Section 11.2.1, GB Code);

- 2.4. Further, the recycled water from Sewage Treatment Plants (STP) shall be reused also for non-potable purposes (Section 11.2.2, GB Code)

3. Material Sustainability:

- 3.1. The University must practice resource efficiency and material selection and use with the least impact on the environment. (Section 12, GB Code);
- 3.2. In the planning, design, construction and management of buildings, all offices concerned must assure compliance with the requirements under Section 12.1 (Use of Non-Toxic Materials). Specifically, paints, coatings, adhesives and sealants used indoors or non-ventilated areas shall not contain Volatile Organic Compounds (VOC) or should be within levels tolerable to humans (Section 12.1.c.i). Further, all other materials containing chemicals used in construction shall not compromise and be deleterious to the health and safety of the workers and occupants of the building (Section 12.1.c.iii);

4. Solid Waste Management:

- 4.1. The University shall adopt efficient waste management practices and use of eco-friendly materials (Section 13, GB Code);
- 4.2. In the planning, design, construction and management of buildings, all offices concerned must assure compliance with the requirements under Section 13.1 (Material Recovery Facility). Offices concerned must assure that solid waste containers provide at least four (4) types of wastes: (i) compostable/biodegradable; (ii) non-recyclable; (iii) recyclable; and (iv) special waste (Section 13.1.c). For infirmaries/clinics, isolated bins for hazardous wastes must be provided to avoid contamination (Section 13.1.c. iv)

5. Site Sustainability

- 5.1. The University shall adopt planning, design, construction and operation practices that minimize the adverse impact of buildings on ecosystems and water resources (Section 14, GB Code); and
- 5.2. In the planning, design, construction and management of buildings, all offices concerned must assure compliance with the requirements under Sections 14.1 (Site/Ground Preparation and Earthworks), and 14.2 (Open Space Utilization)

6. Indoor Environmental Quality

- 6.1. The University shall efficiently design and operate practices that take into consideration the building environment to improve occupant health, productivity and safety (Section 15, GB Code);
- 6.2. In the planning, design, construction and management of buildings, all offices concerned must assure compliance with the requirements under Section 15.1 (Minimum Fresh Air Rates). Note that since the University is

strictly a “No Smoking” University, hence, the requirements of Section 15.2 shall not be applied.

B. REPUBLIC ACT NO. 9003, OTHERWISE KNOWN AS THE “PHILIPPINE ECOLOGICAL SOLID WASTE MANAGEMENT ACT OF 2000,” ITS IMPLEMENTING RULES AND REGULATIONS (IRR), AS WELL AS ORDINANCES RELATED THERETO ISSUED BY THE LOCAL GOVERNMENT UNITS (LGUs)

All offices concerned, through the Environment Management Unit (EMU) shall see to it that all provisions of RA 9003 related to (1) segregation and storage of solid waste pending collection (Rule IX, Section 2 (d), IRR); (2) operations of MRF (Rule XI, IRR); and (3) prohibition against non-environmentally acceptable products (NEAP) (Rule XII, Section 5), are consistently complied with. Further, all ordinances issued by the respective Sanggunians, in relation to the matter, of each campus must likewise be observed and/or complied with.

Moreover, the University must not allow the use of Single Use Plastic Products, specifically plastic coffee stirrer and plastic soft drink straw which have been included in the NEAP List under the National Solid Waste Management Commission (NSWMC) Resolution No. 1428, s. 2021.

C. THE REPUBLIC ACT NO. 9275, OTHERWISE KNOWN AS THE “PHILIPPINE CLEAN WATER ACT OF 2004,” AND ITS IMPLEMENTING RULES AND REGULATIONS (IRR)

All provisions of RA 9275 related to the role of establishments to assure water quality in the University must be complied with. Further, all offices concerned with water quality assurance must have to regularly check the University’s compliance with Water Quality Guidelines and General Effluent Standards of 2016 issued by the Department of Environment and Natural Resources (DENR). The provisions related to water discharge must likewise be complied with.

D. THE REPUBLIC ACT NO. 8749, OTHERWISE KNOWN AS THE “PHILIPPINE CLEAN AIR ACT OF 1999,” AND ITS IMPLEMENTING RULES AND REGULATIONS (IRR)

All offices and/or campuses must ensure that the University abides with the principle of “*responsibility of cleaning the habitat and environment is primarily area-based*” (Article 1, Section 2). Further, all offices and/or campuses must ensure that the following acts are strictly prohibited within the campus premises (Section 13, IRR):

- (a) Causing, letting, permitting, suffering or allowing fugitive particulates from any source;
- (b) Storing, pumping, handling, processing, unloading or using in any process or installation, volatile compound or organic solvents without applying known existing vapor emission control devices or systems deemed necessary and approved by the DENR;
- (c) Discharging from any source whatsoever such quantities of air contaminants or other material which constitute nuisance as defined under Articles 694 to 707 of Republic Act No. 385, otherwise known as the Civil Code of the Philippines;

- (d) Open burning or burning any materials in any quantities which shall cause the emission of toxic and poisonous fumes;
- (e) Exceeding the limits of operation or capability of a control device to maintain the air emission within the standard limitations imposed by RA 8749;
- (f) Building, erecting, constructing, installing, or implanting any new source, or operating, modifying, or rebuilding an existing source, or by any other means releasing or taking action which would result in, together with the concentrations of existing air pollutants, ambient air concentration greater than the ambient air quality standards specified RA 8749;
- (g) Building, erecting, constructing, installing, or using any article, machine, equipment or other contrivance, the use of which will conceal an emission which would otherwise constitute a violation of any of the provisions of RA 8749; and
- (h) Causing or permitting the installation or using any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminant.

E. THE REPUBLIC ACT NO. 6969, OTHERWISE KNOWN AS THE “TOXIC SUBSTANCES AND HAZARDOUS AND NUCLEAR WASTES CONTROL ACT OF 1990,” AND ITS IMPLEMENTING RULES AND REGULATIONS (IRR)

All provisions of RA 6969 and its IRR which mandates all persons to responsibly manage the handling, management, disposal, among others, of hazardous and nuclear wastes are hereby adopted. This includes, but is not limited to, Chapters VII and VIII of the IRR.

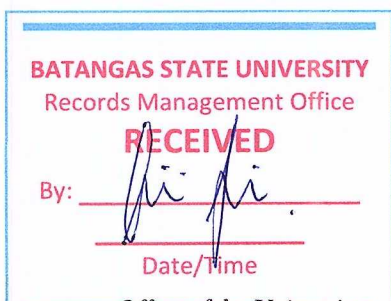
F. SUSTAINABLE AND/OR GREEN PUBLIC PROCUREMENT

Insofar as practicable, the University, in all its procurement activities, should comply with the green technical specifications under the Government Procurement Policy Board (GPPB) Resolution No. 25-2017, and take into consideration in all plans of the University the Philippine Green Public Procurement (GPP) Roadmap.

All other related laws, rules, and regulations are likewise made as integral parts of this Memorandum, hence should likewise be implemented in the University.

Attached are the cited laws, rules, and regulations for ready reference.

For information and guidance.

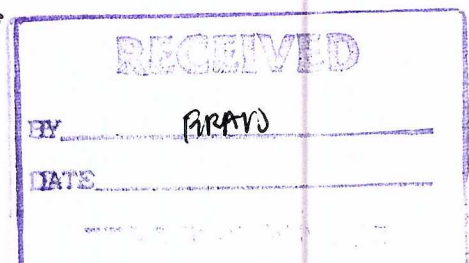


[Signature]
Dr. TIRSO A. RONQUILLO
University President

cc: Office of the University and Board Secretary
Records Management Office, Central Administration

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UPEA2 - Apollo

[Signature]





GB



CODE

PHILIPPINE GREEN BUILDING CODE

THE PHILIPPINE GREEN BUILDING CODE

June 2015

**A Referral Code
of the
NATIONAL BUILDING CODE OF THE PHILIPPINES
(P.D. 1096)**

Message

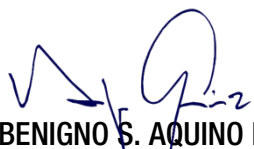


My warmest greetings to the Department of Public Works and Highways on the implementation of the Philippine Green Building Code of 2016.

Today is an historic moment as the government, through the DPWH, implements the Green Building Code, or the “GB Code.” This manual will be one of our enduring legacies to succeeding generations and the fulfillment of our duty to secure their rights, welfare, and protection. I am filled with pride that the country is now part of the global movement towards ecological conscientiousness and sustainability.

I am confident that the ideas contained in this document will help ensure that all structures built from here on will have minimal impact on our environment, complying with various standards of quality and efficiency, and fulfilling criteria that allow occupants to lead meaningful lives.

Indeed, a new era has dawned over our nation. Informed by the lessons of the past, and mindful of the needs of the future, building better is not just an option but an indispensable part of our efforts towards achieving real, lasting progress. Through the observance of the principles and guidelines laid down in the GB Code, we will create a Philippines that we can be proud to bequeath to the next generation.



BENIGNO S. AQUINO III
President of the Philippines

Foreword

In recent years, countries in the Asia-Pacific region started to adopt measures that promote resource management efficiency and site sustainability while minimizing the effects of buildings on human health and environment by practicing Green Building.

The time has come for the Philippines to champion the implementation of greener measures to address climate change. With the Department of Public Works and Highways' partnership with International Finance Corporation of the World Bank group, the clamor for sustainable building regulations has been answered.



The Philippine Green Building Code, a referral code to the National Building Code of the Philippines, rallies to lessen the impacts of buildings to health and environment through resource management efficiency.

A gamut of minimum standards aimed to reduce greenhouse emissions and introduce electricity and cost savings for buildings is imposed to applicable building falling under certain gross floor area to deliver improved energy efficiency, water and wastewater management, materials sustainability, solid waste management, site sustainability and indoor environmental quality.

With the implementation of this Code and the promise of reducing greenhouse gas emissions and energy and water consumption by at least 20%, DPWH will herald the achievement of the Philippine Government's commitment to reduce carbon emissions by 70% in 2030.

We took the first steps in engineering this Code with the help of professional associations and stakeholders to answer the call for a sustainable building regulation. We now call upon our stakeholders, end-users, customers and other relevant parties to lend your hands to us as, together, we achieve an environmentally sound Philippines.


ROGELIO L. SINGSON
Secretary



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

THE PHILIPPINE GREEN BUILDING CODE
AS A REFERRAL CODE OF
THE NATIONAL BUILDING CODE OF THE PHILIPPINES

Pursuant to the General Powers vested to the Secretary of Department of Public Works and Highways by Section 203 of Presidential Decree 1096 otherwise known as the National Building Code of the Philippines, and its Implementing Rules and Regulations, the Philippine Green Building Code endorsed by relevant stakeholders, private sectors and other government agencies, various Accredited Professional Organizations, the National Building Code Board of Consultants and the DPWH Management Committee, the proposed **Philippine Green Building Code** is hereby approved as a Referral Code of the National Building Code of the Philippines.

Approved in the City of Manila, Philippines
this 22nd day of June, in the year of our Lord
Two Thousand Fifteen



ROGELIO L. SINGSON

Secretary, Department of Public Works and Highways

Department of Public Works and Highways
Office of the Secretary



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PHILIPPINE GREEN BUILDING CODE

A Referral Code of the NATIONAL BUILDING CODE (P.D. 1096)

CHAPTER I. GENERAL PROVISIONS

Section 1. Title

This document shall be known as the “Philippine Green Building Code” hereinafter referred to as the “GB Code”.

Section 2. Policy

The state shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature against harmful effects of climate change. It shall safeguard the environment, property, public health, in the interest of the common good and general welfare consistent with the principles of sound environmental management and control; and for this purpose, prescribe acceptable set of standards and requirements for relevant buildings to regulate their location, site, planning, design, quality of material, construction, use, occupancy, operation and maintenance.

Section 3. Objectives

The GB Code seeks to improve the efficiency of building performance through a framework of acceptable set of standards that will enhance sound environmental and resource management that will counter the harmful gases responsible for the adverse effects of climate change, throughout the building’s life-cycle including efficient use of resources, site selection, planning, design, construction, use, occupancy, operation and maintenance, without significant increase in cost. This GB Code is a set of regulations setting minimum standards for compliance and not intended to rate buildings.

Section 4. Principles

- 4.1 The technical professionals, developers, contractors, property managers and building owners involved in the planning, design, construction and management of buildings have the opportunity and responsibility to help government address the adverse effects of climate change by ensuring that buildings are planned, designed, constructed, operated and maintained to the required efficiency level.
- 4.2 Resources must be used efficiently to equitably meet the developmental and environmental needs of the present and future generations.

- 4.3 Occupants of green buildings will benefit from improved indoor environmental quality, which promotes higher productivity and better comfort.

Section 5. Definition of Terms

The words, terms and phrases as used in this GB Code shall have the meaning or definition as indicated in the National Building Code (NBC) and Annex 1.

Section 6. Green Building Concept

Green building is the practice of adopting measures that promote resource management efficiency and site sustainability while minimizing the negative impact of buildings on human health and the environment. This practice complements the conventional building design concerns of economy, durability, serviceability and comfort.

Section 7. Approach

The GB Code adopts a staggered or incremental approach and is subject to periodic review by the Secretary of the Department of Public Works and Highways (DPWH), through the National Building Code Development Office (NBCDO), to modify or include new aspects and emerging efficient technologies and expand the coverage to other building use / occupancy or replace outmoded measures.

Section 8. Building Use / Occupancy Coverage and Application

- 8.1 The provisions of the GB Code shall apply to all new construction and/or with alteration of buildings in the following classification with the required minimum Total Gross Floor Areas (TGFA) as indicated in Table 1 below:

Table 1. Minimum TGFA for Building Use / Occupancy

USE / OCCUPANCY CLASSIFICATION of any jurisdiction	TGFA as defined by NBC
Residential Dwelling: Condominium ¹	20,000 sqm
Hotel / Resort	10,000 sqm
Educational: School	10,000 sqm
Institutional: Hospital	10,000 sqm
Business: Office	10,000 sqm
Mercantile: Mall	15,000 sqm
Mixed Occupancy ²	10,000 sqm

Sources: NBC, Baseline Studies, IFC Philippine Green Building Code Project, May 2013

¹ For Residential Dwelling: Condominium, the TGFA is the sum of the dwelling areas, common and accessory areas within the building.

² The areas for Mixed Occupancy classification shall have a total aggregate area equal to the TGFA

- 8.2 GB Code does not apply to existing buildings of the above use / occupancy classification constructed before the effectivity of the GB Code.

8.3 When alterations, additions, conversions and renovations of existing buildings constructed after the effectivity of the GB code, which reached the TGFA as indicated in Table 1 are to be made, the whole building shall be subject to the applicable provisions of the GB Code.

8.4 A building of mixed occupancy with combination of classification as indicated in Table 1, shall use appropriate measures applicable to each classification.

CHAPTER II. GREEN BUILDING REQUIREMENTS

Section 9. Performance Standards

The GB Code shall be subject to the following performance standards:

- 9.1 Energy Efficiency
- 9.2 Water Efficiency
- 9.3 Material Sustainability
- 9.4 Solid Waste Management
- 9.5 Site Sustainability
- 9.6 Indoor Environmental Quality

Section 10. Energy Efficiency

Energy efficiency requires the adoption of efficient practices, designs, methods and technologies that reduce energy consumption resulting in cost savings.

10.1 BUILDING ENVELOPE

10.1.1 Air Tightness and Moisture Protection

a. General

As the humidity levels are very high in the Philippines, the unwanted infiltration and humidity ingress into the spaces can cause additional load on the air conditioning system and a detrimental impact on air quality. Buildings must be planned and designed with specific details to ensure that air tightness is maximized. Details should precisely include joints, service entry points, windows and doors. The implementation of these measures requires only increased attention to the construction details and it can be implemented at practically no cost.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

Buildings shall be planned and designed with:

- i. Complete gaskets, weather-stripping, door bottom sweeps and seals within and around window and door assemblies

- ii. Moisture protection on the surface of the external façade to reduce vapor or moisture migration from external spaces
- d. Exceptions
Buildings and spaces without provisions for air conditioning systems are exempt.

10.1.2 Glass Properties

a. General

Compared to wall assemblies, glazing transfers more heat and hence, it is ideal to reduce the amount of glazing with respect to the wall in order to reduce internal heat gains.

The requirement of Window to Wall Ratio (WWR) needs to be balanced with the amount of daylight coming through the glazed area.

Solar Heat Gain Coefficient (SHGC) is used to determine the amount of solar heat admitted through the glass divided by the total solar radiation incident on the glass.

Visible light Transmittance (VLT) is used to determine the amount of light transmitted through the glass.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

WWR shall be balanced with SHGC to maintain flexibility in design. To further describe, the higher the designed building WWR, the lower the required SHGC in glass windows shall be and vice-versa. This does not however, remove the option for building owners to apply windows with low SHGC for building with low WWR.

- i. The size of the opening (with or without glass) shall be in accordance with the NBC.

For each WWR value, the SHGC and VLT shall be in accordance with Table 2.

Table 2. SHGC and VLT for different WWR

WWR	Maximum SHGC	Minimum VLT
10	0.80	0.80
20	0.70	0.70
30	0.60	0.70
40	0.45	0.60

50	0.44	0.55
60	0.37	0.50
70	0.31	0.45
80	0.27	0.40
90	0.24	0.35

Source: Prescribed Requirements, IFC Philippine Green Building Code Project, May 2013

The SHGC requirement in Table 2 can be adjusted if sun breakers are provided in the windows. Sun breaker plays a very important role in reducing solar heat gain as it stops the solar radiation before it enters the building and doing so reduces the cooling loads considerably. External shading has the additional positive effect of improving the internal comfort cutting part of the direct radiation on occupants. This must be applied only to windows that are shaded.

SHGC limits can be adjusted by multiplying it with the correction factors summarized in the following tables, using the formula:

$$SHGC_{adj} = f \times SHGC$$

where:

- $SHGC_{adj}$ is the adjusted solar heat gain coefficient limit for windows with external shading
- $SHGC$ is the solar heat gain coefficient
- f is the SHGC correction factor for the external shading

- ii. For intermediate values of D/H or D/W the lower figure of correction factor should be used as stated in Tables 3 and 4.
- iii. D is the depth of the shading device as projected from the building exterior wall and H or W is the height or distance of the bottom sill of the window from the bottom of the shading device as shown in Figure 1.
- iv. Shading which is not attached to windows or placed on a wall with no window should not be counted.

Figure 1. Schematic representation of a window and related horizontal overhang or vertical fin

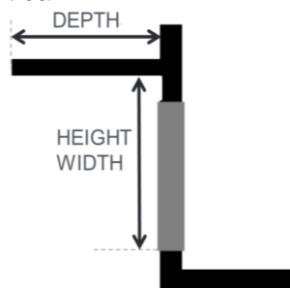


Table 3. Correction factor for each horizontal overhang shading projection

D/H	Correction Factor
0.1	1.03
0.5	1.06
1	1.08

Table 4. Correction factor for each vertical fin shading projection

D/W	Correction Factor
0.1	1.04
0.5	1.12
1	1.17

Source: Prescribed Requirements, IFC Philippine Green Building Code Project, May 2013

For glass products, see Annex 2 Glass Library.

d. Exceptions

There are no exceptions to this provision.

10.2 NATURAL VENTILATION

a. General

This measure will give building occupants the flexibility and opportunity to use natural ventilation for free cooling and fresh air in regularly occupied spaces. This measure will limit the tendency to create glass-sealed box type buildings. Size of each room and space shall be consistent with the occupancy load of the NBC.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

- i. Operable windows or balcony door shall be provided in regularly occupied spaces. The size of the opening shall be equal to at least ten percent (10%) of the floor area of regularly occupied spaces.
- ii. All operable windows shall be provided with safety features for protection against strong winds, water penetration and protection for building occupants including child safety and security.

- c. Exceptions
There are no exceptions to this provision.

10.3 BUILDING ENVELOPE COLOR

- a. General
Light-colored building envelope, especially the roof areas which are the most vulnerable, can reduce heat transfer from the outside to the inside of the building by having surfaces with high Solar Reflectance Index (SRI).
- b. Applicability
This measure applies to all building occupancies as indicated in Table 1.
- c. Requirements

- i.

METAL SURFACE	SRI
Reflective white	86 to 92
Basic white	80 to 88
Beige / Tan	74 to 80
Dark brown	0 to 33
Light to medium brown	45 to 56

Building metal roof surfaces shall either be colored white or have a minimum SRI of 70. See Table 5.

Table 5. Solar Reflectance Index Values Of Basic Colored Coatings

Light to medium grey	39 to 63
Dark grey	0 to 41
Blue	23 to 30
Light to medium blue	35 to 38
Red	28 to 36
Terracotta red	38 to 40
Green	25 to 32
Light to medium green	30 to 48

Source: PPG Cool Color Series - www.coolcolorsdatabase.ppg.com
as rated by the Cool Roof Rating Council, US

- d. Exceptions. There are no exceptions to this provision.

10.4 ROOF INSULATION

a. General

Insulation can help reduce heat gain in a building thus improving thermal comfort, acoustic quality and reducing the load on the air conditioning system.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

Buildings shall be provided with roof insulation so that the average thermal resistance value (R-Value) of the roof is at least R-8. See *Annex 4 (Insulation R-Value)*.

For Insulating Values of Common Building Materials see Annex 3

Table 6. R-Value of Common Roof Insulation

INSULATION	R-Value / inch (25.4 mm)
Polyisocyanurate	5.6 to 8.0
Polyurethane	5.6 to 6.5
Closed cell spray foam	5.5 to 6.0
Phenolic foam	4.8
Urea formaldehyde foam	4.6
Plastic fiber	4.3
Mineral fiber	4.2 to 4.5
Cementitious foam	3.9
Polystyrene	3.8 to 5.0
Fiberglass	3.7
Rockwool	3.7
Rigid foam	3.6 to 6.7
Cellulose	3.6 to 3.8
Open cell spray foam	3.6
Sheep's wool	3.5
Hemp	3.5
Cotton	3.4
Loose cellulose	3.0 to 3.7
Mineral wool	2.8 to 3.7
Straw	2.4 to 3.0
Vermiculite / Perlite	2.4
Reflective bubble foil	1 to 1.1

Source: U.S. Department of Energy – Insulation Materials

d. Exceptions. There are no exceptions to this provision.

10.5 MECHANICAL SYSTEMS

10.5.1 Air Conditioning System

a. General

Air conditioning typically accounts for more than fifty percent (50%) of total electricity costs in a centrally air conditioned building. Hence, the efficiency of an air conditioning system is of prime importance. The heart of the air conditioning system is the cooling system, typically chillers in large buildings and is important to procure an efficient cooling system.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

The cooling equipment shall meet or exceed the minimum efficiency requirements as indicated in Tables 7 and 8.

Table 7. Electrically Operated Unitary Air Conditioners and Condensing Units

Equipment Type	Size Category		Sub-Category or Rating Conditions	Minimum Efficiency	Test Procedure
	(in Btu/h)	(in kJ/h)			
Air conditioners, air-cooled	<65,000	<68,585	Split systems	14.0 SEER 12.0 EER	AHRI 210/240; PNS ISO 5151:2014; PNS ISO 16358-1
			Single packaged	14.0 SEER 11.6 EER	
Through-the-wall, air-cooled	<30,000	<31,655	Split systems	12.0 SEER	AHRI 210/240; PNS ISO 5151:2014; PNS ISO 16358-1
			Single packaged	12.0 SEER	
Small-duct high velocity, air-cooled	<65,000	<68,585	Split systems	10.0 SEER	AHRI 210/240; PNS ISO 5151:2014; PNS ISO 16358-1
Air conditioners, air-cooled	≥65,000 &	≥68,585 &	Split systems and single packaged	11.5 EER	AHRI 340/360; PNS ISO 5151:2014; PNS ISO 16358-1
	<135,000	<142,447		11.3 EER	
	≥135,000 &	≥142,447		11.5 EER	
	<240,000	<253,238		11.3 EER	
	≥240,000 &	≥253,238 &		10.0 EER	
	<760,000	<801,922		9.8 EER	
	≥760,000	≥801,922		9.7 EER	
Air conditioners, water and evaporative cooled	<65,000	<68,585	Split systems and single packaged	14.0 EER	AHRI 210/240; PNS ISO 5151:2014; PNS ISO 16358-1
				14.0 EER	
	≥65,000 &	≥68,585 &		13.8 EER	AHRI 340/360; PNS ISO 5151:2014; PNS ISO 16358-1
	135,000	142,447		13.8 EER	
	≥135,000 &	≥142,447 &		13.8 EER	
	240,000	253,238		14.0 EER	
≥ 240,000	≥ 253,238	13.8 EER			

Source: 2010 PSVARE Standards

Table 8. Water Chiller Packages – Minimum Efficiency Requirements

Equipment Type	Size category		Minimum Efficiency	Test Procedures
			Full Load	
Air-cooled chillers with, condenser, electrically operated	< 150 tons	EER	10	AHRI 550/590
	≥150 tons	EER	10	
Air-cooled chillers without condenser, electrically operated	All capacities	EER	Condenserless units shall be rated with matched condensers	AHRI 550/590
Water-cooled, electrically operated, positive	All capacities	Kw/ton	Reciprocating units required to comply with water-cooled positive displacement requirements	AHRI 550/590
Water-cooled, Electrically operated, positive displacement	< 75 tons	Kw/ton	0.78	AHRI 550/590
	≥ 75 tons and < 150 tons	Kw/ton	0.775	
	≥ 150 tons and < 300 tons	Kw/ton	0.68	
	≥ 300 tons	Kw/ton	0.62	
Water-cooled electrically operated, centrifugal	< 150 tons	Kw/ton	0.634	AHRI 550/590
	≥ 150 tons and < 300 tons	Kw/ton	0.634	
	≥ 300 tons and < 600 tons	Kw/ton	0.576	
	≥ 600 tons	Kw/ton	0.57	
Air-cooled absorption single effect	All capacities	COP	0.6	AHRI 560
Water-cooled absorption single effect	All capacities	COP	0.6	
Absorption double effect indirect-fired	All capacities	COP	1	
	All capacities	COP	1	

Source: 2010 PSVARE Standards

- d. Exceptions
Buildings with no air-conditioning systems are exempt.

10.5.2 Water Heating System

a. General

The use of energy-efficient water heating systems in buildings, by observing minimum power performance requirements, will help reduce energy consumption due to heating of water.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements. Applicable buildings shall comply with the minimum performance requirements for water heating in the 2010 PSVARE Standards, as shown in Table 9.

d. Exceptions

Buildings with no water heating systems and buildings with using solar water heating and/or heat pump for water heating are exempt.

Table 9. Minimum Performance Requirements for Water Heating Equipment

Equipment Type	Size Category (Input)		Subcategory or Rating Condition		Performance Required		Test Procedure
	I-P	SI	I-P	SI	I-P	SI	
Electric Water Heaters	12 kW	12 kW	Resistance \geq 20 gal	Res \geq 76 L	EF \geq 0.97 - 0.00132V	EF \geq 0.97 - 0.00132V	DOE 10 CFR Part 430
	> 12 kW	> 12 kW	Resistance \geq 20 gal	Res \geq 76 L	SL \leq 20 + 35 \sqrt{V} , Btu/h		ANSI Z21.10.3
	All sizes	All sizes	Heat Pump	Heat Pump	EF \geq 2.0	EF \geq 2.0	DOE 10 CFR Part 430
Gas Storage Water Heaters	\leq 75,000 Btu/h	\leq 22 kW	\geq 20 gal	\geq 76 L	EF \geq 0.67	EF \geq 0.67	DOE 10 CFR Part 430
	> 75,000 Btu/h	> 22 kW	< 4,000 (Btu/h)/gal	< 0.31 kw/L	E \geq 80% and SL \leq (Q/800 + 110 \sqrt{V}), Btu/h		ANSI Z21.10.3
Gas Instantaneous Water Heaters	> 50,000 Btu/h and < 200,000 Btu/h	> 15 kW and < 58kW	\geq 4,000 (Btu/h)/gal and < 2 gal	\geq 0.31 kw/L and 7.57 L	EF \geq 0.82	EF \geq 0.82	DOE 10 CFR Part 430
	\leq 200,000 Btu/h	\leq 58 kW	\geq 4,000 (Btu/h)/gal and < 10 gal	\geq 0.31 kw/L and 37.85 L	E \geq 80%	E \geq 80%	ANSI Z21.10.3
	\geq 200,000 Btu/h	\geq 58 kW	4000 (Btu/h)/gal and \geq 10 gal	0.31 kw/L and \geq 37.85 L	E \geq 80% and SL \leq (Q/800 + 110 \sqrt{V}), Btu/h		
Oil Storage Water Heaters	\leq 105,000 Btu/h	\leq 31 kW	\geq 20 gal	\geq 76 L	EF \geq 0.59 - 0.0019V	EF \geq 0.59 - 0.0019V	DOE 10 CFR Part 430
	> 105,000 Btu/h	>31 kW	< 4,000 (Btu/h)/gal	< 0.31 kw/L	E \geq 78% and SL \leq (Q/800 + 110 \sqrt{V}), Btu/h		DOE 10 CFR Part 430
Oil Instantaneous Water Heaters	\leq 210,000 Btu/h	\leq 62 kW	\geq 4,000 (Btu/h)/gal and < 2 gal	\geq 0.31 kw/L and <7.87 L	EF \geq 0.59 - 0.0019V	EF \geq 0.59 - 0.0019V	
	> 210,000 Btu/h	> 62 kW	\geq 4,000 (Btu/h)/gal and < 10 gal	\geq 0.31 kw/L and <37.85 L	E \geq 80%	E \geq 80%	
	> 210,000 Btu/h	> 62 kW	\geq 4,000 (Btu/h)/gal and \geq 10 gal	\geq 0.31 kw/L and \geq 37.85 L	E \geq 78% and SL \leq (Q/800 + 110 \sqrt{V}), Btu/h		
Hot-water supply boilers, gas and oil	300,000 Btu/h and < 12,500,000 Btu/h	88 kW and < 3664 kW	\geq 4,000 (Btu/h)/gal and < 10 gal	\geq 0.31 kw/L and <37.85 L	E \geq 80%	E \geq 80%	ANSI Z21.10.3
Hot-water supply boilers, gas			\geq 4,000 (Btu/h)/gal and \geq 10 gal	\geq 0.31 kw/L and \geq 37.85 L	E \geq 80% and SL \leq (Q/800 + 110 \sqrt{V}), Btu/h		
Hot-water supply boilers, oil			\geq 4,000 (Btu/h)/gal and \geq 10 gal	\geq 0.31 kw/L and \geq 37.85 L	E \geq 78% and SL \leq (Q/800 + 110 \sqrt{V}), Btu/h		
Pool heaters oil and gas	All sizes	All sizes			E \geq 78%	E \geq 78%	ASHRAE 146
Heat pump pool heaters	All sizes	All sizes			\geq 4.0 COP	\geq 4.0 COP	ASHRAE 146
Unfired storage tanks	All sizes	All sizes			\geq R-12.5	\geq R-12.5	none

10.5.3. Variable Speed Drives and High Efficiency Motors

a. General

Variable Speed Drive (VSD) describes the equipment used to control the speed of machinery by changing the frequency of the motor that is being operated. Where process conditions demand adjustment of flow from a pump or fan, varying the speed of the drive may save energy compared with other techniques for flow control.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

- i. All motors for mechanical equipment over five (5) kW shall be provided with variable speed drive and high efficiency motors in accordance with Table 10.
- ii. All motors of cooling towers shall be provided with variable speed drive and high efficiency motors.
- iii. All motors for domestic pumps shall have high efficiency motors as indicated in Table 10.

d. Exceptions

Kitchen ventilation fans are exempt from this requirement. Non-centralized air-conditioning systems in buildings are not required to employ variable speed controllers.

Table 10. Motor Efficiencies

Number of Poles =====>		2	4	6	2	4	6
Synchronous Speed (RPM) ===>		3600	1800	1200	3600	1800	1200
Motor Horsepower		Open Motors			Enclosed Motors		
IP	SI						
(HP)	(kW)						
1	0.75	77.0	85.5	82.5	77.0	85.5	82.5
1.5	1.10	84.0	86.5	86.5	84.0	86.5	87.5
2	1.50	85.5	86.5	87.5	85.5	86.5	88.5
3	2.20	85.5	89.5	88.5	86.5	89.5	89.5
5	4.00	86.5	89.5	89.5	88.5	89.5	89.5
7.5	5.50	88.5	91.0	90.2	89.5	91.7	91.0
10	7.50	89.5	91.7	91.7	90.2	91.7	91.0
15	11.00	90.2	93.0	91.7	91.0	92.4	91.7
20	15.00	91.0	93.0	92.4	91.0	93.0	91.7
25	18.50	91.7	93.6	93.0	91.7	93.6	93.0
30	22.00	91.7	94.1	93.6	91.7	93.6	93.0
40	30.00	92.4	94.1	94.1	92.4	94.1	94.1
50	37.00	92.0	94.5	94.1	93.0	94.5	94.1
60	45.00	93.6	95.0	94.5	93.6	95.0	94.5
75	55.00	93.6	95.0	94.5	93.6	95.4	94.5
100	75.00	93.6	95.4	95.0	94.1	95.4	95.0
125	90.00	94.1	95.4	95.0	95.0	95.4	95.0
150	110.00	94.1	95.8	95.4	95.0	95.8	95.8
200	150.00	95.0	95.8	95.4	95.4	96.2	95.8
250	185.00	95.0	95.8	95.4	95.8	95.6	95.8
300	225.00	95.4	95.8	95.4	95.8	96.2	95.8
350	260.00	95.4	95.8	95.4	95.8	96.2	95.8
400	300.00	95.8	95.8	95.8	95.8	96.2	95.8
450	335.00	95.8	96.2	96.2	95.8	96.2	95.8
500	375.00	95.8	96.2	96.2	95.8	96.2	95.8

Source: 2010 PSVARE Standards

10.5.4. Enthalpy Recovery of Exhaust Air

a. General

When buildings have outside air or fresh air supply and extract system through mechanical means, using heat exchangers can use the air extracted from the building areas to pre-condition the incoming outdoor air. This process exploits the fact that the extract air is usually already conditioned and therefore colder and drier.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements.

All buildings with centralized air supply system shall use enthalpy recovery wheels with efficiency of at least sixty percent (60%) of ninety percent (90%) exhaust air.

d. Exceptions.

Buildings without centralized cooling systems are exempt.

10.6 ELECTRICAL SYSTEMS

10.6.1 Daylight Provision

a. General

Building should be planned and designed to maximize the use of natural light ~~se~~ to reduce the use of artificial illumination.

b. Applicability.

This measure applies to all building occupancies as indicated in Table 1. For residential condominiums, it does not apply to individual dwelling units.

c. Requirements.

All regularly occupied spaces inside the building shall have a view of any combination of the following features that can allow daylight into the room space:

- i. Window
- ii. Light shelf
- iii. Clerestory
- iv. Skylight
- v. Light monitor / light scoop
- vi. Other devices that can allow daylight inside

- d. Exceptions
Spaces where daylight access hinders its intended function are exempt from this provision with justification for exemption.

10.6.2 Daylight Controlled Lighting System

- a. General
Building interior perimeter zones exposed to daylight generally do not require artificial lighting during the day. However, sub-optimal design and operation of the building results in use of artificial lighting when not required.

Photoelectric sensors connected to luminaires help in dimming or switching off lamps that do not require to be operated due to presence of adequate daylight.

- b. Applicability
This measure applies to all building occupancies as stated in Table 1. For residential condominiums, this applies only to common indoor areas with access to daylight.

- c. Requirements
Applicable buildings shall comply with the following:

- i. Lighting fixtures within the daylight zone shall be controlled with photoelectric sensors with an auto on-off basis or continual dimming. The photoelectric sensor shall be located approximately at half ($\frac{1}{2}$) the depth of daylight zone.
- ii. If occupancy sensors are installed in the daylight zone, the occupancy sensor shall override the photoelectric sensor during non-occupancy period.

- d. Exceptions
Installed lighting fixtures within the day-lit zones are exempt from using photoelectric sensor if this hinders its intended function, with justification for exemption.

10.6.3 Lighting Power Density (LPD)

a. General

Limitation of LPD will help to design the lighting system in the most efficient way and reduce the lighting and cooling load in the buildings.³ The maximum allowed LPD for each space type is specified in Table 11.

³ *The IIEE Manual on the Practice of Efficient Lighting System can be a reference for the design of building lighting systems*

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

All applicable building types shall comply with the LPD limits in the 2010 PSVARE Standards, as shown in Table 11.

Table 11. Maximum Allowed LPD⁴

USE / OCCUPANCY CLASSIFICATION	Building Average LPD (W/m ²)
Residential Dwelling: Condominium	10.8
Hotel / Resort	10.8
Educational: School	12.9
Institutional: Hospital	12.9
Business: Office	10.8
Mercantile: Mall	16.1 (excluding accent lighting)

Source 2010 PSVARE Standards

⁴ *Above requirement excludes parking and exterior lighting (see Table 12)*

Table 12. Maximum Allowed LPD

Other Uses	Average LPD (W/m ²)
Covered parking	3.2
Open and outdoor parking	1.6
Exterior Façade	2.15
Active entrance (pedestrian conveyance)	98.4
Inactive entrance (normally locked / inactive use)	65.6

Source : ASHRAE - IESNA 90.1

d. Exceptions

There are no exceptions to this provision.

10.6.4 **Occupancy Sensors for Lighting Control**

a. General

Occupancy sensors linked to lighting shall be installed in areas with variable occupancy.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1, except for hospitals and malls.

c. Requirements

Applicable buildings shall comply with the following:

- i. In order to limit the use of electricity in unoccupied areas of buildings, occupancy sensors linked to lighting (except for emergency and security lighting) shall be installed in the following areas with variable occupancy:

- corridors
- private offices
- storage rooms
- common toilets
- meeting rooms
- stairways
- other similar areas

- ii. For covered car parks: minimum of sixty per cent (60%) of the lighting must be controlled by the occupancy sensors.

d. Exceptions

Provisions for emergency and security lighting are exempted from this requirement.

10.6.5 **Elevators and Escalators / Moving Ramps / Walkways**

a. General

Escalators / Moving Ramp / Walkway must be fitted with controls to automatically reduce speed or stop when no traffic is detected. Elevators must be fitted with mechanisms to reduce energy demand.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

Applicable buildings shall comply with the following:

i. Escalators / Moving Ramps / Walkways

- Escalators / Moving Ramps / Walkways shall be fitted with automated controls to reduce to a slower speed when no activity has been detected for a maximum period of one and a half (1-1/2) minutes and duration may be adjusted depending on the demand.
- The escalator / moving ramp / walkway shall automatically be put on a standby mode when no activity has been detected for a maximum period of five (5) minutes and duration may be adjusted depending on the demand.
- These escalators / moving ramps / walkways shall be designed with energy efficient soft start technology. Activation of reduced speed, power off and power on modes shall be done through sensors installed in the top or bottom landing areas.

ii. Elevators

- Elevators shall be provided with controls to reduce the energy demand. To meet this requirement, the following features must be incorporated:
 - Use of Alternating Current (AC) Variable Voltage and Variable Frequency (VVVF) drives on non-hydraulic elevators
 - Use of energy efficient lighting and display lighting in the elevator car shall have an average lamp efficacy, across all fittings in the car, of more than 55 lumens / watt
 - Lighting shall switch off after the elevator has been inactive for a maximum period of five (5) minutes
 - The elevators shall operate in a stand-by condition during off-peak periods

d. Exceptions

There are no exceptions to this provision.

10.6.6 Transformer

a. General

The transformer shall be tested in accordance with relevant Philippine National Standards (PNS) at test conditions of full load, free of harmonics and at unity power factor.

b. Applicability

This measure applies to all building occupancies, with own transformer, as indicated in Table 1.

c. Requirements

Transformers that are part of the building electrical system shall have efficiencies not lower than 98% as prescribed in the DOE Guidelines on Energy Conserving Design of Buildings.

d. Exceptions

There are no exceptions to this provision.

10.6.7 Overhead or Elevated Water Storage

a. General

To reduce dependence on motorized systems to supply and distribute potable or non-potable water within the building, thus help reduce energy consumption, overhead or elevated water storage systems are used, provided there's a twenty percent (20%) fire reserve over and above the average daily demand supply. The system relies mostly on elevation and gravity to distribute water within the building.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

Applicable buildings shall include in the water distribution system the integration of overhead or elevated water tanks that will facilitate the distribution of potable and / or non-potable water into the building spaces, without compromising the required water volume and pressure based on demand and the Plumbing Code of the Philippines.

d. Exceptions

Buildings below ten (10) storeys high are exempt from this provision.

Section 11. WATER EFFICIENCY

Water efficiency requires the adoption of efficient practices, plan, design, materials, fixtures, equipment and methods that reduce water consumption resulting in cost savings.

11.1 WATER FIXTURES

a. General

Efficient water fixtures include faucets, showerheads and water closets that use less water in order to perform the same function of cleaning as effectively as standard models. Water efficiency is an important aspect, especially as fresh water resources start getting depleted at a rate faster than they are replenished. Use of efficient plumbing fixtures, sensors, auto control valves, aerators, flow control and pressure-reducing devices, wherever possible, can result in significant reduction in water consumption.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

Applicable buildings shall comply with the requirements as shown in Table 13.

d. Exceptions.

There are no exceptions to this provision.

Table 13 Water Fixture Performance Requirements

Type of Fixtures	Maximum Flow Rate	
Dual Flush Water Closet	≤6 full 3 low	liters / flushing cycle
Single Flush Water Closet	4.9	L0iters / flushing cycle
Shower	≤9 (80PSi)	liters / min at 551.6 kPa
Urinals	≤1	liters / flushing cycle
Lavatory taps	≤4.8 (60PSi)	liters / min at 417.7 kPa
Kitchen faucets	≤4.8 (60PSi)	liters / min at 417.7 kPa
Handheld bidet sprays	≤4.8 (60PSi)	liters / min at 417.7 kPa

Source: Prescribed Requirements, IFC Philippine Green Building Code Project, May 2013

11.2 WATER MANAGEMENT

11.2.1 Rainwater Harvesting

a. General

Rainwater is one of the purest sources of water available. Rainwater from roofs and hardscape must be collected and reused for non-potable purposes.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

- i. Minimum storage tanks size (in cu.m) shall be calculated by dividing the building footprint area by 75.
- ii. Collected water shall be used for non-potable purposes such as toilet flushing, irrigation and cooling towers.

d. Exceptions.

There are no exceptions to this provision.

11.2.2 Water Recycling

a. General

Recycled water from Sewage Treatment Plants (STP) shall be reused for non-potable purposes.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

The recycled water produced on site shall be reused for non-potable purposes such as toilet flushing, irrigation and cooling towers, through a distinct and separate piping system from the potable water supply system.

d. Exceptions

Buildings with no dedicated STP are exempted from this requirement.

Section 12. MATERIAL SUSTAINABILITY

Material Sustainability governs all matters related to resource efficiency and material selection and use with the least impact on the environment.

12.1 Non-Toxic Materials

a. General

Non-Toxic building materials refer to building materials without hazardous or toxic chemicals that could cause Sick Building Syndrome (SBS) and eventually lead to Building Related Illness (BRI).

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

- i. Paints, coatings, adhesives and sealants used indoors or non-ventilated areas shall not contain Volatile Organic Compounds (VOC) or should be within levels tolerable to humans as specified in Table 14.
- ii. Composite wood shall not have urea formaldehyde content.
- iii. All other materials containing chemicals used in construction shall not compromise and be deleterious to the health and safety of the workers and occupants of the building.
- iv. Specifications shall comply with the allowable VOC limits as stated in Table 14 with Material Safety Data Sheet (MSDS) from supplier and other certification to justify the compliance of the material.

d. Exceptions

There are no exceptions to this provision.

Table 14. VOC Limits

Application / Product Type	Maximum VOC Limit (g/L less water)
Flat paint	50
Non-flat paint	150
Anti-rust paint	250
Lacquer (clear wood finish)	550
Sanding Sealer (clear wood finish)	350
Varnish (clear wood finish)	350
Floor coating	100
Shellac (clear)	730
Shellac (pigmented)	550
Stain	250
Faux Finish Coating	350
Architectural sealant	250
Non-membrane roof sealant	300
Single ply roof membrane	450
Waterproofing sealer	250
Waterproofing sealer (concrete / masonry)	400
All other sealers	200
Indoor adhesive	50
Wood flooring adhesive	100
Subfloor adhesive	50
Ceramic tile adhesive	65
Contact adhesive	80
Drywall panel adhesive	50
Multipurpose construction adhesive	70
Structural glazing adhesive	100
Special purpose contact adhesive	250
PVC welding	510
Concrete curing compound	350
Wood preservative	350

VOC levels are measured in grams of VOC per liter of material
 Source: USGBC LEED Addenda # 100000419, 14 April 2010

Section 13. SOLID WASTE MANAGEMENT

Efficient waste management requires the adoption of efficient waste management practices and use of eco-friendly materials.

13.1 Material Recovery Facility (MRF)

a. General

MRF shall be provided for the collection and segregation of solid waste materials

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

i. Buildings shall be provided with a minimum area for MRF as specified in Table 15.

ii. MRF shall be fully enclosed and easily accessible from within the building and from the outside for easy collection of waste.

iii. Solid waste containers shall be provided for at least four (4) types of wastes:

- compostable (biodegradable)
- non-recyclable (to be disposed off in the landfill)
- recyclable (paper, cardboard, plastic, metal, wood, etc.)
- special waste

iv. For hospitals, isolated bins for hazardous wastes shall be provided to avoid contamination.

d. Exceptions

There are no exceptions to this provision.

Table 15. MRF Minimum Daily Storage Space Requirements

Use / Occupancy	Requirement
Residential Dwelling: Condominium	1.0 sqm waste storage space per 2,500 sqm TGFA + 50% circulation space
Hotel / Resort	1.0 sqm waste storage space per 2,500 sqm TGFA + 50% circulation space
Educational: School	1.0 sqm waste storage space per 300 sqm TGFA + 50% circulation space
Institutional: Hospital	1.0 sqm waste storage space per 1,250 sqm TGFA + 50% circulation space
Business: Office	1.0 sqm waste storage space per 1,400 sqm TGFA + 50% circulation space
Mercantile: Mall	1.0 sqm waste storage space per 400 sqm TGFA + 50% circulation space

Source: DENR (EMB Report on Solid Waste Generation) and NBC

Section 14. SITE SUSTAINABILITY

Site sustainability requires the adoption of planning, design, construction and operation practices that minimize the adverse impact of buildings on ecosystems and water resources.

14.1 Site / Ground Preparation and Earthworks

a. General

Site clearing, grading and excavation shall be planned at the start of construction to mitigate pollution caused by erosion and sedimentation taking into consideration existing endemic foliage as regulated by the DENR.

All existing utilities and water bodies and waterways, shall be protected and shall not be disturbed.

b. Applicability

This measure applies to all building occupancies as indicated in Table 1.

c. Requirements

Measures for site protection shall be in place before the start of construction.

- i. Building site erosion and sedimentation control plan that outlines measures to be applied to prevent soil that can run-off at the natural bodies of water, causing water pollution.
- ii. Additional measures to mitigate the effect of pollution and safety on construction conforming to Rule XI of the NBC
- iii. Storm water collection management plan
- iv. Structures or facilities for storm water collection

d. Exceptions

There are no exceptions to this provision.

14.2 Open Space Utilization

a. General

The inclusion of green areas or landscaped areas for indigenous or adaptable species of grass, shrubs and trees will help in providing more permeable surface for the building development's open space and thus allow the re-charging of natural ground water reservoir, control storm water surface run-off, cool the building surroundings, and provide indoor to outdoor connectivity for the building occupants.

- b. Applicability
This measure applies to all building occupancies as indicated in Table 1.
- c. Requirements
A minimum of fifty percent (50%) of the required Unpaved Surface Area (USA), as required in Rule VII and VIII of the NBC, shall be vegetated with indigenous and adaptable species.
- d. Exceptions
There are no exceptions to this provision.

Section 15. INDOOR ENVIRONMENTAL QUALITY

Indoor Environmental Quality requires the adoption of efficient design and operation practices that take into consideration the building environment to improve occupant health, productivity and safety.

15.1 Minimum Fresh Air Rates

- a. General
The building indoor environment can contain more contaminants many times over than the outside. Various studies have shown that indoor air contaminants can cause health disorders, through symptoms of SBS and BRI. The introduction and application of minimum fresh air rates will maintain acceptable indoor air quality thru the constant replacement of indoor air in buildings.
- b. Applicability
This measure applies to all buildings occupancies as indicated in Table 1.
- c. Requirements
Compliance to the minimum fresh air rates provided in the latest Philippine Society of Ventilating, Air-Conditioning and Refrigerating Engineers (PSVARE) Standards. *See Table 16.*
- d. Exceptions
There are no exceptions to this provision.

Table 16. Minimum Ventilation Rates in Breathing Zone

Occupancy Category	People Outdoor Air Rate		Area Outdoor Air Rate		Max. Default Occupancy Density
	(cfm / person)	(cmh / person)	(cfm / sqft)	(cmh / sqm)	(people / 1,000 sqft (90 sqm))
Hotel / Resort and Residential Dwelling: Condominium					
Bedroom / Living Room	5	8.5	0.06	0.1968	10
Lobbies / Pre-function	7.5	12.75	0.06	0.1968	30
Common Corridors	-		0.06	0.1968	-
Multi-purpose Assembly	5	8.5	0.06	0.1968	120
Laundry Rooms, Central	5	8.5	-0.12	0.3936	10
Laundry Rooms within Dwelling Rooms	5	8.5	0.12	0.3936	10
Office Buildings					
Office Spaces	5	8.5	0.06	0.1968	5
Reception areas	5	8.5	0.06	0.1968	30
Telephone / data entry	5	8.5	0.06	0.1968	60
Main Entry Lobbies	5	8.5	0.06	0.1968	10
Bank vaults / safe deposit	5	8.5	0.06	0.1968	5
Mercantile: Mall					
Sales area	7.5	12.75	0.12	0.3936	15
Mall common areas	7.5	12.75	0.06	0.1968	40
Barbershop	7.5	12.75	0.06	0.1968	25
Beauty and Nail salons	20	34	0.12	0.3936	25
Pet shops (animal areas)	7.5	12.75	0.18	0.5904	10
Supermarket	7.5	12.75	0.06	0.1968	8
Laundries	7.5	12.75	0.06	0.1968	20
Photo Studios	5	8.5	0.12	0.3936	10
Pharmacy (prep area)	5	8.5	0.18	0.5904	10
Computer (not printing)	5	8.5	0.06	0.1968	4
Restaurant dining rooms	7.5	12.75	0.18	0.5904	70
Cafeteria / fast food dining	7.5	12.75	0.18	0.5904	100
Bars, cocktail lounges	7.5	12.75	0.18	0.5904	100
Educational: School					
Day Care (through age 4)	10	17	0.18	0.5904	25
Classrooms (ages 5-8)	10	17	0.12	0.3936	25
Classrooms (ages 9 plus)	10	17	0.12	0.3936	35
Lecture classroom	7.5	12.75	0.06	0.1968	65
Lecture Hall (fixed seats)	7.5	12.75	0.06	0.1968	150
Art classroom	10	17	0.18	0.5904	20
Science laboratories	10	17	0.18	0.5904	25
Wood / metal shop	10	17	0.18	0.5904	20
Computer lab	10	17	0.12	0.3936	25
Media Center	10	17	0.12	0.3936	25
Music / theater / dance	10	17	0.06	0.1968	35
Multi-use assembly	7.5	12.75	0.06	0.1968	100
University / College Laboratories	10	17	0.18	0.5904	25
Sports Arena (play area)	-		0.3	0.984	-
Gym, stadium (play area)	-		0.3	0.984	-
Spectator area	7.5	12.75	0.06	0.1968	150
Swimming (pool & deck)	-		0.48	1.5744	-

Occupancy Category	People Outdoor Air Rate		Area Outdoor Air Rate		Max. Default Occupancy Density
	(cfm / person)	(cmh / person)	(cfm / sqft)	(cmh / sqm)	(people / 1,000 sqft {90 sqm})
General					
Conference / meeting	5	8.5	0.06	0.1968	50
Corridors	-		0.06	0.1968	-
Storage Rooms	-		1.12	3.6736	-
Break room	5	8.5	0.06	0.1968	25
Coffee room	5	8.5	0.06	0.1968	20
Disco / dance floors	20	34	0.06	0.1968	100
Health club (aerobics room)	20	34	0.06	0.1968	40
Health club (weights room)	20	34	0.06	0.1968	10
Bowling gallery (seating)	10	17	0.12	0.3936	40
Gambling casino	7.5	12.75	0.18	0.5904	120
Game arcades	7.5	12.75	0.18	0.5904	20
Stages, Studios	10	17	0.06	0.1968	70
Public Assembly Spaces					
Auditorium seating areas	5	8.5	0.06	0.1968	150
Places of religious worship	5	8.5	0.06	0.1968	120
Courtrooms	5	8.5	0.06	3.6736	70
Legislative chambers	5	8.5	0.06	0.1968	50
Libraries	5	8.5	0.12	0.1968	10
Lobbies	5	8.5	0.06	0.1968	150
Museums (children's)	7.5	12.75	0.12	0.1968	40
Museums / galleries	7.5	12.75	0.06	0.1968	40

Source: 2010 PSVARE Standards

15.2 Designated Smoking Area

a. General

Environmental Tobacco Smoke (ETS) is one of the leading causes of respiratory illnesses in building occupants. RA 9211, the Tobacco Regulations Act, restricts tobacco smoking in public spaces and the prescription of designated smoking areas inside buildings.

b. Applicability

This measure applies to all buildings occupancies as indicated in Table 1.

c. Requirements

- i. If smoking is banned within the building and property premises, "NO SMOKING" signs in compliance with the RA 9514 (Fire Code of the Philippines 2008), shall be posted in conspicuous areas of the building and property premises to remind building occupants of the policy.

- ii. If smoking is only allowed outdoors, designated smoking areas shall be naturally ventilated, outside of the building shell and away from building entrances, windows and outside supply air (OSA) intakes by at least ten (10) meters.
 - iii. If smoking is allowed indoors, designated smoking areas shall be provided, partitioned from the rest of the indoor areas. Partitions shall be from floor to soffit of the next floor or roof structure. Enclosed smoking areas shall be equipped with adequate exhaust system with exhaust rate in accordance with the latest PSVARE Standards. Exhaust shall directly vent out to the outside of the building and away from any building openings or air intakes.
 - iv. Doors and windows of enclosed smoking area shall always be closed and well sealed. Negative pressure within is recommended to prevent smoke infiltration to adjacent spaces.
- d. Exceptions
Buildings with a general policy of “no smoking” within building premises may be exempted from having designated smoking areas.

CHAPTER III. INSTITUTIONAL ARRANGEMENTS

Section 16. OFFICE OF THE NATIONAL BUILDING OFFICIAL

The Secretary of the Department of Public Works and Highways (DPWH), as the concurrent National Building Official, pursuant to Section 203 of the NBC, through the NBCDO, shall regularly review the GB Code not to exceed three (3) years from the date of effectivity and every three (3) years thereafter.

For this purpose, the NBCDO shall convene the Technical Working Group (TWG) to review and update the GB Code implementation vis-à-vis current and emerging trends in the industry and make recommendations for reform.

The NBCDO shall serve as the center for the development and promotion of green buildings in the Philippines. As such, it shall be the repository of resource materials relating to green buildings. It shall also be responsible for developing modules and providing green building training.

Section 17. TECHNICAL STAFF

The Secretary is hereby authorized to constitute and provide in his department a professional staff composed of highly qualified architects, engineers and technicians

who possess diversified and professional experience in the field of green building planning, design and construction.

Section 18. PROFESSIONAL AND TECHNICAL ASSISTANCE

The Executive Director of NBCDO shall chair the Technical Working Group (TWG) and may make arrangements with the Secretary for compensation of the services of the TWG. He may also engage and compensate within appropriations available thereof, the services of such number of consultants, experts and advisers on full or part-time basis as may be necessary coming from any concerned government agency or private business, Accredited Professional Organizations (APO) and other associations to carry out the provisions of the GB Code. The members are the duly authorized representatives from the following:

- 18.1 **CCC** (Climate Change Commission)
- 18.2 **DENR** (Department of Environment and Natural Resources)
- 18.3 **DILG** (Department of Interior and Local Government)
- 18.4 **DOE** (Department of Energy)
- 18.5 **DOST** (Department of Science and Technology)
- 18.6 **DTI** (Department of Trade and Industry)
- 18.7 **GEP** (Geodetic Engineers of the Philippines)
- 18.8 **IECEP** (Institute of Electronics Engineers of the Philippines)
- 18.9 **IIEE** (Institute of Integrated Electrical Engineers)
- 18.10 **PALA** (Philippine Association of Landscape Architects)
- 18.11 **PICE** (Philippine Institute of Civil Engineers)
- 18.12 **PIEP** (Philippine Institute of Environmental Planners)
- 18.13 **PIID** (Philippine Institute of Interior Designers)
- 18.14 **PSME** (Philippine Society of Mechanical Engineers)
- 18.15 **PSSE** (Philippine Society of Sanitary Engineers)
- 18.16 **UAP** (United Architects of the Philippines)
- 18.17 **BOMAP** (Building Owners and Managers Association of the Philippines)
- 18.18 **PABA** (Philippine Association of Building Administrators)
- 18.19 **PABO** (Philippine Association of the Building Officials)

CHAPTER IV. CERTIFICATION PROCESS

Section 19. GREEN BUILDING PERMIT PROCESS

The Office of the Building Official shall review the building permit application for Green Buildings as prepared by the design professionals in compliance with the requirements of the GB Code and the various referral codes in accordance with Rule 3 of the NBC.

CHAPTER V. FINAL PROVISIONS

Section 20. SEPARABILITY CLAUSE

Should any part or provision of the GB Code be held unconstitutional or invalid by a competent court, the other parts or provisions hereof which are not affected thereby shall continue to be in full force and effect.

Section 21. EFFECTIVITY

This GB Code shall take effect fifteen (15) days after its publication once a week for three (3) consecutive weeks in a newspaper of general circulation.

Section 22. TRANSITORY PROVISION

Those projects with building designs and plans that have already been prepared and signed by all duly licensed design professionals shall be exempt from the coverage, provided that the request for exemption shall be filed with the Office of the Building Official within 30 days after the effectivity of this Code.

ANNEX 1 DEFINITION OF TERMS

Accredited Professional Organizations (APO) - professional organizations accredited by the Professional Regulatory Commission (PRC)

Addition - any new construction which increases the height and / or floor area of existing buildings / structures

Air Conditioning - the process of treating air so as to control simultaneously its temperature, humidity, cleanliness, and distribution to meet the requirements of conditioned space

Air-Conditioning, Heating, and Refrigeration Institute (AHRI) - trade association representing manufacturers of HVACR and water heating equipment within the global industry⁷

Alteration - works in buildings / structures involving changes in the materials used, partitioning, location / size of openings, structural parts, existing utilities and equipment but does not increase the building height and/or floor area

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) - global society founded in 1894, advancing human well-being through sustainable technology for the built environment with focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry

Applicable Provision – any requirement that relates to a given condition

Building Owners and Managers Association of the Philippines (BOMAP) - helps members ensure tenants' satisfaction, maximize profits, and enhance asset values for building owners and investors through market intelligence, education, networking, and government advocacy

British thermal unit (Btu) - amount of heat energy needed to raise the temperature of one pound of water by one degree Fahrenheit

Building Official (BO) - the Executive Officer of the Office of the Building Official (OBO) appointed by the Secretary

Building Permit - document issued by the Building Official (BO) to an owner / applicant to proceed with the construction, installation, addition, alteration, renovation, conversion, repair, moving, demolition or other work activity of a specific project/building/structure or portions thereof after the accompanying principal plans, specifications and other pertinent documents with the duly notarized application are found satisfactory and substantially conforming with the NBC and its Implementing Rules and Regulations (IRR).

Building Related Illness (BRI) - diagnosable illness whose cause and symptoms can be directly attributed to a specific pollutant source within a building

Car, elevator – the load-carrying unit including its platform, enclosure and door or gate

Clerestory - high windows above eye level

Climate Change - refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period

Climate Change Commission (CCC) - the lead policy-making body of the government tasked to coordinate, monitor and evaluate programs and action plans on climate change

Coefficient of Performance (COP) - ratio of heating or cooling provided to electrical energy consumed where higher COPs equate to lower operating costs

Common Area - part of the building premises is used by the occupants, owners, tenants or other building users of which the landlord retains control and is responsible to maintain in a reasonably safe condition that includes spaces such as lobby, corridor, hallway, toilet, elevator or stairway

Compostable waste - mixture of various organic substances that can be placed into a composition of decaying biodegradable materials which eventually turns into a nutrient-rich material, used for fertilizing soil

Construction - all on-site work done in the site preparation, excavation, foundation, assembly of all the components and installation of utilities, machineries and equipment of buildings / structures

Conversion - change in the use or occupancy of buildings / structures or any portion/s thereof, which has different requirements

Daylight - the natural light of day, which is a combination of all direct and indirect sunlight during the daytime

Daylight Zone - area substantially illuminated by daylight consistently receiving significant quantities of daylight during the day (ASHRAE/IES 90.1-2010 energy standard)

Demolition - systematic dismantling or destruction of a building/structure, in whole or in part

Department - the Department of Public Works and Highways

Department of Energy (DOE) - the executive department of the Philippine Government responsible for preparing, integrating, coordinating, supervising and controlling all plans, programs, projects and activities of the Government relative to energy exploration, development, utilization, distribution and conservation

Department of Environment and Natural Resources (DENR) - the executive department of the Philippine Government responsible for supervising and managing the different programs and implementing rules governing the use and development of the country's natural resources

Department of Interior and Local Government (DILG) - the executive department of the Philippine Government responsible for promoting peace and order, ensuring public safety and strengthening local government capability aimed towards the effective delivery of basic services to the citizenry

Department of Public Works and Highways (DPWH) - executive department of the Philippine Government that functions as the engineering and construction arm of the Government tasked to continuously develop its technology for the purpose of ensuring the safety of all infrastructure facilities and securing for all public works and highways the highest efficiency and quality in construction

Department of Science and Technology (DOST) - the executive department of the Philippine Government responsible for the coordination of science and technology-related projects in the Philippines and to formulate policies and projects in the fields of science and technology in support of national development

Department of Trade and Industry (DTI) - the executive department of the Philippine Government tasked to expand Philippine trade, industries and investments as the means to generate jobs and raise incomes for Filipinos

Door assembly - unit composed of a group of parts or components which make up a closure for an opening to control passageway through a wall which consists of the following parts: door; hinges; locking device or devices; operation contacts (such as handles, knobs, push plates); miscellaneous hardware and closures; the frame, including the head, threshold and jambs plus the anchorage devices

Elevator - a hoisting and lowering mechanism other than a dumbwaiter or freight elevator which is designed to carry passenger or authorized personnel, in a protected enclosure (elevator car) which moves along fixed guides in a vertical direction serving two or more fixed landings/ floors on a hoistway.

Energy Efficiency Ratio (EER) - energy efficiency rating for room air conditioners that lists how many Btu per hour are used for each watt of power it draws

Enthalpy Recovery Wheel – an energy recovery device that transfers outgoing temperature and humidity to the incoming outdoor air

Environmental Tobacco Smoke (ETS) - secondhand smoke consisting of airborne particles emitted from the burning end of cigarettes, pipes, and cigars, exhaled by smokers containing about 4,000 compounds, up to 50 of which are known to cause cancer

Environmental Management Bureau (EMB) - national authority in the Philippines that sets air and water quality standards and monitors ambient and point source pollutants

Escalator – a power driven, inclined, continuous stairway for raising or lowering passengers

Executive Director - the executive officer or head of the NBCDO

Geodetic Engineers of the Philippines (GEP) - accredited professional organization of Geodetic Engineers composed of technically competent engineers with a high degree of integrity, moral standards and professionalism and at pace with modern geodetic engineering technologies

Government Agency - refers to any of the various units of the government including a department, bureau, office, instrumentality, or government owned or controlled corporation

Harmonics - increased heating in equipment and conductors, the reduction of which is desirable

Hazardous – anything that involves risk or danger to the safety and welfare of the public

Heat Island Effect (HIE) - describes built up areas that are hotter than nearby rural areas

Heating, Ventilating and Air Conditioning (HVAC) - system that helps maintain good indoor air quality through adequate ventilation with filtration and provide thermal comfort

Illuminating Engineering Society of North America (IESNA) – a non-profit learned society whose mission is to improve the lighted environment by bringing together those with lighting knowledge and translating that knowledge into actions that would benefit the public

Implementing Rules and Regulations (IRR) - rules and regulations necessary in the implementation of the provisions of GB Code

Indoor Environmental Quality (IEQ) - conditions inside the building that includes air quality, access to daylight and views, pleasant acoustic conditions, and occupant control over lighting and thermal comfort

Institute of Electronics Engineers of the Philippines (IECEP) - the integrated accredited professional organization of professional electronics engineers, electronics engineers and electronics technicians, whose objective is to promote, through scientific inquiry and study the advancement of electronics in theory and practice, and its application to allied fields of engineering and to human needs

Institute of Integrated Electrical Engineers of the Philippines (IIEE) - the accredited organization of Electrical Engineers that aims to instill excellence to Electrical Engineers and to give contribution to the development of the Philippines

Joint - a space between the adjacent surfaces of two bodies joined and held together

Light Monitor - raised structure running along the ridge of a double-pitched roof, with its own roof running parallel with the main roof

Light Scoop - south-facing skylight, that uses tilted panels of transparent glass to strategically bring daylight into an interior space.

Light Shelf - a horizontal surface that reflects daylight deep into a building, placed above eye-level with high-reflectance upper surfaces, which reflect daylight onto the ceiling and deeper into the space

Lighting Power Density (LPD) - amount of electric lighting, usually measured in watts per square foot, being used to illuminate a given space

Material Recovery Facility (MRF) - a facility designed to receive, sort, process, and store compostable and recyclable materials efficiently and in an environmentally sound manner

Material Safety Data Sheet (MSDS) - data providing procedures for handling or working with a material or product in a safe manner, which includes information such as physical data, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment and spill handling procedures

Mixed Occupancy - enclosed structure with two or more primary usages and where at least two of these primary usages fall into different classification of use

Moving Ramp / Walkway – a type of horizontal passenger-carrying device on which passengers stand or walk, with its surface remaining parallel to its direction of motion is uninterrupted

National Building Code (NBC) – P.D. 1096 is a uniform building code in the Philippines which embodies up-to-date and modern technical knowledge on building design, construction, use, occupancy and maintenance

National Building Code Development Office (NBCDO) - created through DPWH Department Order, assist the Secretary in the administration and enforcement of the provisions of the GB Code and its IRR

Non-recyclable Waste - not able to be processed or treated for reuse in some form

Office of the Building Official (OBO) - the office authorized to enforce the provisions of NBC and its IRR in the field as well as the enforcement of orders and decisions made pursuant thereto

Operable Window - a window unit with one or more sections that can be opened for ventilation

Overall Thermal Transfer Value - (OTTV) measure of the energy consumption of a building envelope

Outside Supply Air (OSA) - air containing at least the minimum volume of outside air filtered and conditioned to the required temperature and humidity

Parking, Covered - parking under roof that does not contribute to the heat island effect

Parking, Open - parking structure with wall openings open to the atmosphere, distributed over 40 percent of the building perimeter or uniformly over two opposing sides to provide ventilation

Philippine Association of Building Administrators (PABA) – a non-profit organization for Building Administrators and Property Managers

Philippine Association of Building Officials (PABO) – association of Building Officials in the Philippines

Philippine Association of Landscape Architects (PALA) - the integrated and accredited organization of landscape architecture professionals responsible for the advancement of the profession as an instrument of service in improving the quality of life within a better natural and built environment

Philippine Institute of Civil Engineers (PICE) - a professional organization for civil engineers in the Philippines formed by merging two separate organizations of civil engineers: one group working from government sector and the second group working in the private sector

Philippine Institute of Environmental Planners (PIEP) - a national organization of professionally trained planners who will make an advancement in the studies of environmental planning in the best interest of the nation

Philippine Institute of Interior Designers (PIID) – the accredited professional organization of Interior Designers creating platforms for learning and sustainable creativity, adhering to international standards while preserving the Filipino heritage

Philippine National Standards (PNS) - documents established by consensus through technical committees and approved by the Department of Trade and Industry Bureau of Product Standards that ensures desirable characteristics of products and services such as quality, environmental friendliness, safety, reliability, efficiency and interchangeability

Philippine Society of Mechanical Engineers (PSME) – the organization of Mechanical Engineers in the Philippines uniting and enjoining the mechanical engineers in the pursuit of further professional growth and to uplift the profession

Philippine Society of Sanitary Engineers (PSSE) - the only professional organization of Sanitary Engineers in the Philippines accredited by PRC and soon to be renamed to Philippine Society of Environmental and Sanitary Engineers, Inc. (PSEnSE)

Philippine Society of Ventilating Air-Conditioning and Refrigerating Engineers (PSVARE) - is a duly registered non-stock, non-profit organization, the members of which are consultants, contractors, manufacturers, suppliers who are all involved in the practice of air conditioning, ventilation, and refrigeration systems

Professional Regulatory Commission (PRC) - the instrument of the Filipino people in securing for the nation a reliable, trustworthy and progressive system of determining the competence of professionals by credible and valid licensure examinations and standards of professional practice that are globally recognized

Photoelectric Sensor - a device used to detect the distance, absence, or presence of an object by using a light transmitter, often infrared and a photoelectric receiver

R-Value - resistance value or the capacity to resist heat loss or its thermal resistance

Recyclable Waste - an item or material capable of being used again

Referral Codes – the applicable provisions of the various agency and technical professional codes supplementary to the NBC and GB Code

Regularly Occupied Space - areas where one or more individuals normally spend time (more than one hour per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building

Renovation - any physical change made on buildings/structures to increase the value, quality, and/or to improve the aesthetic

Repair - remedial work done on any damaged or deteriorated portion/s of building / structure to restore to its original condition

Seasonal Energy Efficiency Ratio (SEER) - energy efficiency rating for central air conditioners

Secretary - head or chief executive officer of the DPWH

Sewage Treatment Plant (STP) - an industrial structure designed to remove biological or chemical waste products from water, thereby permitting the treated water to be used for other purposes

Sick Building Syndrome (SBS) - Building whose occupants experience acute health and/or comfort effects that appear to be linked to time spent therein, but where no specific illness or cause can be identified

Smoking Area - a designated area in which smoking is permitted

Solar Heat Gain Coefficient (SHGC) - fraction of solar gain admitted through a window, expressed as a number between 0 and 1

Solar Reflectance Index (SRI) - a measure of a material's ability to reflect heat with white or light colors having high reflectance and dark or black surfaces with low or little reflectance thereby having higher temperatures

Special Waste - a class of waste that has unique regulatory requirements with potential environmental impacts that needs to be managed to minimize the risk of harm to the environment and human health

Staff - personnel of the NBCDO

Storey – portion of a building/structure included between the uppermost surface (or finish level) of any floor and the uppermost surface (or finish level) of the next floor above or below it. If the uppermost surface (or finish level) of a floor/level above the uppermost surface (or finish level) of a basement, cellar or unused under-floor space is more than 3.60 meters above established grade as defined herein at any point, such basement, cellar or unused under-floor space shall be considered a storey.

Sun breaker - feature of a building commonly used as external shading devices, which reduces heat gain within that building by deflecting solar rays to reduce energy cooling loads

Total Gross Floor Area (TGFA) - the total floor space within the main auxiliary buildings primarily consisting of the GFA and all other enclosed support areas together with all other usable horizontal areas/surfaces above and below established grade level that are all physically attached to the building/s which shall consists of the following: Covered areas used for parking and driveways, services and utilities.

Toxic Materials - substances that may cause harm to an individual if it enters the body through inhalation, skin contactor ingestion

U-Value - describes how well a building element conducts heat, measuring the rate of heat transfer through a building element over a given area, under standardized conditions

United Architects of the Philippines (UAP) - the Integrated and Accredited Professional Organization of Architects in the Philippines responsible in the improvement and sustainability of the quality of built environment

Unity Power Factor - power factor of 1.0 obtained when current and voltage are in phase, as in a circuit containing only resistance or in a reactive circuit at resonance.

Unpaved Surface Area (USA) - the portion of the lot that shall remain unpaved and reserved for softscaping / planting; expressed as a percentage (%) of the Total Lot Area or TLA and may be combined with the Impervious Surface Area (ISA) to satisfy the Total Open Space within Lot (TOSL), i.e., the total open space requirement for each type of use or occupancy

Urea formaldehyde - combination of urea and formaldehyde used in some glues and adhesives, particularly in composite wood products, emitting formaldehyde at room temperature, which is a toxic and possibly carcinogenic gas

Variable Speed Drive (VSD) - a piece of equipment that regulates the speed and rotational force, or torque output, of an electric motor.

Variable-Voltage and Variable-Frequency (VVVF) - employs frequency inverter technology which regulates input voltage and frequency throughout the journey, drawing much less current during acceleration and deceleration

Ventilation – process of supplying or removing air by natural or mechanical means to or from any space.

Visible Transmittance (Tvis) - the ratio of total transmitted light to total incident light with the higher value allowing more incident light to pass through the glazing

Volatile Organic Compound (VOC) - organic chemicals with have a high vapor pressure at ordinary room temperature that are dangerous to human health or cause harm to the environment

Weather-Stripping - narrow piece of material, such as plastic, rubber, felt, or metal, installed around doors and windows to protect an interior from external extremes in temperature.

Window assembly - a unit, which includes a window and the anchorage between the window and the wall

Window to Wall Ratio (WWR) - ratio of the total area of a building facade, which is occupied by windows (glass area and frame)

ANNEX 2 GLASS LIBRARY

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient SHGC	Shading Coefficient SC	Visible Transmittance Tvis
	Type	#	IP	SI	Gas	IP	SI			
	Code	Panes	(in)	(mm)	Fill	(BTU / sqft-h-°F)	(W / sqm-°C)			
Single Clear	1000	1	n/a	n/a	n/a	1.11	6.30	0.86	1	0.9
Single Tint Bronze	1200	1	n/a	n/a	n/a	1.11	6.30	0.73	0.84	0.69
Single Tint Green	1202	1	n/a	n/a	n/a	1.11	6.30	0.72	0.83	0.82
Single Tint Grey	1204	1	n/a	n/a	n/a	1.11	6.30	0.71	0.83	0.61
Single Low Iron	1003	1	n/a	n/a	n/a	1.1	6.25	0.90	1.04	0.91
Single Ref-D Clear	1417	1	n/a	n/a	n/a	1.08	6.13	0.50	0.58	0.33
Single Ref-D Tint	1418	1	n/a	n/a	n/a	1.08	6.13	0.46	0.53	0.25
Single Ref-B Clear-H	1407	1	n/a	n/a	n/a	0.97	5.51	0.39	0.45	0.3
Single Ref-B Tint-H	1410	1	n/a	n/a	n/a	0.97	5.51	0.34	0.4	0.18
Single Ref-B Clear-L	1406	1	n/a	n/a	n/a	0.96	5.45	0.31	0.35	0.2
Single Ref-A Clear-L	1402	1	n/a	n/a	n/a	0.95	5.39	0.31	0.36	0.2
Single Ref-C Clear-H	1413	1	n/a	n/a	n/a	0.94	5.34	0.35	0.41	0.22
Single Ref-C Tint-H	1416	1	n/a	n/a	n/a	0.94	5.34	0.31	0.37	0.13
Single Ref-A Tint-H	1405	1	n/a	n/a	n/a	0.93	5.28	0.29	0.34	0.1
Single Ref-C Clear-M	1412	1	n/a	n/a	n/a	0.92	5.22	0.32	0.37	0.19
Single Ref-C Tint-M	1415	1	n/a	n/a	n/a	0.92	5.22	0.29	0.34	0.11
Single Ref-A Clear-L	1401	1	n/a	n/a	n/a	0.9	5.11	0.25	0.29	0.14
Single Ref-A Tint-M	1404	1	n/a	n/a	n/a	0.9	5.11	0.25	0.29	0.09
Single Ref-B Tint-M	1409	1	n/a	n/a	n/a	0.89	5.05	0.28	0.33	0.13
Single Low-E Clear (e2=.4)	1600	1	n/a	n/a	n/a	0.88	5.00	0.78	0.91	0.85
Single Ref-C Clear-L	1411	1	n/a	n/a	n/a	0.88	5.00	0.25	0.29	0.13
Single Ref-C Tint-L	1414	1	n/a	n/a	n/a	0.88	5.00	0.25	0.29	0.08
Single Ref-B Tint-L	1408	1	n/a	n/a	n/a	0.87	4.94	0.23	0.26	0.05
Single Ref-A Tint-L	1403	1	n/a	n/a	n/a	0.87	4.94	0.22	0.26	0.05
Single Ref-A Clear-L	1400	1	n/a	n/a	n/a	0.86	4.88	0.19	0.23	0.08
Single Low-E Clear (e2=.2)	1601	1	n/a	n/a	n/a	0.76	4.32	0.77	0.89	0.82
Double Low Iron	2006	2	0.25	6.35	Air	0.57	3.24	0.83	0.96	0.84
Double Clear	2000	2	0.25	6.35	Air	0.57	3.24	0.76	0.88	0.81
Double Tint Bronze	2200	2	0.25	6.35	Air	0.57	3.24	0.62	0.72	0.62
Double Tint Green	2206	2	0.25	6.35	Air	0.57	3.24	0.62	0.72	0.74
Double Tint Grey	2212	2	0.25	6.35	Air	0.57	3.24	0.61	0.71	0.55
Double Low Iron	2009	2	0.25	6.35	Air	0.56	3.18	0.82	0.95	0.83
Double Ref-D Clear	2460	2	0.25	6.35	Air	0.56	3.18	0.42	0.49	0.31
Double Ref-D Tint	2470	2	0.25	6.35	Air	0.56	3.18	0.35	0.41	0.23
Double Ref-B Clear-H	2426	2	0.25	6.35	Air	0.53	3.01	0.30	0.35	0.27
Double Ref-B Tint-H	2436	2	0.25	6.35	Air	0.53	3.01	0.25	0.29	0.16
Double Ref-C Clear-H	2446	2	0.25	6.35	Air	0.52	2.95	0.27	0.32	0.2
Double Ref-A Clear-H	2406	2	0.25	6.35	Air	0.52	2.95	0.23	0.27	0.18

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient	Shading Coefficient	Visible Transmittance
	Type	#	IP	SI	Gas	IP	SI			
	Code	Panes	(in)	(mm)	Fill	(BTU / sqft-h-°F)	(W / sqm-°C)	SHGC	SC	Tvis
Double Ref-B Clear-L	2420	2	0.25	6.35	Air	0.52	2.95	0.23	0.27	0.18
Double Ref-D Tint-H	2456	2	0.25	6.35	Air	0.52	2.95	0.23	0.26	0.12
Double Ref-C Clear-M	2443	2	0.25	6.35	Air	0.51	2.90	0.24	0.28	0.17
Double Ref-A Tint-H	2416	2	0.25	6.35	Air	0.51	2.90	0.21	0.24	0.09
Double Ref-C Tint-M	2453	2	0.25	6.35	Air	0.51	2.90	0.21	0.24	0.1
Double Low-E (e3=.4) Clear	2600	2	0.25	6.35	Air	0.5	2.84	0.72	0.84	0.77
Double Ref-B Tint-M	2433	2	0.25	6.35	Air	0.5	2.84	0.20	0.24	0.12
Double Ref-A Clear-M	2403	2	0.25	6.35	Air	0.5	2.84	0.19	0.22	0.13
Double Ref-C Clear-L	2440	2	0.25	6.35	Air	0.5	2.84	0.19	0.22	0.12
Double Ref-C Tint-L	2450	2	0.25	6.35	Air	0.5	2.84	0.18	0.21	0.07
Double Ref-A Tint-M	2413	2	0.25	6.35	Air	0.5	2.84	0.17	0.2	0.08
Double Low Iron	2007	2	0.50	12.70	Air	0.49	2.78	0.83	0.96	0.84
Double Low Iron	2010	2	0.50	12.70	Air	0.49	2.78	0.82	0.95	0.83
Double Clear	2001	2	0.50	12.70	Air	0.49	2.78	0.76	0.89	0.81
Double Tint Bronze	2201	2	0.50	12.70	Air	0.49	2.78	0.62	0.72	0.62
Double Tint Green	2207	2	0.50	12.70	Air	0.49	2.78	0.61	0.71	0.74
Double Tint Grey	2213	2	0.50	12.70	Air	0.49	2.78	0.61	0.71	0.55
Double Ref-A Tint-L	2410	2	0.25	6.35	Air	0.49	2.78	0.15	0.18	0.05
Double Ref-B Tint-L	2430	2	0.25	6.35	Air	0.49	2.78	0.15	0.18	0.05
Double Ref-A Clear-L	2400	2	0.25	6.35	Air	0.49	2.78	0.14	0.17	0.07
Double Clear	2004	2	0.50	12.70	Air	0.48	2.73	0.70	0.81	0.78
Double Tint Bronze	2204	2	0.50	12.70	Air	0.48	2.73	0.49	0.57	0.47
Double Tint Green	2210	2	0.50	12.70	Air	0.48	2.73	0.49	0.57	0.66
Double Tint Blue	2219	2	0.50	12.70	Air	0.48	2.73	0.49	0.57	0.5
Double Tint Grey	2216	2	0.50	12.70	Air	0.48	2.73	0.47	0.54	0.38
Double Ref-D Clear	2461	2	0.50	12.70	Air	0.48	2.73	0.42	0.49	0.31
Double Ref-D Tint	2471	2	0.50	12.70	Air	0.48	2.73	0.35	0.4	0.23
Double Low Iron	2008	2	0.50	12.70	Argon	0.46	2.61	0.83	0.96	0.84
Double Clear	2002	2	0.50	12.70	Argon	0.46	2.61	0.76	0.89	0.81
Double Low-E (e3=.2) Clear	2610	2	0.25	6.35	Air	0.46	2.61	0.72	0.84	0.74
Double Tint Bronze	2202	2	0.50	12.70	Argon	0.46	2.61	0.62	0.72	0.62
Double Tint Green	2208	2	0.50	12.70	Argon	0.46	2.61	0.61	0.71	0.74
Double Tint Grey	2214	2	0.50	12.70	Argon	0.46	2.61	0.61	0.7	0.55
Double Low Iron	2011	2	0.50	12.70	Argon	0.45	2.56	0.82	0.95	0.83
Double Clear	2005	2	0.50	12.70	Argon	0.45	2.56	0.70	0.81	0.78
Double Low-E (e3=.2) Clear	2613	2	0.25	6.35	Air	0.45	2.56	0.66	0.77	0.72
Double Tint Bronze	2205	2	0.50	12.70	Argon	0.45	2.56	0.49	0.56	0.47
Double Tint Green	2211	2	0.50	12.70	Argon	0.45	2.56	0.49	0.57	0.66

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient	Shading Coefficient	Visible Transmittance
	Type Code	# Panes	IP (in)	SI (mm)	Gas Fill	IP (BTU / sqft-h-°F)	SI (W / sqm-°C)	SHGC	SC	Tvis
Double Tint Blue	2220	2	0.50	12.70	Argon	0.45	2.56	0.49	0.56	0.5
Double Tint Grey	2217	2	0.50	12.70	Argon	0.45	2.56	0.47	0.54	0.38
Double Ref-D Clear	2462	2	0.50	12.70	Argon	0.45	2.56	0.42	0.49	0.31
Double Ref-D Tint	2472	2	0.50	12.70	Argon	0.45	2.56	0.34	0.4	0.23
Double Low-E (e3=.1) Clear	2640	2	0.25	6.35	Air	0.44	2.50	0.63	0.74	0.77
Double Low-E (e2=.1) Clear	2630	2	0.25	6.35	Air	0.44	2.50	0.60	0.69	0.77
Double Ref-B Clear-H	2427	2	0.50	12.70	Air	0.44	2.50	0.29	0.34	0.27
Double Ref-B Tint-H	2437	2	0.50	12.70	Air	0.44	2.50	0.23	0.27	0.16
Double Ref-A Clear-H	2407	2	0.50	12.70	Air	0.44	2.50	0.22	0.26	0.18
Double Ref-B Clear-L	2421	2	0.50	12.70	Air	0.44	2.50	0.22	0.25	0.18
Double Electrochromic Absorbing Bleached/Colored, 6.3-mm Gap	2800	2	0.25	6.35	Air	0.43	2.44	0.73	0.85	0.76
Double Electrochromic Reflecting Bleached/Colored, 6.3-mm Gap	2820	2	0.25	6.35	Air	0.43	2.44	0.63	0.73	0.73
Double Low-E (e2=.1) Clear	2633	2	0.25	6.35	Air	0.43	2.44	0.56	0.65	0.75
Double Low-E (e2=.1) Tint	2636	2	0.25	6.35	Air	0.43	2.44	0.39	0.45	0.44
Double Ref-C Clear-H	2447	2	0.50	12.70	Air	0.43	2.44	0.26	0.3	0.2
Double Ref-D Tint-H	2457	2	0.50	12.70	Air	0.43	2.44	0.21	0.24	0.12
Double Ref-A Tint-H	2417	2	0.50	12.70	Air	0.43	2.44	0.19	0.22	0.09
Double Electrochromic Absorbing Bleached/Colored, 6.3-mm Gap	2801	2	0.25	6.35	Air	0.43	2.44	0.18	0.21	0.12
Double Electrochromic Reflecting Bleached/Colored, 6.3-mm Gap	2821	2	0.25	6.35	Air	0.43	2.44	0.17	0.2	0.14
Double Low-E (e2=.04) Clear	2660	2	0.25	6.35	Air	0.42	2.38	0.44	0.51	0.7
Double Low-E (e3=.04) Clear	2663	2	0.25	6.35	Air	0.42	2.38	0.42	0.49	0.68
Double Low-E (e2=.04) Tint	2666	2	0.25	6.35	Air	0.42	2.38	0.31	0.35	0.41
Double Ref-C Clear-M	2444	2	0.50	12.70	Air	0.42	2.38	0.23	0.27	0.17
Double Ref-C Tint-M	2454	2	0.50	12.70	Air	0.42	2.38	0.19	0.22	0.1
Double Low-E (e3=.4) Clear	2601	2	0.50	12.70	Air	0.41	2.33	0.73	0.85	0.77
Double Low-E (e2=.029) Electrochromic Reflecting Bleached/Colored, 6.3-mm Gap	2860	2	0.25	6.35	Air	0.41	2.33	0.46	0.54	0.64

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient	Shading Coefficient	Visible Transmittance
	Type Code	# Panes	IP (in)	SI (mm)	Gas Fill	IP (BTU / sqft-h-°F)	SI (W / sqm-°C)	SHGC	SC	Tvis
Double Low-E (e2=.029) Electrochromic Absorbing Bleached/Colored, 6.3-mm Gap	2840	2	0.25	6.35	Air	0.41	2.33	0.44	0.51	0.66
Double Ref-B Clear-H	2428	2	0.50	12.70	Argon	0.41	2.33	0.29	0.34	0.27
Double Ref-B Tint-H	2438	2	0.50	12.70	Argon	0.41	2.33	0.23	0.27	0.16
Double Ref-B Tint-M	2434	2	0.50	12.70	Air	0.41	2.33	0.19	0.22	0.12
Double Ref-C Clear-L	2441	2	0.50	12.70	Air	0.41	2.33	0.18	0.2	0.12
Double Ref-A Clear-M	2404	2	0.50	12.70	Air	0.41	2.33	0.17	0.2	0.13
Double Ref-C Tint-L	2451	2	0.50	12.70	Air	0.41	2.33	0.16	0.19	0.07
Double Low-E (e2=.029) Electrochromic Absorbing Bleached/Colored, 6.3-mm Gap	2841	2	0.25	6.35	Air	0.41	2.33	0.16	0.18	0.1
Double Low-E (e2=.029) Electrochromic Reflecting Bleached/Colored, 6.3-mm Gap	2861	2	0.25	6.35	Air	0.41	2.33	0.16	0.18	0.12
Double Ref-A Tint-M	2414	2	0.50	12.70	Air	0.41	2.33	0.15	0.18	0.08
Double Ref-A Clear-H	2408	2	0.50	12.70	Argon	0.4	2.27	0.22	0.25	0.18
Double Ref-B Clear-L	2422	2	0.50	12.70	Argon	0.4	2.27	0.21	0.25	0.18
Double Ref-B Tint-L	2431	2	0.50	12.70	Air	0.4	2.27	0.14	0.16	0.05
Double Ref-A Clear-L	2401	2	0.50	12.70	Air	0.4	2.27	0.13	0.15	0.07
Double Ref-A Tint-L	2411	2	0.50	12.70	Air	0.4	2.27	0.13	0.15	0.05
Triple Clear	3001	3	0.25	6.35	Air	0.39	2.21	0.68	0.79	0.74
Double Ref-C Clear-H	2448	2	0.50	12.70	Argon	0.39	2.21	0.26	0.3	0.2
Double Ref-D Tint-H	2458	2	0.50	12.70	Argon	0.39	2.21	0.20	0.24	0.12
Double Ref-A Tint-H	2418	2	0.50	12.70	Argon	0.39	2.21	0.19	0.21	0.09
Double Ref-C Clear-M	2445	2	0.50	12.70	Argon	0.38	2.16	0.23	0.26	0.17
Double Ref-C Tint-M	2455	2	0.50	12.70	Argon	0.38	2.16	0.19	0.21	0.1
Double Ref-A Clear-M	2405	2	0.50	12.70	Argon	0.38	2.16	0.17	0.2	0.13
Double Ref-A Tint-M	2415	2	0.50	12.70	Argon	0.38	2.16	0.15	0.17	0.08
Double Ref-B Tint-M	2435	2	0.50	12.70	Argon	0.37	2.10	0.18	0.21	0.12
Double Low-E (e3=.4) Clear	2602	2	0.50	12.70	Argon	0.36	2.04	0.73	0.85	0.77
Double Ref-C Clear-L	2442	2	0.50	12.70	Argon	0.36	2.04	0.17	0.2	0.12
Double Ref-C Tint-L	2452	2	0.50	12.70	Argon	0.36	2.04	0.15	0.18	0.07
Double Ref-A Tint-L	2412	2	0.50	12.70	Argon	0.36	2.04	0.13	0.15	0.05
Double Ref-B Tint-L	2432	2	0.50	12.70	Argon	0.36	2.04	0.13	0.15	0.05
Double Ref-A Clear-L	2402	2	0.50	12.70	Argon	0.36	2.04	0.12	0.14	0.07
Double Low-E (e3=.2) Clear	2611	2	0.50	12.70	Air	0.35	1.99	0.73	0.85	0.74
Double Low-E (e3=.2) Clear	2614	2	0.50	12.70	Air	0.35	1.99	0.67	0.78	0.72

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient	Shading Coefficient	Visible Transmittance
	Type Code	# Panes	IP (in)	SI (mm)	Gas Fill	IP (BTU / sqft-h-°F)	SI (W / sqm-°C)			
	SHGC	SC	Tvis							
Triple Clear	3002	3	0.50	12.70	Air	0.32	1.82	0.68	0.79	0.74
Double Low-E (e3=.1) Clear	2641	2	0.50	12.70	Air	0.32	1.82	0.64	0.75	0.77
Double Low-E (e2=.1) Clear	2631	2	0.50	12.70	Air	0.32	1.82	0.60	0.69	0.77
Triple Low-E (e5=.1) Clear	3601	3	0.25	6.35	Air	0.32	1.82	0.57	0.67	0.7
Triple Low-E Film (88) Clear	3641	3	0.25	6.35	Air	0.32	1.82	0.57	0.66	0.71
Triple Low-E Film (77) Clear	3651	3	0.25	6.35	Air	0.32	1.82	0.46	0.53	0.64
Double Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap	2802	2	0.50	12.70	Air	0.31	1.76	0.74	0.86	0.76
Double Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap	2822	2	0.50	12.70	Air	0.31	1.76	0.64	0.74	0.73
Double Low-E (e2=.1) Clear	2634	2	0.50	12.70	Air	0.31	1.76	0.56	0.65	0.75
Double Low-E (e2=.1) Tint	2637	2	0.50	12.70	Air	0.31	1.76	0.37	0.43	0.44
Triple Low-E Film (66) Clear	3661	3	0.25	6.35	Air	0.31	1.76	0.35	0.41	0.54
Triple Low-E Film (55) Clear	3671	3	0.25	6.35	Air	0.31	1.76	0.30	0.35	0.45
Triple Low-E Film (66) Tint	3663	3	0.25	6.35	Air	0.31	1.76	0.26	0.3	0.32
Triple Low-E Film (55) Tint	3673	3	0.25	6.35	Air	0.31	1.76	0.23	0.26	0.27
Double Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap	2803	2	0.50	12.70	Air	0.31	1.76	0.20	0.19	0.12
Triple Low-E Film (44) Tint	3681	3	0.25	6.35	Air	0.31	1.76	0.20	0.23	0.22
Triple Low-E Film (33) Tint	3691	3	0.25	6.35	Air	0.31	1.76	0.16	0.19	0.17
Double Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap	2823	2	0.50	12.70	Air	0.31	1.76	0.15	0.17	0.14
Double Low-E (e3=.2) Clear	2612	2	0.50	12.70	Argon	0.3	1.70	0.74	0.86	0.74
Double Low-E (e2=.04) Clear	2661	2	0.50	12.70	Air	0.3	1.70	0.44	0.51	0.7
Double Low-E (e3=.2) Clear	2615	2	0.50	12.70	Argon	0.29	1.65	0.68	0.79	0.72
Triple Clear	3002	3	0.50	12.70	Argon	0.29	1.65	0.68	0.79	0.74
Double Low-E (e2=.029) Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap	2842	2	0.50	12.70	Air	0.29	1.65	0.51	0.59	0.66
Double Low-E (e2=.029) Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap	2862	2	0.50	12.70	Air	0.29	1.65	0.47	0.55	0.64

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient	Shading Coefficient	Visible Transmittance
	Type Code	# Panes	IP (in)	SI (mm)	Gas Fill	IP (BTU / sqft-h-°F)	SI (W / sqm-°C)			
	SHGC	SC	Tvis							
Double Low-E (e3=.04) Clear	2664	2	0.50	12.70	Air	0.29	1.65	0.42	0.48	0.68
Double Low-E (e2=.04) Tint	2667	2	0.50	12.70	Air	0.29	1.65	0.29	0.33	0.41
Double Low-E (e2=.029) Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap	2863	2	0.50	12.70	Air	0.29	1.65	0.14	0.16	0.12
Double Low-E (e2=.029) Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap	2843	2	0.50	12.70	Air	0.29	1.65	0.13	0.15	0.1
Triple Low-E (e2=e5=.1) Clear	3621	3	0.25	6.35	Air	0.27	1.53	0.47	0.54	0.66
Double Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap, Argon	2804	2	0.50	12.70	Argon	0.26	1.48	0.74	0.86	0.76
Double Low-E (e3=.1) Clear	2642	2	0.50	12.70	Argon	0.26	1.48	0.65	0.75	0.77
Double Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap, Argon	2824	2	0.50	12.70	Argon	0.26	1.48	0.64	0.74	0.73
Double Low-E (e2=.1) Clear	2632	2	0.50	12.70	Argon	0.26	1.48	0.59	0.69	0.77
Double Low-E (e2=.1) Clear	2635	2	0.50	12.70	Argon	0.26	1.48	0.56	0.66	0.75
Double Low-E (e2=.1) Tint	2638	2	0.50	12.70	Argon	0.26	1.48	0.37	0.43	0.44
Double Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap, Argon	2805	2	0.50	12.70	Argon	0.26	1.48	0.15	0.18	0.12
Double Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap, Argon	2825	2	0.50	12.70	Argon	0.26	1.48	0.15	0.16	0.14
Double Low-E (e2=.04) Clear	2662	2	0.50	12.70	Argon	0.24	1.36	0.43	0.5	0.7
Triple Low-E (e5=.1) Clear	3602	3	0.50	12.70	Air	0.23	1.31	0.58	0.67	0.7
Triple Low-E Film (88) Clear	3642	3	0.50	12.70	Air	0.23	1.31	0.57	0.67	0.71
Double Low-E (e2=.029) Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap, Argon	2844	2	0.50	12.70	Argon	0.23	1.31	0.52	0.6	0.66
Double Low-E (e2=.029) Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap, Argon	2864	2	0.50	12.70	Argon	0.23	1.31	0.48	0.56	0.64
Double Low-E (e3=.04) Clear	2665	2	0.50	12.70	Argon	0.23	1.31	0.42	0.48	0.68

WINDOW / DOOR	Glass		Gap Thickness		Gap	Center Glass U-Value		Solar Heat Gain Coefficient SHGC	Shading Coefficient SC	Visible Transmittance Tvis
	Type Code	# Panes	IP (in)	SI (mm)	Gas Fill	IP (BTU / sqft-h-°F)	SI (W / sqm-°C)			
Double Low-E (e2=.04) Tint	2668	2	0.50	12.70	Argon	0.23	1.31	0.28	0.32	0.41
Double Low-E (e2=.029) Electrochromic Reflecting Bleached/Colored, 12.7-mm Gap, Argon	2865	2	0.50	12.70	Argon	0.23	1.31	0.13	0.15	0.12
Double Low-E (e2=.029) Electrochromic Absorbing Bleached/Colored, 12.7-mm Gap, Argon	2845	2	0.50	12.70	Argon	0.23	1.31	0.12	0.14	0.1
Triple Low-E Film (77) Clear	3652	3	0.50	12.70	Air	0.22	1.25	0.47	0.54	0.64
Triple Low-E Film (66) Clear	3662	3	0.50	12.70	Air	0.22	1.25	0.36	0.42	0.54
Triple Low-E Film (55) Clear	3672	3	0.50	12.70	Air	0.22	1.25	0.31	0.36	0.45
Triple Low-E Film (66) Tint	3664	3	0.50	12.70	Air	0.22	1.25	0.25	0.29	0.32
Triple Low-E Film (55) Tint	3674	3	0.50	12.70	Air	0.22	1.25	0.22	0.25	0.27
Triple Low-E Film (44) Tint	3682	3	0.50	12.70	Air	0.21	1.19	0.19	0.22	0.22
Triple Low-E Film (33) Tint	3692	3	0.50	12.70	Air	0.21	1.19	0.15	0.17	0.17
Triple Low-E (e5=.1) Clear	3603	3	0.50	12.70	Argon	0.19	1.08	0.58	0.67	0.7
Triple Low-E (e2=e5=.1) Clear	3622	3	0.50	12.70	Air	0.17	0.97	0.47	0.55	0.66
Triple Low-E (e2=e5=.1) Clear	3623	3	0.50	12.70	Argon	0.14	0.79	0.47	0.55	0.66
Quadruple, Two Low-E Glass, Two Low-E Film, Clear. Krypton	4651	4	0.31	7.87	Krypton	0.12	0.68	0.45	0.52	0.62

Source: US Department of Energy

ANNEX 3 Insulating Values of Common Building Materials

MATERIAL	R-VALUE (1/C)		R-VALUE PER inch (1/K)	
	sqft-hr deg F/Btu	sqm deg C/W	sqft-hr deg F/Btu	sqm deg C/W
METAL ROOF	0.04	0.00704		
ALUMINUM ALLOY	0.01	0.00176		
PLASTIC ROOF				
CEMENT TILE ROOF	0.21	0.03698		
CLAY TILE - 3 inch [75mm] (1 CELL DEEP)	0.8	0.14088		
ASPHALT SHINGLES	0.44	0.07748		
ASPHALT			0.12 - 0.34	0.02113 to 0.05987
STRAW THATCH			2.04	0.35924
FIBERBOARD - 1/2 inch [12.5mm]	1.32	0.23245		
PLYWOOD - 1/2 inch [12.5mm]	0.62	0.10918		
PLYWOOD - 3/4 inch [18.75mm]	0.94	0.16553		
CONCRETE (sand, gravel) 140 lb/cu ft [2246 kg/cu m]			0.05 - 0.11	0.00881 to 0.01937
CONCRETE (sand, gravel) 80 lb/cu ft [1283 kg/ cu m]			0.24 - 0.30	0.04226 to 0.05283
CEMENT MORTAR			0.10	0.01761
STONE			0.01	0.00176
MARBLE/GRANITE, LIMESTONE			0.03 - 0.12	0.00528 to 0.02113
CERAMIC TILE - 1 inch [25mm]	0.08	0.01409		
STONE TILE - 1 inch [25mm]	0.05	0.00881		
AIR SPACE UP TO 4 inches [100mm]	1	0.1761		
INSIDE SURFACE AIR FILM	0.61	0.10742		
EXTERIOR SURFACE AIR FILM	0.17	0.02994		
MEMBRANE	0.06-0.12	0.01057 to 0.02113		
SOIL (with 20% moisture content)			0.25 - 1.0	0.04403 to 0.17610
SAND - 1/2 inch [12.5mm]	0.1	0.01761		

Source: 2013 ASHRAE Handbook of Fundamentals / 1958 ASHAE Guide / www.inspectApedia.com

ANNEX 4 Philippine Green Building Code Activities

Philippine Green Building Code Multi-Stakeholders Consultation

Baguio City (Regions 1, CAR)
November 3-7, 2014



Tagaytay City
(Regions IV-A, IV-B, V)
December 11, 2014



Head Office
(NCR)
January 21, 2015



Davao City
(Regions IX, XI, XIII)
January 30, 2015



Cebu City
(Regions VI, VII, VIII)
February 10, 2015



Cagayan de Oro
(Regions X, XII)
February 24, 2015



BALANGA, BATAAN
(Regions II, III)
MARCH 10-11, 2015



**Philippine
Green Building Code Writeshop (Clark, Pampanga)
April 27-28, 2015**



**Philippine Green Building Code Launching
“Green Breakthroughs 2015”
June 25, 2015, Philippine Trade Training Center**



Philippine Green Building Code Training of Trainers

Regions I, IV-B and CAR



Regions III, IV-A



Regions V, VII, VIII, IX, X, XI, XII, XIII, and other agencies



NCR



Other Philippine GB Code Meetings/ Activities





DEPARTMENT OF
PUBLIC WORKS
AND HIGHWAYS



IFC

International
Finance Corporation
World Bank Group

REPUBLIC OF THE PHILIPPINES }
CONGRESS OF THE PHILIPPINES }
Third Regular Session

H. No. 10651
S. No. 1595

REPUBLIC ACT NO. 9003

AN ACT PROVIDING FOR AN ECOLOGICAL SOLID WASTE MANAGEMENT PROGRAM, CREATING THE NECESSARY INSTITUTIONAL MECHANISMS AND INCENTIVES, DECLARING CERTAIN ACTS PROHIBITED AND PROVIDING PENALTIES, APPROPRIATING FUNDS THEREFOR, AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

CHAPTER I

BASIC POLICIES

ARTICLE 1

GENERAL PROVISIONS

SECTION 1. *Short Title.* – This Act shall be known as the "Ecological Solid Waste Management Act of 2000."

SEC. 2. *Declaration of Policies.* – It is hereby declared the policy of the State to adopt a systematic, comprehensive and ecological solid waste management program which shall:

- (a) Ensure the protection of public health and environment;
- (b) Utilize environmentally-sound methods that maximize the utilization of valuable resources and encourage resource conservation and recovery;
- (c) Set guidelines and targets for solid waste avoidance and volume reduction through source reduction and waste minimization measures, including composting, recycling, re-use, recovery, green charcoal process, and others, before collection, treatment and disposal in appropriate and environmentally sound

solid waste management facilities in accordance with ecologically sustainable development principles;

(d) Ensure the proper segregation, collection, transport, storage, treatment and disposal of solid waste through the formulation and adoption of the best environmental practice in ecological waste management excluding incineration;

(e) Promote national research and development programs for improved solid waste management and resource conservation techniques, more effective institutional arrangement and indigenous and improved methods of waste reduction, collection, separation and recovery;

(f) Encourage greater private sector participation in solid waste management;

(g) Retain primary enforcement and responsibility of solid waste management with local government units while establishing a cooperative effort among the national government, other local government units, nongovernment organizations, and the private sector;

(h) Encourage cooperation and self-regulation among waste generators through the application of market-based instruments;

(i) Institutionalize public participation in the development and implementation of national and local integrated, comprehensive and ecological waste management programs; and

(j) Strengthen the integration of ecological solid waste management and resource conservation and recovery topics into the academic curricula of formal and non-formal education in order to promote environmental awareness and action among the citizenry.

ARTICLE 2
DEFINITIONS OF TERMS

SEC. 3. *Definition of Terms.* – For the purposes of this Act:

(a) Agricultural waste shall refer to waste generated from planting or harvesting of crops, trimming or pruning of plants and wastes or run-off materials from farms or fields;

(b) Bulky wastes shall refer to waste materials which cannot be appropriately placed in separate containers because of either its bulky size, shape or other physical attributes. These include large worn-out or broken household, commercial, and industrial items such as furniture, lamps, bookcases, filing cabinets, and other similar items;

(c) Bureau shall refer to the Environmental Management Bureau;

(d) Buy-back center shall refer to a recycling center that purchases or otherwise accepts recyclable materials from the public for the purpose of recycling such materials;

(e) Collection shall refer to the act of removing solid waste from the source or from a communal storage point;

(f) Composting shall refer to the controlled decomposition of organic matter by micro-organisms, mainly bacteria and fungi, into a humus-like product;

(g) Consumer electronics shall refer to special wastes that include worn-out, broken, and other discarded items such as radios, stereos, and TV sets;

(h) Controlled dump shall refer to a disposal site at which solid waste is deposited in accordance with the minimum prescribed standards of site operation;

(i) Department shall refer to the Department of Environment and Natural Resources;

(j) Disposal shall refer to the discharge, deposit, dumping, spilling, leaking or placing of any solid waste into or in any land;

(k) Disposal site shall refer to a site where solid waste is finally discharged and deposited;

(l) Ecological solid waste management shall refer to the systematic administration of activities which provide for segregation at source, segregated transportation, storage, transfer, processing, treatment, and disposal of solid waste and all other waste management activities which do not harm the environment;

(m) Environmentally acceptable shall refer to the quality of being re-usable, biodegradable or compostable, recyclable and not toxic or hazardous to the environment;

(n) Generation shall refer to the act or process of producing solid waste;

(o) Generator shall refer to a person, natural or juridical, who last uses a material and makes it available for disposal or recycling;

(p) Hazardous waste shall refer to solid waste or combination of solid waste which because of its quantity, concentration, or physical, chemical or infectious characteristics may:

(1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed;

(q) Leachate shall refer to the liquid produced when waste undergo decomposition, and when water percolate through solid waste undergoing decomposition. It is contaminated liquid that contains dissolved and suspended materials;

(r) Materials recovery facility includes a solid waste transfer station or sorting station, drop-off center, a composting facility, and a recycling facility;

(s) Municipal waste shall refer to wastes produced from activities within local government units which include a combination of domestic, commercial, institutional and industrial wastes and street litters;

(t) Open dump shall refer to a disposal area wherein the solid wastes are indiscriminately thrown or disposed of without due planning and consideration for environmental and health standards;

(u) Opportunity to recycle shall refer to the act of providing a place for collecting source-separated recyclable material, located either at a disposal site or at another location more convenient to the population being served, and collection at least once a month of source-separated recyclable material from collection service customers and to providing a public education and promotion program that gives notice to each person of the opportunity to recycle and encourage source separation of recyclable material;

(v) Person(s) shall refer to any being, natural or juridical, susceptible of rights and obligations, or of being the subject of legal relations;

(w) Post-consumer material shall refer only to those materials or products generated by a business or consumer which have served their intended end use, and which have been separated or diverted from solid waste for the purpose of being collected, processed and used as a raw material in the manufacturing of a recycled product, excluding materials and by-products generated from, and commonly used within an original manufacturing process, such as mill scrap;

(x) Receptacles shall refer to individual containers used for the source separation and the collection of recyclable materials;

(y) Recovered material shall refer to material and by-products that have been recovered or diverted from solid waste for the purpose of being collected, processed and used as a raw material in the manufacture of a recycled product;

(z) Recyclable material shall refer to any waste material retrieved from the waste stream and free from contamination that can still be converted into suitable beneficial use or for other purposes, including, but not limited to, newspaper, ferrous scrap metal, non-ferrous scrap metal, used oil, corrugated cardboard, aluminum, glass, office paper, tin cans and other materials as may be determined by the Commission;

(aa) Recycled material shall refer to post-consumer material that has been recycled and returned to the economy;

(bb) Recycling shall refer to the treating of used or waste materials through a process of making the suitable for beneficial use and for other purposes, and includes any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity, and which may be used as raw materials for the production of other goods or services: *Provided*, That the collection, segregation and re-use of previously used packaging material shall be deemed recycling under this Act;

(cc) Resource conservation shall refer to the reduction of the amount of solid waste that are generated or the reduction of overall resource consumption, and utilization of recovered resources;

(dd) Resource recovery shall refer to the collection, extraction or recovery of recyclable materials from the waste stream for the purpose of recycling, generating energy or producing a product suitable for beneficial use: *Provided*, That, such resource recovery facilities exclude incineration;

(ee) Re-use shall refer to the process of recovering materials intended for the same or different purpose without the alteration of physical and chemical characteristics;

(ff) Sanitary landfill shall refer to a waste disposal site designed, constructed, operated and maintained in a manner that exerts engineering control over significant potential environmental impacts arising from the development and operation of the facility;

(gg) Schedule of Compliance shall refer to an enforceable sequence of actions or operations to be accomplished within a stipulated time frame leading to compliance with a limitation, prohibition, or standard set forth in this Act or any rule or regulation issued pursuant thereto;

(hh) Secretary shall refer to the Secretary of the Department of Environment and Natural Resources;

(ii) Segregation shall refer to a solid waste management practice of separating different materials found in solid waste in order to promote recycling and re-use of resources and to reduce the volume of waste for collection and disposal;

(jj) Segregation at source shall refer to a solid waste management practice of separating, at the point of origin, different materials found in solid waste in order to promote recycling and re-use of resources and to reduce the volume of waste for collection and disposal;

(kk) Solid waste shall refer to all discarded household, commercial waste, non-hazardous institutional and industrial waste, street sweepings, construction debris, agricultural waste, and other non-hazardous/non-toxic solid waste.

Unless specifically noted otherwise, the term "solid waste" as used in this Act shall not include:

(1) waste identified or listed as hazardous waste of a solid, liquid, contained gaseous or semisolid form which may cause or contribute to an increase in mortality or in serious or incapacitating reversible illness, or acute/chronic effect on the health of persons and other organisms;

(2) infectious waste from hospitals such as equipment, instruments, utensils, and fomites of a disposable nature from patients who are suspected to have or have been diagnosed as having communicable diseases and must therefore be isolated as required by public health agencies, laboratory wastes such as pathological specimens (i.e., all tissues, specimens of blood elements, excreta, and secretions obtained from patients or laboratory animals), and disposable fomites that may harbor or transmit pathogenic organisms, and surgical operating room pathologic specimens and disposable fomites attendant thereto, and similar disposable materials from outpatient areas and emergency rooms; and

(3) waste resulting from mining activities, including contaminated soil and debris.

(ll) Solid waste management shall refer to the discipline associated with the control of generation, storage, collection, transfer and transport, processing, and disposal of solid wastes in a manner that is in accord with the best principles of public health, economics, engineering, conservation, aesthetics, and other environmental considerations, and that is also responsive to public attitudes;

(mm) Solid waste management facility shall refer to any resource recovery system or component thereof; any system, program, or facility for resource conservation; any facility for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid waste;

(nn) Source reduction shall refer to the reduction of solid waste before it enters the solid waste stream by methods such as product design, materials substitution, materials re-use and packaging restrictions;

(oo) Source separation shall refer to the sorting of solid waste into some or all of its component parts at the point of generation;

(pp) Special wastes shall refer to household hazardous wastes such as paints, thinners, household batteries, lead-acid batteries, spray canisters and the like. These include wastes from residential and commercial sources that comprise of bulky wastes, consumer electronics, white goods, yard wastes that are collected separately, batteries, oil, and tires. These wastes are usually handled separately from other residential and commercial wastes;

(qq) Storage shall refer to the *interim* containment of solid waste after generation and prior to collection for ultimate recovery or disposal;

(rr) Transfer stations shall refer to those facilities utilized to receive solid wastes, temporarily store, separate, convert, or otherwise process the materials in the solid wastes, or to transfer the solid wastes directly from smaller to larger vehicles for transport. This term does not include any of the following:

(1) a facility whose principal function is to receive, store, separate, convert, or otherwise process in accordance with national minimum standards, manure;

(2) a facility, whose principal function is to receive, store, convert, or otherwise process wastes which have already been separated for re-use and are not intended for disposal; and

(3) the operations premises of a duly licensed solid waste handling operator who receives, stores, transfers, or otherwise processes wastes as an activity incidental to the conduct of a refuse collection and disposal business.

(ss) Waste diversion shall refer to activities which reduce or eliminate the amount of solid waste from waste disposal facilities;

(tt) White goods shall refer to large worn-out or broken household, commercial, and industrial appliances such as stoves, refrigerators, dishwashers, and clothes washers and dryers collected separately. White goods are usually dismantled for the recovery of specific materials (e.g., copper, aluminum, etc.); and

(uu) Yard waste shall refer to wood, small or chipped branches, leaves, grass clippings, garden debris, vegetable residue that is recognizable as part of a plant or vegetable and other materials identified by the Commission.

CHAPTER II INSTITUTIONAL MECHANISM

SEC. 4. *National Solid Waste Management Commission.*
– There is hereby established a National Solid Waste Management Commission, hereinafter referred to as the Commission, under the Office of the President. The Commission shall be composed of fourteen (14) members from the government sector and three (3) members from the private sector. The government sector shall be represented by the heads of the following agencies in their *ex officio* capacity:

- (1) Department of Environment and Natural Resources (DENR);
- (2) Department of the Interior and Local Government (DILG);
- (3) Department of Science and Technology (DOST);
- (4) Department of Public Works and Highways (DPWH);
- (5) Department of Health (DOH);
- (6) Department of Trade and Industry (DTI);
- (7) Department of Agriculture (DA);
- (8) Metro Manila Development Authority (MMDA);
- (9) League of provincial governors;
- (10) League of city mayors;

- (11) League of municipal mayors;
- (12) Association of barangay councils;
- (13) Technical Education and Skills Development Authority (TESDA); and
- (14) Philippine Information Agency.

The private sector shall be represented by the following:

- (a) A representative from nongovernment organizations (NGOs) whose principal purpose is to promote recycling and the protection of air and water quality;
- (b) A representative from the recycling industry; and
- (c) A representative from the manufacturing or packaging industry;

The Commission may, from time to time, call on any other concerned agencies or sectors as it may deem necessary.

Provided, That representatives from the NGOs, recycling and manufacturing or packaging industries shall be nominated through a process designed by themselves and shall be appointed by the President for a term of three (3) years.

Provided, further, That the Secretaries of the member agencies of the Commission shall formulate action plans for their respective agencies to complement the National Solid Waste Management Framework.

The Department Secretary and a private sector representative of the Commission shall serve as chairman and vice chairman, respectively. The private sector representatives of the Commission shall be appointed on the basis of their integrity, high degree of professionalism and having distinguished themselves in environmental and resource management. The

members of the Commission shall serve and continue to hold office until their successors shall have been appointed and qualified. Should a member of the Commission fail to complete his/her term, the successor shall be appointed by the President of the Philippines but only for the unexpired portion of the term. Finally, the members shall be entitled to reasonable traveling expenses and *honoraria*.

The Department, through the Environmental Management Bureau, shall provide secretariat support to the Commission. The Secretariat shall be headed by an executive director who shall be nominated by the members of the Commission and appointed by the chairman.

SEC. 5. Powers and Functions of the Commission. – The Commission shall oversee the implementation of solid waste management plans and prescribe policies to achieve the objectives of this Act. The Commission shall undertake the following activities:

(a) Prepare the national solid waste management framework;

(b) Approve local solid waste management plans in accordance with its rules and regulations;

(c) Review and monitor the implementation of local solid waste management plans;

(d) Coordinate the operation of local solid waste management boards in the provincial and city/municipal levels;

(e) To the maximum extent feasible, utilizing existing resources, assist provincial, city and municipal solid waste management boards in the preparation, modification, and implementation of waste management plans;

(f) Develop a model provincial, city and municipal solid waste management plan that will establish prototypes of the content and format which provinces, cities and municipalities

may use in meeting the requirements of the National Solid Waste Management Framework;

(g) Adopt a program to provide technical and other capability building assistance and support to local government units in the development and implementation of source reduction programs;

(h) Develop and implement a program to assist local government units in the identification of markets for materials that are diverted from disposal facilities through re-use, recycling, and composting, and other environment-friendly methods;

(i) Develop a mechanism for the imposition of sanctions for the violation of environmental rules and regulations;

(j) Manage the Solid Waste Management Fund;

(k) Develop and prescribe procedures for the issuance of appropriate permits and clearances;

(l) Review the incentives scheme for effective solid waste management, for purposes of ensuring relevance and efficiency in achieving the objectives of this Act;

(m) Formulate the necessary education promotion and information campaign strategies;

(n) Establish, after notice and hearing of the parties concerned, standards, criteria, guidelines and formula that are fair, equitable and reasonable, in establishing tipping charges and rates that the proponent will charge in the operation and management of solid waste management facilities and technologies;

(o) Develop safety nets and alternative livelihood programs for small recyclers and other sectors that will be affected as a result of the construction and/or operation of a solid waste management recycling plant or facility;

(p) Formulate and update a list of non-environmentally acceptable materials in accordance with the provisions of this Act. For this purpose, it shall be necessary that proper consultation be conducted by the Commission with all concerned industries to ensure a list that is based on technological and economic viability;

(q) Encourage private sector initiatives, community participation and investments resource recovery-based livelihood programs for local communities;

(r) Encourage all local government agencies and all local government units to patronize products manufactured using recycled and recyclable materials;

(s) Propose and adopt regulations requiring the source separation and post separation collection, segregated collection, processing, marketing and sale of organic and designated recyclable material generated in each local government unit; and

(t) Study and review the following:

(i) Standards, criteria and guidelines for the promulgation and implementation of an integrated national solid waste management framework; and

(ii) Criteria and guidelines for siting, design, operation and maintenance of solid waste management facilities.

SEC. 6. *Meetings.* – The Commission shall meet at least once a month. The presence of at least a majority of the members shall constitute a quorum. The chairman, or in his absence the vice chairman, shall be the presiding officer. In the absence of the heads of the agencies mentioned in Sec. 4 of this Act, they may designate permanent representatives to attend the meetings.

SEC. 7. *The National Ecology Center.* – There shall be established a National Ecology Center under the Commission which shall provide consulting, information, training, and networking services for the implementation of the provisions of this Act.

In this regard, it shall perform the following functions:

(a) Facilitate training and education in integrated ecological solid waste management;

(b) Establish and manage a solid waste management information data base, in coordination with the DTI and other concerned agencies:

(1) on solid waste generation and management techniques as well as the management, technical and operational approaches to resource recovery; and

(2) of processors/recyclers, the list of materials being recycled or bought by them and their respective prices;

(c) Promote the development of a recycling market through the establishment of a national recycling network that will enhance the opportunity to recycle;

(d) Provide or facilitate expert assistance in pilot modeling of solid waste management facilities; and

(e) Develop, test, and disseminate model waste minimization and reduction auditing procedures for evaluating options.

The National Ecology Center shall be headed by the director of the Bureau in his *ex officio* capacity. It shall maintain a multi-sectoral, multi-disciplinary pool of experts including those from the academe, inventors, practicing professionals, business and industry, youth, women and other concerned sectors, who shall be screened according to qualifications set by the Commission.

SEC. 8. *Role of the Department.* – For the furtherance of the objectives of this Act, the Department shall have the following functions:

(a) Chair the Commission created pursuant to this Act;

(b) Prepare an annual National Solid Waste Management Status Report;

(c) Prepare and distribute information, education and communication materials on solid waste management;

(d) Establish methods and other parameters for the measurement of waste reduction, collection and disposal;

(e) Provide technical and other capability building assistance and support to the LGUs in the development and implementation of local solid waste management plans and programs;

(f) Recommend policies to eliminate barriers to waste reduction programs;

(g) Exercise visitorial and enforcement powers to ensure strict compliance with this Act;

(h) Perform such other powers and functions necessary to achieve the objectives of this Act; and

(i) Issue rules and regulations to effectively implement the provisions of this Act.

SEC. 9. Visitorial Powers of the Department. – The Department or its duly authorized representative shall have access to, and the right to copy therefrom, the records required to be maintained pursuant to the provisions of this Act. The Secretary or the duly authorized representative shall likewise have the right to enter the premises of any generator, recycler or manufacturer, or other facilities any time to question any employee or investigate any fact, condition or matter which may be necessary to determine any violation, or which may aid in the effective enforcement of this Act and its implementing rules and regulations. This Section shall not apply to private dwelling places unless the visitorial power is otherwise judicially authorized.

SEC. 10. *Role of LGUs in Solid Waste Management.* – Pursuant to the relevant provisions of R.A. No. 7160, otherwise known as the Local Government Code, the LGUs shall be primarily responsible for the implementation and enforcement of the provisions of this Act within their respective jurisdictions.

Segregation and collection of solid waste shall be conducted at the barangay level specifically for biodegradable, compostable and reusable wastes: *Provided*, That the collection of non-recyclable materials and special wastes shall be the responsibility of the municipality or city.

SEC. 11. *Provincial Solid Waste Management Board.* – A Provincial Solid Waste Management Board shall be established in every province, to be chaired by the governor. Its members shall include:

- (a) All the mayors of its component cities and municipalities;
- (b) One (1) representative from the Sangguniang Panlalawigan to be represented by the chairperson of either the Committees on Environment or Health or their equivalent committees, to be nominated by the presiding officer;
- (c) The provincial health and/or general services officers, whichever may be recommended by the governor;
- (d) The provincial environment and natural resources officer;
- (e) The provincial engineer;
- (f) Congressional representative/s from each congressional district within the province;
- (g) A representative from the NGO sector whose principal purpose is to promote recycling and the protection of air and water quality;
- (h) A representative from the recycling industry;

(i) A representative from the manufacturing or packaging industry; and

(j) A representative of each concerned government agency possessing relevant technical and marketing expertise as may be determined by the Board.

The Provincial Solid Waste Management Board may, from time to time, call on any other concerned agencies or sectors as it may deem necessary.

Provided, That representatives from the NGOs, recycling and manufacturing or packaging industries shall be selected through a process designed by themselves and shall be endorsed by the government agency representatives of the Board: *Provided, further, That* in the Province of Palawan, the Board shall be chaired by the chairman of the Palawan Council for Sustainable Development, pursuant to Republic Act No. 7611.

In the case of Metro Manila, the Board shall be chaired by the chairperson of the MMDA and its members shall include:

- (i) All mayors of its component cities and municipalities;
- (ii) A representative from the NGO sector whose principal purpose is to promote recycling and the protection of air and water quality;
- (iii) A representative from the recycling industry; and
- (iv) A representative from the manufacturing or packaging industry.

The Board may, from time to time, call on any other concerned agencies or sectors as it may deem necessary.

Provided, That representatives from the NGOs, recycling and manufacturing or packaging industries shall be selected through a process designed by themselves and shall be endorsed by the government agency representatives of the Board.

The Provincial Solid Waste Management Board shall have the following functions and responsibilities:

(1) Develop a provincial solid waste management plan from the submitted solid waste management plans of the respective city and municipal solid waste management boards herein created. It shall review and integrate the submitted plans of all its component cities and municipalities and ensure that the various plans complement each other, and have the requisite components. The Provincial Solid Waste Management Plan shall be submitted to the Commission for approval.

The Provincial Plan shall reflect the general program of action and initiatives of the provincial government in implementing a solid waste management program that would support the various initiatives of its component cities and municipalities.

(2) Provide the necessary logistical and operational support to its component cities and municipalities in consonance with subsection (f) of Sec. 17 of the Local Government Code;

(3) Recommend measures and safeguards against pollution and for the preservation of the natural ecosystem;

(4) Recommend measures to generate resources, funding and implementation of projects and activities as specified in the duly approved solid waste management plans;

(5) Identify areas within its jurisdiction which have common solid waste management problems and are appropriate units for planning local solid waste management services in accordance with Section 41 hereof;

(6) Coordinate the efforts of the component cities and municipalities in the implementation of the Provincial Solid Waste Management Plan;

(7) Develop an appropriate incentive scheme as an integral component of the Provincial Solid Waste Management Plan;

(8) Convene joint meetings of the provincial, city and municipal solid waste management boards at least every quarter for purposes of integrating, synchronizing, monitoring and evaluating the development and implementation of its provincial solid waste management plan;

(9) Represent any of its component city or municipality in coordinating its resource and operational requirements with agencies of the national government;

(10) Oversee the implementation of the Provincial Solid Waste Management Plan;

(11) Review every two (2) years or as the need arises the Provincial Solid Waste Management Plan for purposes of ensuring its sustainability, viability, effectiveness and relevance in relation to local and international developments in the field of solid waste management; and

(12) Allow for the clustering of LGUs for the solution of common solid waste management problems.

SEC. 12. City and Municipal Solid Waste Management Board. – Each city or municipality shall form a City or Municipal Waste Management Board that shall prepare, submit and implement a plan for the safe and sanitary management of solid waste generated in areas under its geographic and political coverage.

The City or Municipal Solid Waste Management Board shall be composed of the city or municipal mayor as head with the following as members:

(a) One (1) representative of the Sangguniang Panlungsod or the Sangguniang Bayan, preferably chairpersons of either the Committees on Environment or Health, who will be designated by the presiding officer;

(b) President of the Association of Barangay Councils in the municipality or city;

- (c) Chairperson of the Sangguniang Kabataan Federation;
- (d) A representative from NGOs whose principal purpose is to promote recycling and the protection of air and water quality;
- (e) A representative from the recycling industry;
- (f) A representative from the manufacturing or packaging industry; and
- (g) A representative of each concerned government agency possessing relevant technical and marketing expertise as may be determined by the Board.

The City or Municipal Solid Waste Management Board may, from time to time, call on any concerned agencies or sectors as it may deem necessary.

Provided, That representatives from the NGOs, recycling and manufacturing or packaging industries shall be selected through a process designed by themselves and shall be endorsed by the government agency representatives of the Board.

The City and Municipal Solid Waste Boards shall have the following duties and responsibilities:

(1) Develop the City or Municipal Solid Waste Management Plan that shall ensure the long-term management of solid waste, as well as integrate the various solid waste management plans and strategies of the barangays in its area of jurisdiction. In the development of the Solid Waste Management Plan, it shall conduct consultations with the various sectors of the community;

(2) Adopt measures to promote and ensure the viability and effective implementation of solid waste management programs in its component barangays;

(3) Monitor the implementation of the City or Municipal Solid Waste Management Plan through its various political

subdivisions and in cooperation with the private sector and the NGOs;

(4) Adopt specific revenue-generating measures to promote the viability of its Solid Waste Management Plan;

(5) Convene regular meetings for purposes of planning and coordinating the implementation of the solid waste management plans of the respective component barangays;

(6) Oversee the implementation of the City or Municipal Solid Waste Management Plan;

(7) Review every two (2) years or as the need arises the City or Municipal Solid Waste Management Plan for purposes of ensuring its sustainability, viability, effectiveness and relevance in relation to local and international developments in the field of solid waste management;

(8) Develop the specific mechanics and guidelines for the implementation of the City or Municipal Solid Waste Management Plan;

(9) Recommend to appropriate local government authorities specific measures or proposals for franchise or build-operate-transfer agreements with duly recognized institutions, pursuant to R.A. No. 6957, to provide either exclusive or non-exclusive authority for the collection, transfer, storage, processing, recycling or disposal of municipal solid waste. The proposals shall take into consideration appropriate government rules and regulations on contracts, franchises and build-operate-transfer agreements;

(10) Provide the necessary logistical and operational support to its component cities and municipalities in consonance with subsection (f) of Sec. 17 of the Local Government Code;

(11) Recommend measures and safeguards against pollution and for the preservation of the natural ecosystem; and

(12) Coordinate the efforts of its component barangays in the implementation of the city or municipal Solid Waste Management Plan.

SEC. 13. *Establishment of Multi-Purpose Environment Cooperatives or Associations in Every LGU.* – Multi-purpose cooperatives and associations that shall undertake activities to promote the implementation and/or directly undertake projects in compliance with the provisions of this Act shall be encouraged and promoted in every LGU.

CHAPTER III

COMPREHENSIVE SOLID WASTE MANAGEMENT

ARTICLE 1

GENERAL PROVISIONS

SEC. 14. *National Solid Waste Management Status Report.* – The Department, in coordination with the DOH and other concerned agencies, shall within six (6) months after the effectivity of this Act, prepare a National Solid Waste Management Status Report which shall be used as a basis in formulating the National Solid Waste Management Framework provided in Sec. 15 of this Act. The concerned agencies shall submit to the Department relevant data necessary for the completion of the said report within three (3) months following the effectivity of this Act. The said report shall include, but shall not be limited to, the following:

- (a) Inventory of existing solid waste facilities;
- (b) General waste characterization, taking into account the type, quantity of waste generated and estimation of volume and type of waste for reduction and recycling;
- (c) Projection of waste generation;
- (d) The varying regional geologic, hydrologic, climatic, and other factors vital in the implementation of solid waste practices to ensure the reasonable protection of:

(1) the quality of surface and groundwater from leachate contamination;

(2) the quality of surface waters from surface run-off contamination; and

(3) ambient air quality.

(e) Population density, distribution and projected growth;

(f) The political, economic, organizational, financial and management problems affecting comprehensive solid waste management;

(g) Systems and techniques of waste reduction, re-use and recycling;

(h) Available markets for recyclable materials;

(i) Estimated cost of collecting, storing, transporting, marketing and disposal of wastes and recyclable materials; and

(j) Pertinent qualitative and quantitative information concerning the extent of solid waste management problems and solid waste management activities undertaken by local government units and the waste generators.

Provided, That the Department, in consultation with concerned agencies, shall review, update and publish a National Solid Waste Management Status Report every two (2) years or as the need arises.

SEC. 15. *National Solid Waste Management Framework.*
– Within six (6) months from the completion of the national solid waste management status report under Sec. 14 of this Act, the Commission created under Sec. 4 of this Act shall, with public participation, formulate and implement a National Solid Waste Management Framework. Such framework shall consider and include:

(a) Analysis and evaluation of the current state, trends, projections of solid waste management on the national, provincial and municipal levels;

(b) Identification of critical solid waste facilities and local government units which will need closer monitoring and/or regulation;

(c) Characteristics and conditions of collection, storage, processing, disposal, operating methods, techniques and practices, location of facilities where such operating methods, techniques and practices are conducted, taking into account the nature of the waste;

(d) Waste diversion goal pursuant to Sec. 20 of this Act;

(e) Schedule for the closure and/or upgrading of open and controlled dumps pursuant to Sec. 37 of this Act;

(f) Methods of closing or upgrading open dumps for purposes of eliminating potential health hazards;

(g) The profile of sources, including industrial, commercial, domestic and other sources;

(h) Practical applications of environmentally sound techniques of waste minimization such as, but not limited to, resource conservation, segregation at source, recycling, resource recovery, including waste-to-energy generation, re-use and composting;

(i) A technical and economic description of the level of performance that can be attained by various available solid waste management practices which provide for the protection of public health and the environment;

(j) Appropriate solid waste facilities and conservation systems;

(k) Recycling programs for the recyclable materials, such as but not limited to glass, paper, plastic and metal;

(l) Venues for public participation from all sectors at all phases/stages of the waste management program/project;

(m) Information and education campaign strategies;

(n) A description of levels of performance and appropriate methods and degrees of control that provide, at the minimum, for protection of public health and welfare through:

(1) Protection of the quality of groundwater and surface waters from leachate and run-off contamination;

(2) Disease and epidemic prevention and control;

(3) Prevention and control of offensive odor; and

(4) Safety and aesthetics.

(o) Minimum criteria to be used by the local government units to define ecological solid waste management practices. As much as practicable, such guidelines shall also include minimum information for use in deciding the adequate location, design, and construction of facilities associated with solid waste management practices, including the consideration of regional, geographic, demographic, and climatic factors; and

(p) The method and procedure for the phaseout and the eventual closure within eighteen (18) months from the effectivity of this Act in case of existing open dumps and/or sanitary landfills located within an aquifer, groundwater reservoir or watershed area.

SEC. 16. *Local Government Solid Waste Management Plans.* – The province, city or municipality, through its local solid waste management boards, shall prepare its respective 10-year solid waste management plans consistent with the national solid waste management framework: *Provided,* That the waste

management plan shall be for the re-use, recycling and composting of wastes generated in their respective jurisdictions: *Provided, further,* That the solid waste management plan of the LGU shall ensure the efficient management of solid waste generated within its jurisdiction. The plan shall place primary emphasis on implementation of all feasible re-use, recycling, and composting programs while identifying the amount of landfill and transformation capacity that will be needed for solid waste which cannot be re-used, recycled, or composted. The plan shall contain all the components provided in Sec. 17 of this Act and a timetable for the implementation of the solid waste management program in accordance with the National Framework and pursuant to the provisions of this Act: *Provided, finally,* That it shall be reviewed and updated every year by the provincial, city or municipal solid waste management board.

For LGUs which have considered solid waste management alternatives to comply with Sec. 37 of this Act, but are unable to utilize such alternatives, a timetable or schedule of compliance specifying the remedial measures and eventual compliance shall be included in the plan.

All local government solid waste management plans shall be subjected to the approval of the Commission. The plan shall be consistent with the national framework and in accordance with the provisions of this Act and of the policies set by the Commission: *Provided,* That in the Province of Palawan, the local government solid waste management plan shall be approved by the Palawan Council for Sustainable Development, pursuant to R.A. No. 7611.

SEC. 17. *The Components of the Local Government Solid Waste Management Plan.* – The solid waste management plan shall include, but not be limited to, the following components:

(a) City or Municipal Profile - The plan shall indicate the following background information on the city or municipality and its component barangays, covering important highlights of the distinct geographic and other conditions:

(1) Estimated population of each barangay within the city or municipality and population projection for a 10-year period;

(2) Illustration or map of the city/municipality, indicating locations of residential, commercial, and industrial centers, and agricultural area, as well as dump sites, landfills and other solid waste facilities. The illustration shall indicate as well, the proposed sites for disposal and other solid waste facilities;

(3) Estimated solid waste generation and projection by source, such as residential, market, commercial, industrial, construction/demolition, street waste, agricultural, agro-industrial, institutional, other wastes; and

(4) Inventory of existing waste disposal and other solid waste facilities and capacities.

(b) Waste characterization - For the initial source reduction and recycling element of a local waste management plan, the LGU waste characterization component shall identify the constituent materials which comprise the solid waste generated within the jurisdiction of the LGU. The information shall be representative of the solid waste generated and disposed of within that area. The constituent materials shall be identified by volume, percentage in weight or its volumetric equivalent, material type, and source of generation which includes residential, commercial, industrial, governmental, or other sources. Future revisions of waste characterization studies shall identify the constituent materials which comprise the solid waste disposed of at permitted disposal facilities.

(c) Collection and Transfer - The plan shall take into account the geographic subdivisions to define the coverage of the solid waste collection area in every barangay. The barangay shall be responsible for ensuring that a 100% collection efficiency from residential, commercial, industrial and agricultural sources, where necessary within its area of coverage, is achieved. Toward this end, the plan shall define and identify the specific strategies and activities to be undertaken by its component barangays, taking into account the following concerns:

(1) Availability and provision of properly designed containers or receptacles in selected collection points for the

temporary storage of solid waste while awaiting collection and transfer to processing sites or to final disposal sites;

(2) Segregation of different types of solid waste for re-use, recycling and composting;

(3) Hauling and transfer of solid waste from source or collection points to processing sites or final disposal sites;

(4) Issuance and enforcement of ordinances to effectively implement a collection system in the barangay; and

(5) Provision of properly trained officers and workers to handle solid waste disposal.

The plan shall define and specify the methods and systems for the transfer of solid waste from specific collection points to solid waste management facilities.

(d) Processing - The plan shall define the methods and the facilities required to process the solid waste, including the use of intermediate treatment facilities for composting, recycling, conversion and other waste processing systems. Other appropriate waste processing technologies may also be considered provided that such technologies conform with internationally-acceptable and other standards set in other laws and regulations.

(e) Source reduction - The source reduction component shall include a program and implementation schedule which shows the methods by which the LGU will, in combination with the recycling and composting components, reduce a sufficient amount of solid waste disposed of in accordance with the diversion requirements of Sec. 20.

The source reduction component shall describe the following:

(1) strategies in reducing the volume of solid waste generated at source;

(2) measures for implementing such strategies and the resources necessary to carry out such activities;

(3) other appropriate waste reduction technologies that may also be considered, provided that such technologies conform with the standards set pursuant to this Act;

(4) the types of wastes to be reduced pursuant to Sec. 15 of this Act;

(5) the methods that the LGU will use to determine the categories of solid wastes to be diverted from disposal at a disposal facility through re-use, recycling and composting; and

(6) new facilities and of expansion of existing facilities which will be needed to implement re-use, recycling and composting.

The LGU source reduction component shall include the evaluation and identification of rate structures and fees for the purpose of reducing the amount of waste generated, and other source reduction strategies, including but not limited to, programs and economic incentives provided under Sec. 45 of this Act to reduce the use of non-recyclable materials, replace disposable materials and products with reusable materials and products, reduce packaging, and increase the efficiency of the use of paper, cardboard, glass, metal, and other materials. The waste reduction activities of the community shall also take into account, among others, local capability, economic viability, technical requirements, social concerns, disposition of residual waste and environmental impact: *Provided, That*, projection of future facilities needed and estimated cost shall be incorporated in the plan.

(f) Recycling - The recycling component shall include a program and implementation schedule which shows the methods by which the LGU shall, in combination with the source reduction and composting components, reduce a sufficient amount of solid waste disposed of in accordance with the diversion requirements set in Sec. 20.

The LGU recycling component shall describe the following:

- (1) The types of materials to be recycled under the programs;
- (2) The methods for determining the categories of solid wastes to be diverted from disposal at a disposal facility through recycling; and
- (3) New facilities and expansion of existing facilities needed to implement the recycling component.

The LGU recycling component shall describe methods for developing the markets for recycled materials, including, but not limited to, an evaluation of the feasibility of procurement preferences for the purchase of recycled products. Each LGU may determine and grant a price preference to encourage the purchase of recycled products.

The five-year strategy for collecting, processing, marketing and selling the designated recyclable materials shall take into account persons engaged in the business of recycling or persons otherwise providing recycling services before the effectivity of this Act. Such strategy may be based upon the results of the waste composition analysis performed pursuant to this Section or information obtained in the course of past collection of solid waste by the local government unit, and may include recommendations with respect to increasing the number of materials designated for recycling pursuant to this Act.

The LGU recycling component shall evaluate industrial, commercial, residential, agricultural, governmental, and other curbside, mobile, drop-off, and buy-back recycling programs, manual and automated materials recovery facilities, zoning, building code changes and rate structures which encourage recycling of materials. The Solid Waste Management Plan shall indicate the specific measures to be undertaken to meet the waste diversion specified under Sec. 20 of this Act.

Recommended revisions to the building ordinances, requiring newly-constructed buildings and buildings undergoing specified alterations to contain storage space, devices or mechanisms that facilitate source separation and storage of designated recyclable materials to enable the local government unit to efficiently collect, process, market and sell the designated materials. Such recommendations shall include, but shall not be limited to separate chutes to facilitate source separation in multi-family dwellings, storage areas that conform to fire and safety code regulations, and specialized storage containers.

The Solid Waste Management Plan shall indicate the specific measures to be undertaken to meet the recycling goals pursuant to the objectives of this Act.

(g) Composting - The composting component shall include a program and implementation schedule which shows the methods by which the LGU shall, in combination with the source reduction and recycling components, reduce a sufficient amount of solid waste disposed of within its jurisdiction to comply with the diversion requirements of Sec. 20 hereof.

The LGU composting component shall describe the following:

- (1) The types of materials which will be composted under the programs;
- (2) The methods for determining the categories of solid wastes to be diverted from disposal at a disposal facility through composting; and
- (3) New facilities, and expansion of existing facilities needed to implement the composting component.

The LGU composting component shall describe methods for developing the markets for composted materials, including, but not limited to, an evaluation of the feasibility of procurement preferences for the purchase of composted products. Each LGU

may determine and grant a price preference to encourage the purchase of composted products.

(h) Solid waste facility capacity and final disposal - The solid waste facility component shall include, but shall not be limited to, a projection of the amount of disposal capacity needed to accommodate the solid waste generated, reduced by the following:

(1) Implementation of source reduction, recycling, and composting programs required in this Section or through implementation of other waste diversion activities pursuant to Sec. 20 of this Act;

(2) Any permitted disposal facility which will be available during the 10-year planning period; and

(3) All disposal capacity which has been secured through an agreement with another LGU, or through an agreement with a solid waste enterprise.

The plan shall identify existing and proposed disposal sites and waste management facilities in the city or municipality or in other areas. The plan shall specify the strategies for the efficient disposal of waste through existing disposal facilities and the identification of prospective sites for future use. The selection and development of disposal sites shall be made on the basis of internationally accepted standards and on the guidelines set in Secs. 41 and 42 of this Act.

Strategies shall be included to improve said existing sites to reduce adverse impact on health and the environment, and to extend life span and capacity. The plan shall clearly define projections for future disposal site requirements and the estimated cost for these efforts.

Open dump sites shall not be allowed as final disposal sites. If an open dump site is existing within the city or municipality, the plan shall make provisions for its closure or eventual phase out within the period specified under the framework and pursuant

to the provisions under Sec. 37 of this Act. As an alternative, sanitary landfill sites shall be developed and operated as a final disposal site for solid and, eventually, residual wastes of a municipality or city or a cluster of municipalities and/or cities. Sanitary landfills shall be designed and operated in accordance with the guidelines set under Secs. 40 and 41 of this Act.

(i) Education and public information - The education and public information component shall describe how the LGU will educate and inform its citizens about the source reduction, recycling, and composting programs.

The plan shall make provisions to ensure that information on waste collection services, solid waste management and related health and environmental concerns are widely disseminated among the public. This shall be undertaken through the print and broadcast media and other government agencies in the municipality. The DECS and the Commission on Higher Education shall ensure that waste management shall be incorporated in the curriculum of primary, secondary and college students.

(j) Special waste - The special waste component shall include existing waste handling and disposal practices for special wastes or household hazardous wastes, and the identification of current and proposed programs to ensure the proper handling, re-use, and long-term disposal of special wastes.

(k) Resource requirement and funding - The funding component includes identification and description of project costs, revenues, and revenue sources the LGU will use to implement all components of the LGU solid waste management plan.

The plan shall likewise indicate specific projects, activities, equipment and technological requirements for which outside sourcing of funds or materials may be necessary to carry out the specific components of the plan. It shall define the specific uses for its resource requirements and indicate its costs. The plan shall likewise indicate how the province, city or municipality intends to generate the funds for the acquisition of its resource requirements. It shall also indicate if certain resource

requirements are being or will be sourced from fees, grants, donations, local funding and other means. This will serve as basis for the determination and assessment of incentives which may be extended to the province, city or municipality as provided for in Sec. 45 of this Act.

(l) Privatization of solid waste management projects - The plan shall likewise indicate specific measures to promote the participation of the private sector in the management of solid wastes, particularly in the generation and development of the essential technologies for solid waste management. Specific projects or component activities of the plan which may be offered as private sector investment activity shall be identified and promoted as such. Appropriate incentives for private sector involvement in solid waste management shall likewise be established and provided for in the plan, in consonance with Sec. 45 hereof and other existing laws, policies and regulations; and

(m) Incentive programs - A program providing for incentives, cash or otherwise, which shall encourage the participation of concerned sectors shall likewise be included in the plan.

SEC. 18. *Owner and Operator.* – Responsibility for compliance with the standards in this Act shall rest with the owner and/or operator. If specifically designated, the operator is considered to have primary responsibility for compliance; however, this does not relieve the owner of the duty to take all reasonable steps to assure compliance with these standards and any assigned conditions. When the title to a disposal is transferred to another person, the new owner shall be notified by the previous owner of the existence of these standards and of the conditions assigned to assure compliance.

SEC. 19. *Waste Characterization.* – The Department, in coordination with the LGUs, shall be responsible for the establishment of the guidelines for the accurate characterization of wastes including determination of whether or not wastes will be compatible with containment features and other wastes, and whether or not wastes are required to be managed as hazardous

wastes under R.A. 6969, otherwise known as the Toxic Substances and Hazardous and Nuclear Wastes Control Act.

SEC. 20. *Establishing Mandatory Solid Waste Diversion.* – Each LGU plan shall include an implementation schedule which shows that within five (5) years after the effectivity of this Act, the LGU shall divert at least 25% of all solid waste from waste disposal facilities through re-use, recycling, and composting activities and other resource recovery activities: *Provided*, That the waste diversion goals shall be increased every three (3) years thereafter: *Provided, further*, That nothing in this Section prohibits a local government unit from implementing re-use, recycling, and composting activities designed to exceed the goal.

ARTICLE 2 SEGREGATION OF WASTES

SEC. 21. *Mandatory Segregation of Solid Wastes.* – The LGUs shall evaluate alternative roles for the public and private sectors in providing collection services, type of collection system, or combination of systems, that best meet their needs: *Provided*, That segregation of wastes shall primarily be conducted at the source, to include household, institutional, industrial, commercial and agricultural sources: *Provided, further*, That wastes shall be segregated into the categories provided in Sec. 22 of this Act.

For premises containing six (6) or more residential units, the local government unit shall promulgate regulations requiring the owner or person in charge of such premises to:

(a) provide for the residents a designated area and containers in which to accumulate source separated recyclable materials to be collected by the municipality or private center; and

(b) notify the occupants of such buildings of the requirements of this Act and the regulations promulgated pursuant thereto.

SEC. 22. *Requirements for the Segregation and Storage of Solid Waste.* – The following shall be the minimum standards

and requirements for segregation and storage of solid waste pending collection:

(a) There shall be a separate container for each type of waste from all sources: *Provided*, That in the case of bulky waste, it will suffice that the same be collected and placed in a separate and designated area; and

(b) The solid waste container depending on its use shall be properly marked or identified for on-site collection as "compostable," "non-recyclable," "recyclable" or "special waste," or any other classification as may be determined by the Commission.

ARTICLE 3

COLLECTION AND TRANSPORT OF SOLID WASTES

SEC. 23. *Requirements for Collection of Solid Waste.* – The following shall be the minimum standards and requirements for the collection of solid waste:

(a) All collectors and other personnel directly dealing with collection of solid waste shall be equipped with personal protective equipment to protect them from the hazards of handling solid wastes;

(b) Necessary training shall be given to the collectors and personnel to ensure that the solid wastes are handled properly and in accordance with the guidelines pursuant to this Act; and

(c) Collection of solid waste shall be done in a manner which prevents damage to the container, and spillage or scattering of solid waste within the collection vicinity.

SEC. 24. *Requirements for the Transport of Solid Waste.* – The use of separate collection schedules and/or separate trucks or haulers shall be required for specific types of wastes. Otherwise, vehicles used for the collection and transport of solid wastes shall have the appropriate compartments to facilitate efficient storing of sorted wastes while in transit.

Vehicles shall be designed to consider road size, condition and capacity to ensure the safe and efficient collection and transport of solid wastes.

The waste compartment shall have a cover to ensure the containment of solid wastes while in transit.

For the purpose of identification, vehicles shall bear the body number, the name, and telephone number of the contractor/ agency collecting solid waste.

SEC. 25. Guidelines for Transfer Stations. – Transfer stations shall be designed and operated for efficient waste handling capacity and in compliance with environmental standards and guidelines set pursuant to this Act and other regulations: *Provided,* That no waste shall be stored in such station beyond twenty-four (24) hours.

The siting of the transfer station shall consider the land use plan, proximity to collection area, and accessibility of haul routes to disposal facility. The design shall give primary consideration to size and space sufficiency in order to accommodate the waste for storage and vehicles for loading and unloading of wastes.

ARTICLE 4 *RECYCLING PROGRAM*

SEC. 26. Inventory of Existing Markets for Recyclable Materials. – The DTI shall, within six (6) months from the effectivity of this Act and in cooperation with the Department, the DILG and other concerned agencies and sectors, publish a study of existing markets for processing and purchasing recyclable materials and the potential steps necessary to expand these markets. Such study shall include, but not be limited to, an inventory of existing markets for recyclable materials, product standards for recyclable and recycled materials, and a proposal, developed in conjunction with the appropriate agencies, to stimulate the demand for the production of products containing post-consumer and recovered materials.

SEC. 27. *Requirement for Eco-Labeling.* – The DTI shall formulate and implement a coding system for packaging materials and products to facilitate waste recycling and re-use.

SEC. 28. *Reclamation Programs and Buy-back Centers for Recyclables and Toxics.* – The National Ecology Center shall assist LGUs in establishing and implementing deposit or reclamation programs in coordination with manufacturers, recyclers and generators to provide separate collection systems or convenient drop-off locations for recyclable materials and particularly for separated toxic components of the waste stream like dry cell batteries and tires to ensure that they are not incinerated or disposed of in a landfill. Upon effectivity of this Act, toxic materials present in the waste stream should be separated at source, collected separately, and further screened and sent to appropriate hazardous waste treatment and disposal plants, consistent with the provisions of R.A. No. 6969.

SEC. 29. *Non-Environmentally Acceptable Products.* – Within one (1) year from the effectivity of this Act, the Commission shall, after public notice and hearing, prepare a list of non-environmentally acceptable products as defined in this Act that shall be prohibited according to a schedule that shall be prepared by the Commission: *Provided, however,* That non-environmentally acceptable products shall not be prohibited unless the Commission first finds that there are alternatives available which are available to consumers at no more than ten percent (10%) greater cost than the disposable product.

Notwithstanding any other provision to the contrary, this section shall not apply to:

(a) Packaging used at hospitals, nursing homes or other medical facilities; and

(b) Any packaging which is not environmentally acceptable, but for which there is no commercially available alternative as determined by the Commission.

The Commission shall annually review and update the list of prohibited non-environmentally acceptable products.

SEC. 30. *Prohibition on the Use of Non-Environmentally Acceptable Packaging.* – No person owning, operating or conducting a commercial establishment in the country shall sell or convey at retail or possess with the intent to sell or convey at retail any products that are placed, wrapped or packaged in or on packaging which is not environmentally acceptable packaging: *Provided,* That the Commission shall determine a phaseout period after proper consultation and hearing with the stakeholders or with the sectors concerned. The presence in the commercial establishment of non-environmentally acceptable packaging shall constitute a rebuttable presumption of intent to sell or convey the same at retail to customers.

Any person who is a manufacturer, broker or warehouse operator engaging in the distribution or transportation of commercial products within the country shall file a report with the concerned local government unit within one (1) year from the effectivity of this Act, and annually thereafter, a listing of any products in packaging which is not environmentally acceptable. The Commission shall prescribe the form of such report in its regulations.

A violation of this Section shall be sufficient grounds for the revocation, suspension, denial or non-renewal of any license for the establishment in which the violation occurs.

SEC. 31. *Recycling Market Development.* – The Commission together with the National Ecology Center, the DTI and the Department of Finance shall establish procedures, standards and strategies to market recyclable materials and develop the local market for recycled goods, including but not limited to:

(a) measures providing economic incentives and assistance including loans and grants for the establishment of privately-owned facilities to manufacture finished products from post-consumer materials;

(b) guarantees by the national and local governments to purchase a percentage of the output of the facility; and

(c) maintaining a list of prospective buyers, establishing contact with prospective buyers and reviewing and making any necessary changes in collecting or processing the materials to improve their marketability.

In order to encourage establishment of new facilities to produce goods from post-consumer and recovered materials generated within local government units, and to conserve energy by reducing materials transportation, whenever appropriate, each local government unit may arrange for long-term contracts to purchase a substantial share of the product output of a proposed facility which will be based in the jurisdiction of the local government unit if such facility will manufacture such finished products from post-consumer and recovered materials.

SEC. 32. Establishment of LGU Materials Recovery Facility. – There shall be established a Materials Recovery Facility (MRF) in every barangay or cluster of barangays. The facility shall be established in a barangay-owned or -leased land or any suitable open space to be determined by the barangay through its Sanggunian. For this purpose, the barangay or cluster of barangays shall allocate a certain parcel of land for the MRF. The determination of site and actual establishment of the facility shall likewise be subject to the guidelines and criteria set pursuant to this Act. The MRF shall receive mixed waste for final sorting, segregation, composting, and recycling. The resulting residual wastes shall be transferred to a long-term storage or disposal facility or sanitary landfill.

SEC. 33. Guidelines for Establishment of Materials Recovery Facility. – Materials recovery facilities shall be designed to receive, sort, process, and store compostable and recyclable material efficiently and in an environmentally sound manner. The facility shall address the following considerations:

(a) The building and/or land layout and equipment must be designed to accommodate efficient and safe materials processing, movement, and storage; and

(b) The building must be designed to allow efficient and safe external access and to accommodate internal flow.

ARTICLE 5
COMPOSTING

SEC. 34. *Inventory of Markets for Composts.* – Within six (6) months after the effectivity of this Act, the DA shall publish an inventory of existing markets and demands for composts. Said inventory shall thereafter be updated and published annually: *Provided,* That the composting of agricultural wastes, and other compostable materials, including but not limited to garden wastes, shall be encouraged.

SEC. 35. *Guidelines for Compost Quality.* – Compost products intended to be distributed commercially shall conform with the standards for organic fertilizers set by the DA. The DA shall assist the compost producers to ensure that the compost products conform to such standards.

ARTICLE 6
WASTE MANAGEMENT FACILITIES

SEC. 36. *Inventory of Waste Disposal Facilities.* – Within six (6) months from the effectivity of this Act, the Department, in cooperation with the DOH, DILG and other concerned agencies, shall publish an inventory of all solid waste disposal facilities or sites in the country.

SEC. 37. *Prohibition Against the Use of Open Dumps for Solid Waste.* – No open dumps shall be established and operated, nor any practice or disposal of solid waste by any person, including LGUs, which constitutes the use of open dumps for solid waste, be allowed after the effectivity of this Act: *Provided,* That within three (3) years after the effectivity of this Act, every LGU shall convert its open dumps into controlled dumps, in accordance with the guidelines set in Sec. 41 of this Act: *Provided, further,* That no controlled dumps shall be allowed five (5) years following the effectivity of this Act.

SEC. 38. *Permit for Solid Waste Management Facility Construction and Expansion.* – No person shall commence

operation, including site preparation and construction of a new solid waste management facility or the expansion of an existing facility until said person obtains an Environmental Compliance Certificate (ECC) from the Department pursuant to P.D. 1586 and other permits and clearances from concerned agencies.

SEC. 39. *Guidelines for Controlled Dumps.* – The following shall be the minimum considerations for the establishment of controlled dumps:

- (a) Regular inert cover;
- (b) Surface water and peripheral site drainage control;
- (c) Provision for aerobic and anaerobic decomposition;
- (d) Restriction of waste deposition to small working areas;
- (e) Fence, including provision for litter control;
- (f) Basic record-keeping;
- (g) Provision of maintained access road;
- (h) Controlled waste picking and trading;
- (i) Post-closure site cover and vegetation; and
- (j) Hydrogeological siting.

SEC. 40. *Criteria for Siting a Sanitary Landfill.* – The following shall be the minimum criteria for the siting of sanitary landfills:

- (a) The site selected must be consistent with the overall land use plan of the LGU;
- (b) The site must be accessible from major roadways or thoroughfares;

(c) The site should have an adequate quantity of earth cover material that is easily handled and compacted;

(d) The site must be chosen with regard for the sensitivities of the community's residents;

(e) The site must be located in an area where the landfill's operation will not detrimentally affect environmentally sensitive resources such as aquifer, groundwater reservoir or watershed area;

(f) The site should be large enough to accommodate the community's wastes for a period of five (5) years during which people must internalize the value of environmentally sound and sustainable solid waste disposal;

(g) The site chosen should facilitate developing a landfill that will satisfy budgetary constraints, including site development, operation for many years, closure, post-closure care and possible remediation costs;

(h) Operating plans must include provisions for coordinating with recycling and resource recovery projects; and

(i) Designation of a separate containment area for household hazardous wastes.

SEC. 41. Criteria for Establishment of Sanitary Landfill.

– The following shall be the minimum criteria for the establishment of sanitary landfills:

(a) Liners - a system of clay layers and/or geosynthetic membranes used to contain leachate and reduce or prevent contaminant flow to groundwater;

(b) Leachate collection and treatment system - installation of pipes at the low areas of the liner to collect leachate for storage and eventual treatment and discharge;

(c) Gas control and recovery system - a series of vertical wells or horizontal trenches containing permeable materials and perforated piping placed in the landfill to collect gas for treatment or productive use as an energy source;

(d) Groundwater monitoring well system - wells placed at an appropriate location and depth for taking water samples that are representative of groundwater quality;

(e) Cover - two (2) forms of cover consisting of soil and geosynthetic materials to protect the waste from long-term contact with the environment:

(i) a daily cover placed over the waste at the close of each day's operations, and

(ii) a final cover, or cap, which is the material placed over the completed landfill to control infiltration of water, gas emission to the atmosphere, and erosion.

(f) Closure procedure - with the objectives of establishing low maintenance cover systems and final cover that minimizes the infiltration of precipitation into the waste. Installation of the final cover must be completed within six (6) months of the last receipt of wastes; and

(g) Post-closure care procedure - During this period, the landfill owner shall be responsible for providing for the general upkeep of the landfill, maintaining all of the landfill's environmental protection features, operating monitoring equipment, remediating groundwater should it become contaminated and controlling landfill gas migration or emission.

SEC. 42. *Operating Criteria for Sanitary Landfills.* - In the operation of a sanitary landfill, each site operator shall maintain the following minimum operating requirements:

(a) Disposal site records of, but not limited to:

(1) Records of weights or volumes accepted in a form and manner approved by the Department. Such records shall be submitted to the Department upon request, accurate to within ten percent (10%) and adequate for overall planning purposes and forecasting the rate of site filling;

(2) Records of excavations which may affect the safe and proper operation of the site or cause damage to adjoining properties;

(3) Daily log book or file of the following information: fires, landslides, earthquake damage, unusual and sudden settlement, injury and property damage, accidents, explosions, receipt or rejection of unpermitted wastes, flooding, and other unusual occurrences;

(4) Record of personnel training; and

(5) Copy of written notification to the Department, local health agency, and fire authority of names, addresses and telephone numbers of the operator or responsible party of the site;

(b) Water quality monitoring of surface and ground waters and effluent, and gas emissions;

(c) Documentation of approvals, determinations and other requirements by the Department;

(d) Signs -

(1) Each point of access from a public road shall be posted with an easily visible sign indicating the facility name and other pertinent information as required by the Department;

(2) If the site is open to the public, there shall be an easily visible sign at the primary entrance of the site indicating the name of the site operator, the operator's telephone number, and hours of operation; an easily visible sign at an appropriate point shall indicate the schedule of charges and the general types of materials which will either be accepted or not;

(3) If the site is open to the public, there shall be an easily visible road sign and/or traffic control measures which direct traffic to the active face and other areas where wastes or recyclable materials will be deposited; and

(4) Additional signs and/or measures may be required at a disposal site by the Department to protect personnel and public health and safety;

(e) Monitoring of quality of surface, ground and effluent waters, and gas emissions;

(f) The site shall be designed to discourage unauthorized access by persons and vehicles by using a perimeter barrier or topographic constraints. Areas within the site where open storage or piling of hazardous materials occurs shall be separately fenced or otherwise secured as determined by the Department. The Department may also require that other areas of the site be fenced to create an appropriate level of security;

(g) Roads within the permitted facility boundary shall be designed to minimize the generation of dust and the tracking of material onto adjacent public roads. Such roads shall be kept in safe condition and maintained such that vehicle access and unloading can be conducted during inclement weather;

(h) Sanitary facilities consisting of adequate number of toilets and hand washing facilities, shall be available to personnel at or in the immediate vicinity of the site;

(i) Safe and adequate drinking water supply for the site personnel shall be available;

(j) The site shall have communication facilities available to site personnel to allow quick response to emergencies;

(k) Where operations are conducted during hours of darkness, the site and/or equipment shall be equipped with adequate lighting as approved by the Department to ensure safety and to monitor the effectiveness of operations;

(l) Operating and maintenance personnel shall wear and use appropriate safety equipment as required by the Department;

(m) Personnel assigned to operate the site shall be adequately trained in subject pertinent to the site operation and maintenance, hazardous materials recognition and screening, and heavy equipment operations, with emphasis on safety, health, environmental controls and emergency procedures. A record of such training shall be placed in the operating record;

(n) The site operator shall provide adequate supervision of a sufficient number of qualified personnel to ensure proper operation of the site in compliance with all applicable laws, regulations, permit conditions and other requirements. The operator shall notify the Department and local health agency in writing of the names, addresses, and telephone number of the operator or responsible party. A copy of the written notification shall be placed in the operating record;

(o) Any disposal site open to the public shall have an attendant present during public operating hours or the site shall be inspected by the operator on a regularly scheduled basis, as determined by the Department;

(p) Unloading of solid wastes shall be confined to a small area as possible to accommodate the number of vehicles using the area without resulting in traffic, personnel, or public safety hazards. Waste materials shall normally be deposited at the toe of the fill, or as otherwise approved by the Department;

(q) Solid waste shall be spread and compacted in layers with repeated passages of the landfill equipment to minimize voids within the cell and maximize compaction. The loose layer shall not exceed a depth approximately two feet before compaction. Spreading and compacting shall be accomplished as rapidly as practicable, unless otherwise approved by the Department;

(r) Covered surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding. Grades shall be established of sufficient slopes to account for future

settlement of the fill surface. Other effective maintenance methods may be allowed by the Department; and

(s) Cover material or native material unsuitable for cover, stockpiled on the site for use or removal, shall be placed so as not to cause problems or interfere with unloading, spreading, compacting, access, safety, drainage, or other operations.

ARTICLE 7

LOCAL GOVERNMENT SOLID WASTE MANAGEMENT

SEC. 43. *Guidelines for Identification of Common Solid Waste Management Problems.* – For purposes of encouraging and facilitating the development of local government plans for solid waste management, the Commission shall, as soon as practicable but not later than six (6) months from the effectivity of this Act, publish guidelines for the identification of those areas which have common solid waste management problems and are appropriate units for clustered solid waste management services. The guidelines shall be based on the following:

- (a) the size and location of areas which should be included;
- (b) the volume of solid waste which would be generated;
- (c) the available means of coordinating local government planning between and among the LGUs and for the integration of such with the national plan; and
- (d) possible lifespan of the disposal facilities.

SEC. 44. *Establishment of Common Waste Treatment and Disposal Facilities.* – Pursuant to Sec. 33 of R.A. 7160, otherwise known as the Local Government Code, all provinces, cities, municipalities and barangays, through appropriate ordinances, are hereby mandated to consolidate, or coordinate their efforts, services, and resources for purposes of jointly addressing common solid waste management problems and/or establishing common waste disposal facilities.

The Department, the Commission and local solid waste management boards shall provide technical and marketing assistance to the LGUs.

CHAPTER IV INCENTIVES

SEC. 45. *Incentives.* – (a) Rewards, monetary or otherwise, shall be provided to individuals, private organizations and entities, including nongovernment organizations, that have undertaken outstanding and innovative projects, technologies, processes and techniques or activities in re-use, recycling and reduction. Said rewards shall be sourced from the Fund herein created.

(b) An incentive scheme is hereby provided for the purpose of encouraging LGUs, enterprises, or private entities, including NGOs, to develop or undertake an effective solid waste management, or actively participate in any program geared towards the promotion thereof as provided for in this Act.

(1) Fiscal Incentives - Consistent with the provisions of E.O. 226, otherwise known as the Omnibus Investments Code, the following tax incentives shall be granted:

(a) Tax and Duty Exemption on Imported Capital Equipment and Vehicles - Within ten (10) years upon effectivity of this Act, LGUs, enterprises or private entities shall enjoy tax and duty-free importation of machinery, equipment, vehicles and spare parts used for collection, transportation, segregation, recycling, re-use and composting of solid wastes: *Provided*, That the importation of such machinery, equipment, vehicle and spare parts shall comply with the following conditions:

- (i) They are not manufactured domestically in sufficient quantity, of comparable quality and at reasonable prices;
- (ii) They are reasonably needed and will be used actually, directly and exclusively for the above mentioned activities;

(iii) The approval of the Board of Investment (BOI) of the DTI for the importation of such machinery, equipment, vehicle and spare parts.

Provided, further, That the sale, transfer or disposition of such machinery, equipment, vehicle and spare parts, without prior approval of the BOI, within five (5) years from the date of acquisition shall be prohibited, otherwise, the LGU concerned, enterprises or private entities and the vendee, transferee or assignee shall be solidarily liable to pay twice the amount of tax and duty exemption given it.

(b) Tax Credit on Domestic Capital Equipment - Within ten (10) years from the effectivity of this Act, a tax credit equivalent to 50% of the value of the national internal revenue taxes and customs duties that would have been waived on the machinery, equipment, vehicle and spare parts, had these items been imported shall be given to enterprises, private entities, including NGOs, subject to the same conditions and prohibition cited in the preceding paragraph.

(c) Tax and Duty Exemption of Donations, Legacies and Gift - All legacies, gifts and donations to LGUs, enterprises or private entities, including NGOs, for the support and maintenance of the program for effective solid waste management shall be exempt from all internal revenue taxes and customs duties, and shall be deductible in full from the gross income of the donor for income tax purposes.

(2) Non-Fiscal Incentives - LGUs, enterprises or private entities availing of tax incentives under this Act shall also be entitled to applicable non-fiscal incentives provided for under E.O. 226, otherwise known as the Omnibus Investments Code.

The Commission shall provide incentives to businesses and industries that are engaged in the recycling of wastes and which are registered with the Commission and have been issued ECCs in accordance with the guidelines established by the Commission. Such incentives shall include simplified procedures for the importation of equipment, spare parts, new materials, and supplies, and for the export of processed products.

(3) Financial Assistance Program - Government financial institutions such as the Development Bank of the Philippines (DBP), Landbank of the Philippines (LBP), Government Service Insurance System (GSIS), and such other government institutions providing financial services shall, in accordance with and to the extent allowed by the enabling provisions of their respective charters or applicable laws, accord high priority to extend financial services to individuals, enterprises, or private entities engaged in solid waste management.

(4) Extension of Grants to LGUs - Provinces, cities and municipalities whose solid waste management plans have been duly approved by the Commission or who have been commended by the Commission for adopting innovative solid waste management programs may be entitled to receive grants for the purpose of developing their technical capacities toward actively participating in the program for effective and sustainable solid waste management.

(5) Incentives to Host LGUs - Local government units who host common waste management facilities shall be entitled to incentives.

CHAPTER V

FINANCING SOLID WASTE MANAGEMENT

SEC. 46. *Solid Waste Management Fund.* – There is hereby created, as a special account in the National Treasury, a Solid Waste Management Fund to be administered by the Commission. Such fund shall be sourced from the following:

(a) Fines and penalties imposed, proceeds of permits and licenses issued by the Department under this Act, donations, endowments, grants and contributions from domestic and foreign sources; and

(b) Amounts specifically appropriated for the Fund under the annual General Appropriations Act.

The Fund shall be used to finance the following:

- (1) products, facilities, technologies and processes to enhance proper solid waste management;
- (2) awards and incentives;
- (3) research programs;
- (4) information, education, communication and monitoring activities;
- (5) technical assistance; and
- (6) capability building activities.

LGUs are entitled to avail of the Fund on the basis of their approved solid waste management plan. Specific criteria for the availment of the Fund shall be prepared by the Commission.

The fines collected under Sec. 49 shall be allocated to the LGU where the fined prohibited acts are committed in order to finance the solid waste management of said LGU. Such allocation shall be based on a sharing scheme between the Fund and the LGU concerned.

In no case, however, shall the Fund be used for the creation of positions or payment of salaries and wages.

SEC. 47. Authority to Collect Solid Waste Management Fees. – The local government unit shall impose fees in amounts sufficient to pay the costs of preparing, adopting, and implementing a solid waste management plan prepared pursuant to this Act. The fees shall be based on the following minimum factors:

- (a) types of solid waste;
- (b) amount/volume of waste; and

(c) distance of the transfer station to the waste management facility.

The fees shall be used to pay the actual costs incurred by the LGU in collecting the local fees. In determining the amounts of the fees, an LGU shall include only those costs directly related to the adoption and implementation of the plan and the setting and collection of the local fees.

CHAPTER VI PENAL PROVISIONS

SEC. 48. *Prohibited Acts.* – The following acts are prohibited:

(1) Littering, throwing, dumping of waste matters in public places, such as roads, sidewalks, canals, esteros or parks, and establishment, or causing or permitting the same;

(2) Undertaking activities or operating, collecting or transporting equipment in violation of sanitation operation and other requirements or permits set forth in or established pursuant to this Act;

(3) The open burning of solid waste;

(4) Causing or permitting the collection of non-segregated or unsorted waste;

(5) Squatting in open dumps and landfills;

(6) Open dumping, burying of biodegradable or non-biodegradable materials in flood-prone areas;

(7) Unauthorized removal of recyclable material intended for collection by authorized persons;

(8) The mixing of source-separated recyclable material with other solid waste in any vehicle, box, container or receptacle used in solid waste collection or disposal;

(9) Establishment or operation of open dumps as enjoined in this Act, or closure of said dumps in violation of Sec. 37;

(10) The manufacture, distribution or use of non-environmentally acceptable packaging materials;

(11) Importation of consumer products packaged in non-environmentally acceptable materials;

(12) Importation of toxic wastes misrepresented as "recyclable" or "with recyclable content";

(13) Transport and dumping in bulk of collected domestic, industrial, commercial and institutional wastes in areas other than centers or facilities prescribed under this Act;

(14) Site preparation, construction, expansion or operation of waste management facilities without an Environmental Compliance Certificate required pursuant to Presidential Decree No. 1586 and this Act and not conforming with the land use plan of the LGU;

(15) The construction of any establishment within two hundred (200) meters from open dumps or controlled dumps, or sanitary landfills; and

(16) The construction or operation of landfills or any waste disposal facility on any aquifer, groundwater reservoir or watershed area and or any portions thereof.

SEC. 49. *Fines and Penalties.* – (a) Any person who violates Sec. 48, paragraph (1) shall, upon conviction, be punished with a fine of not less than Three hundred pesos (P300) but not more than One thousand pesos (P1,000) or render community service for not less than one (1) day to not more than fifteen (15) days to an LGU where such prohibited acts are committed, or both;

(b) Any person who violates Sec. 48, pars. (2) and (3), shall, upon conviction, be punished with a fine of not less than Three hundred pesos (P300) but not more than One thousand pesos

(P1,000) or imprisonment of not less than one (1) day to not more than fifteen (15) days, or both;

(c) Any person who violates Sec. 48, pars. (4), (5), (6), and (7) shall, upon conviction, be punished with a fine of not less than One thousand pesos (P1,000) but not more than Three thousand pesos (P3,000) or imprisonment of not less than fifteen (15) days but not more than six (6) months, or both;

(d) Any person who violates Sec. 48, pars. (8), (9), (10) and (11) for the first time shall, upon conviction, pay a fine of Five hundred thousand pesos (P500,000) plus an amount not less than five percent (5%) but not more than ten percent (10%) of his net annual income during the previous year.

The additional penalty of imprisonment of a minimum period of one (1) year, but not to exceed three (3) years at the discretion of the court, shall be imposed for second or subsequent violations of Sec. 48, paragraphs (9) and (10).

(e) Any person who violates Sec. 48, pars. (12) and (13), shall, upon conviction, be punished with a fine of not less than Ten thousand pesos (P10,000) but not more than Two hundred thousand pesos (P200,000) or imprisonment of not less than thirty (30) days but not more than three (3) years, or both;

(f) Any person who violates Sec. 48, pars. (14), (15) and (16) shall, upon conviction, be punished with a fine not less than One hundred thousand pesos (P100,000) but not more than One million pesos (P1,000,000), or imprisonment not less than one (1) year but not more than six (6) years, or both.

If the offense is committed by a corporation, partnership, or other juridical entity duly organized in accordance with law, the chief executive officer, president, general manager, managing partner or such other officer-in-charge shall be liable for the commission of the offense penalized under this Act.

If the offender is an alien, he shall, after service of the sentence prescribed above, be deported without further administrative proceedings.

The fines herein prescribed shall be increased by at least ten percent (10%) every three (3) years to compensate for inflation and to maintain the deterrent function of such fines.

SEC. 50. *Administrative Sanctions.* – Local government officials and officials of government agencies concerned who fail to comply with and enforce rules and regulations promulgated relative to this Act shall be charged administratively in accordance with R.A. No. 7160 and other existing laws, rules and regulations.

CHAPTER VII

MISCELLANEOUS PROVISIONS

SEC. 51. *Mandatory Public Hearings.* – Mandatory public hearings for the national framework and local government solid waste management plans shall be undertaken by the Commission and the respective Boards in accordance with the process to be formulated in the implementing rules and regulations.

SEC. 52. *Citizen Suits.* – For purposes of enforcing the provisions of this Act or its implementing rules and regulations, any citizen may file an appropriate civil, criminal or administrative action in the proper courts/bodies against:

(a) Any person who violates or fails to comply with the provisions of this Act or its implementing rules and regulations;
or

(b) The Department or other implementing agencies with respect to orders, rules and regulations issued inconsistent with this Act; and/or

(c) Any public officer who willfully or grossly neglects the performance of an act specifically enjoined as a duty by this Act or its implementing rules and regulations; or abuses his authority in the performance of his duty; or, in any manner, improperly performs his duties under this Act or its implementing rules and regulations: *Provided, however,* That no suit can be filed until after thirty-day (30) notice has been given to the public officer

and the alleged violator concerned and no appropriate action has been taken thereon.

The Court shall exempt such action from the payment of filing fees and shall, likewise, upon *prima facie* showing of the non-enforcement or violation complained of, exempt the plaintiff from the filing of an injunction bond for the issuance of a preliminary injunction.

In the event that the citizen should prevail, the Court shall award reasonable attorney's fees, moral damages and litigation costs as appropriate.

SEC. 53. *Suits and Strategic Legal Action Against Public Participation (SLAPP) and the Enforcement of this Act.* – Where a suit is brought against a person who filed an action as provided in Sec. 52 of this Act, or against any person, institution or government agency that implements this Act, it shall be the duty of the investigating prosecutor or the Court, as the case may be, to immediately make a determination not exceeding thirty (30) days whether said legal action has been filed to harass, vex, exert undue pressure or stifle such legal recourses of the person complaining of or enforcing the provisions of this Act. Upon determination thereof, evidence warranting the same, the Court shall dismiss the case and award attorney's fees and double damages.

This provision shall also apply and benefit public officers who are sued for acts committed in their official capacity, there being no grave abuse of authority, and done in the course of enforcing this Act.

SEC. 54. *Research on Solid Waste Management.* – The Department, after consultations with the cooperating agencies, shall encourage, cooperate with, and render financial and other assistance to appropriate government agencies and private agencies, institutions and individuals in the conduct and promotion of researches, experiments, and other studies on solid waste management, particularly those relating to:

(a) adverse health effects of the release into the environment of materials present in solid wastes, and methods to eliminate said effects;

(b) the operation and financing of solid waste disposal programs;

(c) the planning, implementation and operation of resource recovery and resource conservation systems;

(d) the production of usable forms of recovered resources, including fuel from solid waste;

(e) the development and application of new and improved methods of collecting and disposing of solid waste and processing and recovering materials and energy from solid waste;

(f) improvements in land disposal practices for solid waste (including sludge); and

(g) development of new uses of recovered resources and identification of existing or potential markets of recovered resources.

In carrying out solid waste researches and studies, the Secretary of the Department or the authorized representative may make grants or enter into contracts with government agencies, nongovernment organizations and private persons.

SEC. 55. Public Education and Information. – The Commission shall, in coordination with DECS, TESDA, CHED, DILG and PIA, conduct a continuing education and information campaign on solid waste management. Such education and information program shall:

(a) Aim to develop public awareness of the ill-effects of and the community-based solutions to the solid waste problem;

(b) Concentrate on activities which are feasible and which will have the greatest impact on the solid waste problem of the

country, like resource conservation and recovery, recycling, segregation at source, re-use, reduction and composting of solid waste; and

(c) Encourage the general public, accredited NGOs and people's organizations to publicly endorse and patronize environmentally acceptable products and packaging materials.

SEC. 56. Environmental Education in the Formal and Non-formal Sectors. – The national government, through the DECS and in coordination with concerned government agencies, NGOs and private institutions, shall strengthen the integration of environmental concerns in school curricula at all levels, with particular emphasis on the theory and practice of waste management principles like waste minimization, specifically resource conservation and recovery, segregation at source, reduction, recycling, re-use and composting, in order to promote environmental awareness and action among the citizenry.

SEC. 57. Business and Industry Role. – The Commission shall encourage commercial and industrial establishments, through appropriate incentives other than tax incentives, to initiate, participate and invest in integrated ecological solid waste management projects, to manufacture environment-friendly products, to introduce, develop and adopt innovative processes that shall recycle and re-use materials, conserve raw materials and energy, reduce waste, and prevent pollution, and to undertake community activities to promote and propagate effective solid waste management practices.

SEC. 58. Appropriations. – For the initial operating expenses of the Commission and the National Ecology Center as well as the expenses of the local government units to carry out the mandate of this Act, the amount of Twenty million pesos (P20,000,000) is hereby appropriated from the Organizational Adjustment Fund on the year this Act is approved. Thereafter, it shall submit to the Department of Budget and Management its proposed budget for inclusion in the General Appropriations Act.

SEC. 59. Implementing Rules and Regulations (IRR). – The Department, in coordination with the Committees on

Environment and Ecology of the Senate and House of Representatives, respectively, the representatives of the Leagues of Provinces, Cities, Municipalities and Barangay Councils, the MMDA and other concerned agencies, shall promulgate the implementing rules and regulations of this Act, within one (1) year after its enactment: *Provided*, That rules and regulations issued by other government agencies and instrumentalities for the prevention and/or abatement of the solid waste management problem not inconsistent with this Act shall supplement the rules and regulations issued by the Department, pursuant to the provisions of this Act.

The draft of the IRR shall be published and be the subject of public consultations with affected sectors. It shall be submitted to the Committees on Environment and Ecology of the Senate and House of Representatives, respectively, for review before approval by the Secretary.

SEC. 60. Joint Congressional Oversight Committee. – There is hereby created a Joint Congressional Oversight Committee to monitor the implementation of the Act and to oversee the functions of the Commission. The Committee shall be composed of five (5) Senators and five (5) Representatives to be appointed by the Senate President and the Speaker of the House of Representatives, respectively. The Oversight Committee shall be co-chaired by a Senator and a Representative designated by the Senate President and the Speaker of the House of Representatives, respectively.

SEC. 61. Abolition of the Presidential Task Force on Waste Management and the Project Management Office on Solid Waste Management. – The Presidential Task Force on Waste Management which was created by virtue of Memorandum Circular No. 39 dated November 2, 1987, as amended by Memorandum Circular No. 39A and 88 is hereby abolished. Further, pursuant to Administrative Order No. 90 dated October 19, 1992, the Project Management Office on Solid Waste Management is likewise hereby abolished. Consequently, their powers and functions shall be absorbed by the Commission pursuant to the provisions of this Act.

SEC. 62. *Transitory Provision.* – Pending the establishment of the framework under Sec. 15 hereof, plans under Sec. 16 and promulgation of the IRR under Sec. 59 of this Act, existing laws, regulations, programs and projects on solid waste management shall be enforced: *Provided*, That for specific undertaking, the same may be revised in the *interim* in accordance with the intentions of this Act.

SEC. 63. *Report to Congress.* – The Commission shall report to Congress, not later than March 30 of every year following the approval of this Act, giving a detailed account of its accomplishments and progress on solid waste management during the year and make the necessary recommendations in areas where there is need for legislative action.

SEC. 64. *Separability Clause.* – If any provision of this Act or the application of such provision to any person or circumstances is declared unconstitutional, the remainder of the Act or the application of such provision to other persons or circumstances shall not be affected by such declaration.

SEC. 65. *Repealing Clause.* – All laws, decrees, issuances, rules and regulations, or parts thereof inconsistent with the provisions of this Act are hereby repealed or modified accordingly.

SEC. 66. *Effectivity.* – This Act shall take effect fifteen (15) days after its publication in at least two (2) newspapers of general circulation.

Approved, January 26, 2001.

**DENR Administrative Order
No. 2001 - 34
December 20, 2001**

**SUBJECT : Implementing Rules and
Regulations of Republic Act 9003.**

Pursuant to the provisions of Section 59 of Republic Act No. 9003, otherwise known as the “Philippine Ecological Solid Waste Management Act of 2000,” and by virtue of Executive Order No. 192, Series of 1987, the Department of Environment and Natural Resources hereby adopts and promulgates the following rules and regulations

PART I GENERAL PROVISIONS

RULE I. PRELIMINARY PROVISIONS

Section 1. Title

These Rules shall be known and cited as the “Implementing Rules and Regulations of the Philippine Ecological Solid Waste Management Act of 2000.”

Section 2. Purpose

These Rules are promulgated to prescribe the procedures and guidelines for the implementation of the Philippine Solid Waste Management Act of 9003 in order to facilitate compliance therewith and achieve the objectives thereof.

Section 3. Scope

These Rules shall lay down the powers and functions of the Department of Environment and Natural Resources, the Department of Trade and Industry, all other concerned agencies and local government units, the rights and obligations of

stakeholders and the rights and duties of the people with respect to the implementation of the Ecological Solid Waste Management.

Section 4. Construction

These Implementing Rules and Regulations shall be liberally construed to carry out the national policy of adopting a systematic, comprehensive and ecological solid waste management program consistent with the pursuit of sustainable development. The Rules also cover support actions such as research and studies on solid wastes, providing technical standards and guidelines for effective waste management systems.

Section 5. Administrative and Enforcement

These Rules and Regulations shall be administered by the Secretary or his duly authorized representative or through any other department, bureau, office, agency, local government units, state university or college and other instrumentalities of the government for assistance in the form of personnel, facilities and other resources as the need arises in the discharge of its functions.

RULE II. DECLARATION OF STATE POLICY

Section 1. Declaration of Policies

It is the policy of the State to adopt a systematic, comprehensive and ecological solid waste management program which shall:

- a) Ensure the protection of public health and environment;
- b) Utilize environmentally-sound methods that maximize the utilization of valuable resources and encourage resources conservation and recovery;
- c) Set guidelines and targets for solid waste avoidance and volume reduction through source reduction and waste

minimization measures, including composting, recycling, re-use, recovery, green charcoal process, and others, before collection, treatment and disposal in appropriate and environmentally-sound solid waste management facilities in accordance with ecologically sustainable development principles;

- d) Ensure the proper segregation, collection, transport, storage, treatment and disposal of solid waste through the formulation and adoption of the best environmental practices in ecological waste management excluding incineration;
- e) Promote national research and development programs for improved solid waste management and resource conservation techniques, more effective institutional arrangement and indigenous and improved methods of waste reduction, collection, separation and recovery;
- f) Encourage greater private sector participation in solid waste management;
- g) Retain primary enforcement and responsibility of solid waste management with local government units while establishing a cooperative effort among the national government, other local government units, non-government organizations, and the private sector;
- h) Encourage cooperation and self-regulation among waste generators through the application of market-based instruments;
- i) Institutionalize public participation in the development and implementation of national and local integrated, comprehensive and ecological waste management programs; and

- j) Strengthen the integration of ecological solid waste management and resource conservation and recovery topics into the academic curricula of formal and non-formal education in order to promote environmental awareness and action among the citizenry.

RULE III. DEFINITION OF TERMS

Section 1. Definitions

For the purpose of these Implementing Rules and Regulations, the following words and phrases shall have the following meanings:

“Agricultural waste” shall refer to waste generated from planting or harvesting of crops, trimming or pruning of plants and wastes or run-off materials from farms or fields.

“Bulky wastes” shall refer to waste materials which cannot be appropriately placed in separate containers because of either its bulky size, shape or other physical attributes. These include large worn-out or broken household, commercial, and industrial items such as furniture, lamps, bookcases, filing cabinets, and other similar items.

“Bureau” shall refer to the Environmental Management Bureau.

“Buy-back center” shall refer to a recycling center that purchases or otherwise accepts recyclable materials from the public for the purpose of recycling such materials.

“Collection” shall refer to the act of removing solid waste from the source or from a communal storage point.

“Composting” shall refer to the controlled decomposition of organic matter by micro-organisms, mainly bacteria and fungi, into a humus-like product.

“Consumer electronics” shall refer to special wastes that include worn-out, broken, and other discarded items such as radios, stereos, and TV sets.

“Controlled dump” shall refer to a disposal site at which solid waste is deposited in accordance with the minimum prescribed standards of site operation.

“Department” shall refer to the Department of Environment and Natural Resources.

“Disposal” shall refer to the discharge, deposit, dumping, spilling, leaking or placing of any solid waste into or in any land.

“Disposal site” shall refer to a site where solid waste is finally discharged and deposited.

“Ecological solid waste management” shall refer to the systematic administration of activities which provide for segregation at source, segregated transportation, storage, transfer, processing, treatment, and disposal of solid waste and all other waste management activities which do not harm the environment.

“Environmentally acceptable” shall refer to the quality of being re-usable, biodegradable or compostable, recyclable and not toxic or hazardous to the environment.

“Environmentally preferable” shall refer to products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance or disposal of the product or service.

“Generation” shall refer to the act or process of producing solid waste.

“Generator” shall refer to a person, natural or juridical, who last uses a material and makes it available for disposal or recycling.

“Hazardous waste” shall refer to solid waste or combination of solid waste which because of its quantity, concentration, or physical, chemical or infectious characteristics may: cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

“Leachate” shall refer to the liquid produced when waste undergo decomposition, and when water percolate through solid waste undergoing decomposition. It is a contaminated liquid that contains dissolved and suspended materials.

“Life cycle assessment” shall refer to the compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle.

“Materials recovery facility” shall include solid waste transfer station or sorting station, drop-off center, a composting facility, and a recycling facility.

“Municipal wastes” shall refer to wastes produced from activities within local government units which include a combination of domestic, commercial, institutional and industrial wastes and street litters.

“Non-environmentally acceptable products or packaging” shall refer to products or packaging that are unsafe in production, use, post-consumer use, or that produce or release harmful products.

“Open burning” shall refer to the thermal destruction of wastes by means of direct exposure to fire. Furthermore, this definition shall apply to traditional small-scale methods of community sanitation “siga”.

“Open dump” shall refer to a disposal area wherein the solid wastes are indiscriminately thrown or disposed of without due planning and consideration for environmental and health standards.

“Opportunity to recycle” shall refer to the act of providing a place for collecting source-separated recyclable material, located either at a disposal site or at another location more convenient to the population being served, and collection at least once a month of source-separated recyclable material from collection service customers and to providing a public education and promotion program that gives notice to each person of the opportunity to recycle and encourage source separation of recyclable material.

“Person(s)” shall refer to any being, natural or juridical, susceptible of rights and obligations, or of being the subject of legal relations.

“Post-consumer material” shall refer only to those materials or products generated by a business or consumer which have served their intended end use, and which have been separated or diverted from solid waste for the purpose of being collected, processed and used as a raw material in the manufacturing of recycled product, excluding materials and by-products generated from, and commonly used within an original manufacturing process, such as mill scrap.

“Receptacles” shall refer to individual containers used for the source separation and the collection of recyclable materials.

“Recovered material” shall refer to material and by-products that have been recovered or diverted from solid waste for the purpose of being collected, processed and used as a raw material in the manufacture of a recycled product.

“Recyclable material” shall refer to any waste material retrieved from the waste stream and free from contamination that can still be converted into suitable beneficial use or for other purposes, including, but not limited to, newspaper, ferrous scrap metal, non-

ferrous scrap metal, used oil, corrugated cardboard, aluminum, glass, office paper, tin cans, plastics and other materials as may be determined by the Commission.

“Recycled material” shall refer to post-consumer material that has been recycled and returned to the economy.

“Recycling” shall refer to the treating of used or waste materials through a process of making them suitable for beneficial use and for other purposes, and includes any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity, and which may be used as raw materials for the production of other goods or services: Provided, that the collection, segregation and re-use of previously used packaging material shall be deemed recycling under the Act.

“Resource conservation” shall refer to the reduction of the amount of solid waste that are generated or the reduction of overall resource consumption, and utilization of recovered resources.

“Resource recovery” shall refer to the collection, extraction or recovery of recyclable materials from the waste stream for the purpose of recycling, generating energy or producing a product suitable for beneficial use: Provided, That, such resource recovery facilities exclude incineration.

“Re-use” shall refer to the process of recovering materials intended for the same or different purpose without the alteration of physical and chemical characteristics.

“Sanitary landfill” shall refer to a waste disposal site designed, constructed, operated and maintained in a manner that exerts engineering control over significant potential environmental impacts arising from the development and operation of the facility.

“Schedule of Compliance” shall refer to an enforceable sequence of actions or operations to be accomplished within a stipulated time frame leading to compliance with a limitation, prohibition, or

standard set forth in the Act or any rule or regulation issued pursuant thereto.

“*Secretary*” shall refer to the Secretary of the Department of Environment and Natural Resources.

“*Segregation*” shall refer to sorting and segregation of different materials found in solid waste in order to promote recycling and re-use of resources and to reduce the volume of waste for collection and disposal.

“*Segregation at source*” shall refer to a solid waste management practice of separating, at the point of origin, different materials found in solid waste in order to promote recycling and re-use of resources and to reduce the volume of waste for collection and disposal.

“*Solid waste*” shall refer to all discarded household, commercial waste, non-hazardous institutional, ports / harbour and industrial waste, street sweepings, construction debris, agriculture waste, and other non-hazardous/non-toxic solid waste. Unless specifically noted otherwise, the term “solid waste” as used in the Act shall not include:

- a) waste identified or listed as hazardous waste of a solid, liquid, contained gaseous or semisolid form which may cause or contribute to an increase in mortality or in serious or incapacitating reversible illness, or acute/chronic effect on the health of persons and other organisms;
- b) infectious waste from hospitals such as equipment, instruments, utensils, and fomites of a disposable nature from patients who are suspected to have or have been diagnosed as having communicable diseases and must therefore be isolated as required by public health agencies, laboratory wastes such as pathological specimens (i.e., all tissues, specimens of blood elements, excreta, and secretions obtained from patients or laboratory animals),

and disposable fomites that may harbor or transmit pathogenic organisms, and surgical operating room pathologic specimens and disposable fomites attendant thereto, and similar disposable materials from outpatient areas and emergency rooms; and

- c) waste resulting from mining activities, including contaminated soil and debris.

“Solid waste management” shall refer to the discipline associated with the control of generation, storage, collection, transfer and transport, processing, and disposal of solid wastes in a manner that is in accord with the best principles of public health, economics, engineering, conservation, aesthetics, and other environmental considerations, and that is also responsive to public attitudes.

“Solid waste management facility” shall refer to any resource recovery system or component thereof; any system, program, or facility for resource conservation; any facility for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid waste.

“Source reduction” shall refer to the reduction of solid waste before it enters the solid waste stream by methods such as product design, materials substitution, materials re-use and packaging restrictions.

“Source separation” shall refer to the sorting of solid waste into some or all of its component parts at the point of generation.

“Special wastes” shall refer to household hazardous wastes such as paints, thinners, household batteries, lead-acid batteries, spray canisters and the like. These include wastes from residential and commercial sources that comprise of bulky wastes, consumer electronics, white goods, yard wastes that are collected separately, batteries, oil, and tires. These wastes are usually handled separately from other residential and commercial wastes.

“Storage” shall refer to the interim containment of solid waste after generation and prior to collection for ultimate recovery or disposal.

“Transfer stations” shall refer to those facilities utilized to receive solid wastes, temporarily store, separate, convert, or otherwise process the materials in the solid wastes, or to transfer the solid wastes directly from smaller to larger vehicles for transport. This term does not include any of the following:

- a) a facility whose principal function is to receive, store, separate, convert, or otherwise process in accordance with national minimum standards;
- b) a facility, whose principal function is to receive, store, convert, or otherwise process wastes which have already been separated for re-use and are not intended for disposal; and
- c) the operations premises of a duly licensed solid waste handling operator who receives, stores, transfers, or otherwise processes wastes as an activity incidental to the conduct of a refuse collection and disposal business.

“Waste diversion” shall refer to activities which reduce or eliminate the amount of solid wastes from waste disposal facilities.

“White goods” shall refer to large worn-out or broken household, commercial, and industrial appliances such as stoves, refrigerators, dishwaters, and clothes washers and dryers collected separately. White goods are usually dismantled for the recovery of specific materials (e.g., copper, aluminum, etc.).

“Yard waste” shall refer to wood, small or chipped branches, leaves, grass clippings, garden debris, vegetables residue that is recognizable as part of a plant or vegetable and other materials identified by the Commission.

PART II INSTITUTIONAL STRUCTURES AND MECHANISMS

RULE IV. OVERSIGHT ARRANGEMENTS

Section 1. Powers and Functions of the National Solid Waste Management Commission

A National Solid Waste Management Commission, hereinafter referred to as the Commission, and under the Office of the President, is hereby established. The Commission is tasked to oversee the implementation of solid waste management plans and prescribe policies to achieve the objectives of the Act. The Commission shall undertake the following activities:

- a) Prepare the National Solid Waste Management Framework;
- b) Approve local solid waste management plans in accordance with its rules and regulations;
- c) Review and monitor the implementation of local solid waste management plans;
- d) Coordinate the operation of local solid waste management boards in the provincial and city/municipal levels;
- e) To the maximum extent feasible, utilizing existing resources, assist provincial, city and municipal solid waste management boards the preparation, modification, and implementation of waste management plans;
- f) Develop a model provincial, city and municipal solid waste management plan that will establish prototypes of the content and format which provinces, cities and municipalities may use in meeting the requirements of the National Solid Waste Management Framework;

- g) Adopt a program to provide technical and other capability building assistance and support to local government units in the development and implementation of source reduction programs;
- h) Develop and implement a program to assist local government units in the identification of markets for materials that are diverted from disposal facilities through re-use, recycling, and composting and other environment-friendly methods;
- i) Develop a mechanism for the imposition of sanctions for the violation of environmental rules and regulations;
- j) Manage the Solid Waste Management Fund;
- k) Develop and prescribe procedures for the issuance of appropriate permits and clearances;
- l) Review the incentives scheme for effective solid waste management, for purposes of ensuring relevance and efficiency in achieving the objectives of the Act;
- m) Formulate the necessary education promotion and information campaign strategies;
- n) Establish, after notice and hearing of the parties concerned, standards, criteria, guidelines and formula that are fair, equitable and reasonable in establishing tipping charges and rates that the proponent will charge in the operation and management of solid waste management facilities and technologies;
- o) Develop safety nets and alternative livelihood programs for small recyclers and other sectors that will be affected as a result of the construction and/or operation of a solid waste management recycling plant or facility;

- p) Formulate and update a list of non-environmentally acceptable materials in accordance with the provisions of the Act. For this purpose, it shall be necessary that proper consultation be conducted by the Commission with all concerned industries to ensure a list that is based on technological and economic viability;
- q) Encourage private sector initiatives, community participation and investments resource recovery-based livelihood programs for local communities;
- r) Encourage all local government agencies and all local government units to patronize products manufactured using recycled and recyclable materials;
- s) Propose and adopt regulations requiring the source separation and post separation collection, segregated collection, processing, marketing and sale of organic and designated recyclable material generated in each local government unit; and
- t) Study and review the following:
 - 1. Standards, criteria and guidelines for the promulgation and implementation of an integrated national solid waste management framework; and
 - 2. Criteria and guidelines for siting, design, operation and maintenance of solid waste management facilities.

Section 2. Composition and Membership of the Commission

The Commission shall be composed of fourteen (14) members from the government sector and three (3) members from the private sector. The heads of the following agencies, in their *ex-officio* capacity, shall represent the government sector:

- a. Department of Environment and Natural Resources (DENR);
- b. Department of Interior and Local Government (DILG);
- c. Department of Science and Technology (DOST);
- d. Department of Public Works and Highways (DPWH);
- e. Department of Health (DOH);
- f. Department of Trade and Industry (DTI);
- g. Department of Agriculture (DA);
- h. Metro Manila Development Authority (MMDA);
- i. League of Provinces of the Philippines (LPP);
- j. League of Cities of the Philippines (LCP);
- k. League of Municipalities of the Philippines (LMP);
- l. Liga ng Mga Barangay;
- m. Technical Education and Skills Development Authority (TESDA); and
- n. Philippine Information Agency (PIA).

The private sectors are to be represented by the following:

- a. A representative from non-government organizations (NGOs) whose principal purpose is to promote recycling and the protection of air and water quality;
- b. A representative from the recycling industry; and
- c. A representative from the manufacturing or packaging industry.

The Department Secretary and a private sector representative of the Commission shall serve as chairman and vice-chairman, respectively. The Commission may, from time to time, call on any other concerned agencies or sectors as it may deem necessary. The Secretaries/Heads of the member agencies of the Commission shall formulate action plans for their respective agencies to complement the National Solid Waste Management Framework.

Section 3. Selection Process and Tenure of Office for the Private Sector Representatives

Representatives from the NGOs, recycling and manufacturing or packaging industries shall be nominated through a process designed by themselves and shall be appointed by the President for a term of three (3) years.

The appointment of private sector representatives shall be based on the following criteria:

- a. Integrity;
- b. High degree of professionalism; and
- c. Distinguished themselves in the environmental and resource management sector.

In any event that members of the Commission fail to complete his/her term, the successor shall also be appointed by the President but only for the unexpired portion of term.

Section 4. Meetings of the Commission

The Commission shall meet at least once a month. The presence of at least a majority of the members shall constitute a quorum. The chairman, or in his absence the vice-chairman, shall be presiding officer. In the absence of the heads of the agencies mentioned under Section 4 of the Act, they may designate permanent representatives to attend the meetings.

Section 5. Conduct of Business of the Commission

Within six (6) months upon effectivity of the IRR, the Commission shall formulate its governing rules that will define its conduct of business in carrying out the functions stipulated above.

RULE V. SUPPORT INSTITUTIONAL MECHANISMS

Section 1. Role of the National and Regional Ecology Centers

Under the Commission, a National Ecology Center is to be established headed by the Director of the EMB in his *ex-officio* capacity. Regional Ecology Centers will also be established headed by EMB Regional Directors in their *ex-officio* capacity. The Ecology Centers shall provide technical expertise, information, training and networking services for the implementation of the provisions of the Act. The Center shall specifically perform the following functions:

- a) Facilitate training and education in integrated ecological solid waste management through the following:
 1. formulation of training program for LGUs and private sector on the proper management of solid wastes;
 2. development of training program on the technical operations of solid waste management facilities;
 3. formulation of training program for deputized enforcers and implementers
 4. development of an accreditation and certification system for the conduct and holding of training programs on solid waste management; and
 5. in collaboration with the Department of Education (DeptEd) develop an education program that will promote an effective solid waste management systems.

- b) Establish and manage a comprehensive solid waste management information data base and dissemination system focusing, *inter alia*, on the following areas:

1. in collaboration with DTI, a solid waste generation and management techniques as well as the management, technical and operational approaches to resource recovery;
 2. in collaboration with DTI and processors/recyclers, the list of materials being recycled or brought by them and their respective prices; and
 3. in coordination with DTI information on cleaner production/cleaner technologies that promote efficient solid waste management.
- c) Promote the development of a recycling market through the establishment of a national recycling network that will enhance the opportunity for recycling;
- d) Act as the hub for networking of LGUs, NGOs and industry on voluntary compliance of the pertinent provisions of the Act;
- e) Provide or facilitate expert assistance in pilot modeling of solid waste management facilities including technologies and techniques for effective solid waste management;
- f) Develop, test and disseminate model waste minimization and reduction auditing procedures for evaluation options; and
- g) Act as the clearinghouse for cleaner production/cleaner technologies on solid waste management.

The Ecology Centers shall give primary consideration of making all the information generated, collected, recorded and stored accessible to the general public. Said information shall include data for solid waste management plans, the National Framework, the National Status Report and all other relevant information necessary to ecological solid waste management.

Section 2. Functions of the Secretariat

The Department, through the Environmental Management Bureau, shall provide secretariat support to the Commission. An Executive Director who shall be nominated by the members of the Commission and appointed by the Chairman of the Commission shall head the Secretariat. The general functions of the Secretariat shall be the following:

- a) Prepare all the documents that are to be tabled for deliberation by the Commission;
- b) Record and document all the proceedings of the meetings;
- c) Handle all the administrative requisites of the Commission;
- d) Index and keep all records used and referenced by the Commission;
- e) Serve as the clearinghouse for all projects/programs for implementation by the LGUs and/or the public or private sector;
- f) Evaluate and review proposals submitted for funding support from the Solid Waste Management Fund; and
- g) Perform all other functions as may be deemed necessary by the Commission.

Section 3. Role of the Department

For the furtherance of the objectives of the Act, the Department shall have the following functions:

- a) Chair the Commission created pursuant to the Act;
- b) Prepare an annual National Solid Waste Management Status Report;
- c) Prepare and distribute information, education and communication materials on solid waste management;
- d) Establish methods and other parameters for the measurement of waste reduction, collection and disposal;
- e) Provide technical and other capability building assistance and support to the LGUs in the development and

- implementation of local solid waste management plans and programs;
- f) Recommend policies to eliminate barriers to waste reduction programs;
 - g) Exercise visitorial and enforcement powers to ensure strict compliance with the Act;
 - h) Issue rules and regulations to effectively implement the provisions of the Act; and
 - i) Perform such other powers and functions necessary to achieve the objectives to the Act.

Section 4. Visitorial Powers of the Department

- a) Reports and records requirements

The Department or its duly authorized representative shall have access to, and the right to copy therefrom, all records required to be maintained pursuant to the provisions of the Act.

- b) Right of entry, inspection and investigation

The Secretary or the duly authorized representative shall likewise have the right to enter the premises of any generator, recycler or manufacturer, or other facilities any time to question any employee or investigate any fact, condition or matter which may be necessary to determine any violation of the provisions of the Act. The Department within three (3) months following the effectivity of this Rules and Regulations shall issue the specific protocols that will be observed in involving visitorial powers authorized under the Act.

Section 5. Licenses and Permits Issued by the Department

No persons, entity or company will be allowed to construct or operate any SWM facility until the said person or entity has applied for and obtained valid permits and licenses to operate. The Bureau, in coordination with the relevant agencies and local government units, shall identify the specific permitting and

licensing requirements under its existing regulatory functions for each of the corresponding phases of the SWM. The listing of permitting and licensing requirements shall be published within six (6) months following the effectivity of these Rules and Regulations.

RULE VI. CREATION OF LOCAL SOLID WASTE MANAGEMENT BOARDS

Section 1. Creation of the Provincial Solid Waste Management Boards

Local Solid Waste Management Boards shall be created and established in each of the concerned LGUs. At the provincial level, a Provincial Solid Waste Management (SWM) Board shall be established with the governor as the chair. Correspondingly, for cities and municipalities, City/Municipality Solid Waste Management (SWM) Boards is also created. Within six (6) months upon effectivity of this rules and regulations all LGUs are mandated to already establish their respective Boards. The Department, in collaboration with DILG shall assist the LGUs in facilitating the setting up of the Boards.

Section 2. Functions of the Provincial Solid Waste Management Board

The Provincial SWM Board shall have the following functions and responsibilities:

- a) Develop a provincial solid waste management plan from the submitted solid waste management plans of the respective city and municipal solid waste management boards herein created. It shall review and integrate the submitted plans of all its component cities and municipalities and ensure that the various plans complement each other, and have the requisite components.

The Provincial Solid Waste Management Plan shall be submitted to the Commission for approval

The Provincial Plan shall reflect the general program of action and initiatives of the provincial government in implementing a solid waste management program that would support the various initiatives of its component cities and municipalities.

- b) Provide the necessary logistical and operational support to its component cities and municipalities in consonance with subsection (f) of Section 17 of the Local Government Code.
- c) Recommend measures and safeguards against pollution and for the preservation of the natural ecosystem.
- d) Recommend measures to generate resources, funding and implementation of projects and activities as specified in the duly approved solid waste management plans.
- e) Identify areas within its jurisdiction, which have common solid waste management problems and are appropriate units for planning local solid waste management services in accordance with Section 41 hereof.
- f) Coordinate the efforts of the component cities and municipalities in the implementation of the Provincial Solid Waste Management Plan.
- g) Development of an appropriate incentive scheme as an integral component of the Provincial Solid Waste Management Plan.
- h) Convene joint meetings of the provincial, city and municipal solid waste management boards at least every quarter for purposes of integrating, synchronizing, monitoring and evaluating the development and

implementation of its provincial solid waste management plan.

- i) Represent any of its component city or municipality in coordinating its resource and operational requirements with agencies of the national government.
- j) Oversee the implementation of the Provincial Solid Waste Management Plan.
- k) Review every two (2) years or as the need arises, the Provincial Solid Waste Management Plan for purposes of ensuring its sustainability, viability, effectiveness and relevance in relation to local and international developments in the field of solid waste management.
- l) Allow for the clustering of LGUs for the solution of common solid waste management problems.

Section 3. Membership in the Provincial SWM Board

The Provincial SWM Board is to be chaired by the governor and comprised by the following as members:

- a) All the mayors of its component cities and municipalities;
- b) One (1) representative from the Sangguniang Panlalawigan to be represented by the chairperson of either the Committees on Environment or Health or their equivalent committees, to be nominated by the presiding officer;
- c) The provincial health and/or general services officers, whichever may be recommended by the governor;
- d) The provincial environment and natural resources officer;
- e) The provincial engineer;
- f) Congressional representative(s) from each congressional district within the province;
- g) A representative from the NGO sector whose principal purpose is to promote recycling and the protection of air and water quality;

- h) A representative from the recycling industry;
- i) A representative from the manufacturing or packaging industry; and
- j) A representative of each concerned government agency possessing relevant technical and marketing expertise as may be determined by the Board.

The Provincial SWM Board may, from time to time, call on any other concerned agencies or sectors as it may deem necessary.

Representatives from the NGOs, recycling and manufacturing or packaging industries shall be selected through a process designed by themselves and shall be endorsed by the government agency representatives of the Board.

In the case of the Province of Palawan, the Board is to be chaired by the chairman of the Palawan Council for Sustainable Development, pursuant to Republic Act No. 7611.

In the case of Metro Manila, the Board shall be chaired by the chairperson of the MMDA and its members shall include:

- a) All mayors of its component cities and municipalities;
- b) A representative from the NGO sector whose principal purpose is to promote recycling and the protection of air and water quality
- c) A representative from the recycling industry; and
- d) A representative from the manufacturing or packaging industry.

Section 4. Creation of a City and Municipal Solid Wastes Management Board

The City and Municipal SWM Boards shall have the following duties and responsibilities:

- a) Develop the City or Municipal Solid Waste Management Plan that shall ensure the long-term management of solid waste, as well as integrate the various solid waste management plans and strategies of the barangays in its area of jurisdiction. In the development of the Solid Waste Management Plan, it shall conduct consultations with the various sectors of the community;
- b) Adopt measures to promote and ensure the viability and effective implementation of solid waste management programs in its component barangays;
- c) Monitor the implementation of the City or Municipal Solid Waste Management Plan through its various political subdivisions and in cooperation with the private sector and the NGOs;
- d) Adopt specific revenue-generating measure to promote the viability of its Solid Waste Management Plan;
- e) Convene regular meetings for purposes of planning and coordinating the implementation of the solid waste management plans of the respective component barangays;
- f) Oversee the implementation of the City or Municipal Solid Waste Management Plan;
- g) Review every two (2) years or as the need arises the City or Municipal Solid Waste Management Plan for purposes of ensuring its sustainability, viability, effectiveness and relevance in relation to local and international developments in the field of solid waste management;
- h) Develop the specific mechanics and guidelines for the implementation of the City or Municipal Solid Waste Management Plan;

- i) Recommend to appropriate local government authorities specific measure or proposals for franchise or build-operate-transfer agreements with duly recognized institutions, pursuant to RA 6967, to provide either exclusive or non-exclusive authority for the collection, transfer, storage, processing, recycling or disposal of municipal solid waste. The proposals shall take into consideration appropriate government rules and regulations on contracts, franchises and build-operate-transfer agreements.
- j) Provide the necessary logistical and operational support to its component cities and municipalities in consonance with subsection (f) of Section 17 of the Local Government Code;
- k) Recommend measures and safeguards against pollution and for the preservation of the natural ecosystem; and
- l) Coordinated the efforts of its component barangays in the implementation of the city or municipal Solid Waste Management Plan.

The Bureau shall provide advisory technical assistance in setting up of the local solid waste management boards. The Commission shall provide the policy directions for the Local Solid Waste Management Boards pursuant to Section 8 of these Rules and Regulations.

It shall be the duty of the LSWMBs and municipalities, to assist barangays in their solid waste management, where the barangay cannot financially or adequately manage all waste segregation, sorting, recovery, recycling and composting, conducted at the MRF.

LGUs may assist the barangay either financially, technically or in any other manner deemed necessary in order to achieve the waste diversion goal of section 20 of the Act. Provided that within 45

days of the effectivity of the IRRs, the Liga Ng Mga Barangay shall assess and thereby determine, those barangays requiring assistance from their respective LGUs. The LNB shall subsequently inform the respective LSWMBs of its findings.

Section 5. Membership of the City and Municipal SWM Board

The City and Municipals SWM Board shall be composed of the city or municipal mayor as chair with the following as members:

- a) One (1) representative of the Sangguniang Panlungsod or the Sangguniang Bayan, preferably chairpersons of either the Committees on Environment or Health, who will be designated by the presiding officer;
- b) President of the Association of Barangay Councils in the municipality or city;
- c) Chairperson of the Sangguniang Kabataan Federation;
- d) A representative from NGOs whose principal purpose is to promote recycling and the protection of air and water quality;
- e) A representative from the recycling industry;
- f) A representative from the manufacturing or packaging industry; and
- g) A representative of each concerned government agency possessing relevant technical and marketing expertise as may be determined by the Board.

The City or Municipal Solid Waste Management Board may, from time to time, call on any concerned agencies or sectors as it may deem necessary.

Representatives from the NGOs, recycling and manufacturing or packaging industries shall be selected through a process designed by themselves and shall be endorsed by the government agency representatives of the Board.

Section 6. Creation of a Barangay Solid Waste Management Committee

The Barangay SWM Board shall have the following functions and responsibilities:

- a) Formulate solid waste management program consistent with city municipality plan
- b) Segregation and collection of biodegradable, compostable, reusable wastes
- c) Establish materials recovery facility
- d) Allocate barangay funds; look for sources of funds
- e) Organize core coordinators
- f) Submit monthly report to city or municipality

Section 7. Membership of the Barangay Solid Waste Management Committee

The Barangay SWM Board shall be composed of the barangay captain as chair with the following as members:

- a) One (1) Kagawad
- b) SK chair
- c) Presidents of Home Owners Association
- d) Public/private school principals or representative
- e) One (1) Parents and Teachers Association president or representative
- f) One (1) Religious organization representative
- g) One (1) Bus community representative
- h) One (1) environmental NGO representative
- i) President of Market Vendors Association; One (1) representative from junkshop owners' association

Section 8. Encouraging the Setting up of Multi-purpose Environmental Cooperative or Association in LGUs

Multi-purpose cooperatives and associations shall be encouraged and promoted in every LGU. The DENR and DTI, through their appropriate bureaus, and with the involvement of the National Ecology Center, shall provide technical assistance and advisory guidance to any interested parties duly supported by the LGUs intending to set up the multi purpose environmental cooperatives or associations.

PART III COMPREHENSIVE SOLID WASTE MANAGEMENT SYSTEM

RULE VII. PLANNING AND PROGRAMMING POLICY FOR SOLID WASTE MANAGEMENT

Section 1. The National Solid Waste Management Framework (NSWMF)

The Commission shall consider and adopt appropriate mechanisms that will facilitate the completion of the Framework. The Framework shall be updated every five years and integrated in the Medium Term Development Plan. The framework shall reflect, among others the following elements:

- a) Assessment of SWM situation
 - 1. Analysis and evaluation of the current state, trends projections of solid waste management on the national, provincial and municipal levels;
 - 2. Identification of critical solid waste facilities and local government units which will need closer monitoring and/or regulation;
 - 3. Characteristics and conditions of collection, storage, processing, disposal, operating methods, techniques and practices, location of facilities where such operating

methods, techniques and practices are conducted, taking into account the nature of the waste;

4. The profile of sources, including industrial, commercial, domestic and other sources.

b) Analysis of Options

1. Practical applications of environmentally sound techniques of waste minimization such as, but not limited to, resource conservation, segregation at source, recycling, resource recovery, including waste-to-energy generation, re-use and composting;
2. A technical and economical description of the level of performance that can be attained by various available solid waste management practices which provide for the protection of public health and the environment;
3. Methods of closing or upgrading open dumps for purposes of eliminating potential health hazards;
4. Appropriate solid waste facilities and conservation systems;
5. Recycling programs for the recyclable materials, such as but not limited to glass, paper, plastic and metal.

c) Mandatory Program of Actions

1. Waste diversion goal pursuant to Section 20 of the Act;
2. Schedule for the closure and/or upgrading of open and controlled dumps pursuant to Section 37 of the Act;

d) Public participation and IEC campaign

1. Venues for public participation from all sectors at all phases/stages of the waste management program/project;
2. Information and education campaign strategies.

e) Aspects for standardization and measuring performance

1. A description of levels of performance and appropriate methods and degrees of control that provide, at the

minimum, for protection of public health and welfare through:

- i) Protection of the quality of groundwater and surface waters from leachate and run-off contamination;
 - ii) Disease and epidemic prevention and control;
 - iii) Prevention and control of offensive odor; and
 - iv) Safety and aesthetics.
2. Minimum criteria to be used by the local government units to define ecological solid waste management practices. As much as practicable, such guidelines shall also include minimum information for use in deciding the adequate location, design and construction of facilities associated with solid waste management practices, including the consideration of regional, geographic, demographic and climatic factors; and
 3. The method and procedure for the phase-out and the eventual closure of existing open dumps and/or sanitary landfills located within an aquifer, groundwater reservoir or watershed area.

Section 2. The Local Government Solid Waste Management Plan (LGSWMP) Formulation and Programming

The preparation of the LGSWMP shall consider the planning cycles embodied in the relevant provisions of RA7160 and shall also integrate other mandatory plans pursuant to the relevant provisions of other existing rules and regulations. Under the overall direction of the Commission, the DENR, DILG, NEDA and the various leagues of local governments, shall develop a coordinative mechanism that will ensure that LGUs are significantly guided in the preparation of LGSWMP. The Commission shall promulgate and standardize a process for LGUs to follow in having their respective LGSWMP approved.

Section 3. Components and Elements of Local Government Solid Waste Management Plans

The thrust of the LGSWMP shall be the identification of implementable strategies and activities that encourage the re-use, recycling and composting of wastes generated in their respective jurisdictions with specific schedules and timetables, targets and measurable indicators of achievements. Subject to the guidelines that will be subsequently issued by the Commission, the preparation of the Local Solid Waste Management Plans shall reflect, among others, the components enumerated under Section 17 of the Act which is enumerated below. The Commission, through the Secretariat and the DILG shall develop a coordinative mechanism that will assist the appropriate units/offices of LGUs tasked to develop their respective solid waste management plans.

a) Background Information

1. City or Municipal Profile – The plan shall indicate the following background information on the city or municipality and its component barangays, covering important highlights of the distinct geographic and other conditions:
 - i) Estimated population of each barangay within the city or municipality and population projection for a 10-year period;
 - ii) Illustration or map of the city/municipality, indicating locations of residential, commercial, and industrial centers, and agricultural area, as well as dump sites, landfills and other solid waste facilities. The illustration shall indicate as well, the proposed sites for disposal and other solid waste facilities;
 - iii) Estimated solid waste generation and projection by source, such as residential, market, commercial, industrial, construction/demolition, street waste,

agricultural, agro-industrial, institutional, other wastes;
and

- iv) Inventory of existing waste disposal and other solid waste facilities and capacities; including an inventory of existing equipment used for collection and the number of people involved in solid waste management, in order that the budget required to implement plans and cost estimations, be calculated.

b) Waste Characterization

For the initial source reduction and recycling element of a local waste management plan, the LGU waste characterization component shall identify the constituent materials which comprise the solid waste generated within the jurisdiction of the LGU. The information shall be representative of the solid waste generated and disposed of within that area. The constituent materials shall be identified by volume, percentage in weight or its volumetric equivalent, material type, and source of generation, which includes residential, commercial, industrial governmental, or other sources. Future revisions of waste characterization studies shall identify the constituent materials, which comprise the solid waste, disposed of at permitted disposal facilities. Appendix A sets the general guide in the conduct of waste characterization.

c) Source Reduction

The source reduction component shall include a program and implementation schedule which shows the methods by which the LGU will, in combination with the recycling and composting components, reduce a sufficient amount of solid waste disposed of in accordance with the diversion requirements of Section 20 of the Act.

The source reduction component shall describe the following:

1. strategies in reducing the volume of solid waste generated at source;
2. measures for implementing such strategies and the resources necessary to carry out such activities;
3. other appropriate waste reduction technologies that may also be considered, provided that such technologies conform with the standards set pursuant to this Act;
4. the types of wastes to be reduced pursuant to Section 15 of this Act;
5. the methods that the LGU will use to determine the categories of solid wastes to be diverted from disposal at a disposal facility through re-use, recycling and composting; and
6. new facilities and of expansion of existing facilities which will be needed to implement re-use, recycling and composting.

The LGU source reduction component shall include the evaluation and identification of rate structures and fees for the purpose of reducing the amount of waste generated, and other source reduction strategies, including but not limited to, programs and economic incentives provided under Section 45 of the Act to reduce and use of non-recyclable materials, replace disposable materials and products with reusable materials and products, reduce packaging, and increase the efficiency of the use of paper, cardboard, glass, metal, and other materials. The waste reduction activities of the community shall also take into account, among others, local capability, economic viability, technical requirements, social concerns, disposition of residual waste and environmental impact. Projection of future facilities needed and estimated cost shall be also incorporated in the plan.

d) Recycling

The recycling component shall include a program and implementation schedule which shows the methods by which the LGU shall, in combination with the source reduction and

composting components, reduce a sufficient amount of solid waste disposed of in accordance with the diversion requirements set in Section 20 of the Act and Section 7 Rule VII of these IRR.

The LGU recycling component shall describe the following:

1. The types of materials to be recycled under the programs;
2. The methods for determining the categories of solid wastes to be diverted from disposal at a disposal facility through recycling; and
3. New facilities and expansion of existing facilities needed to implement the recycling component.

The LGU recycling component shall describe methods for developing the markets for recycled materials, including, but not limited to, an evaluation of the feasibility of procurement preferences for the purchase of recycled products. Each LGU may determine and grant a price preference to encourage the purchase of recycled products.

The five-year strategy for collecting, processing, marketing and selling the designated recyclable materials shall take into account persons engaged in the business of recycling or persons otherwise providing recycling services before the effectivity of the Act. Such strategy may be based upon the results of the waste composition analysis performed pursuant to this Section or information obtained in the course of past collection of solid waste by the local government unit, and may include recommendations with respect to increasing the number of materials designated for recycling pursuant to the Act.

The LGU recycling component shall evaluate industrial, commercial, residential, agricultural, governmental, and other curbside, mobile, drop-off, and buy-back recycling programs, manual and automated materials recovery facilities, zoning, building code changes and rate structures which encourage

recycling of materials. The Solid Waste Management Plan shall indicate the specific measures to be undertaken to meet the waste diversion specified under Section 20 of the Act and Section 7 Rule VII of these IRR.

Recommended revisions to the building ordinances, requiring newly-constructed buildings and buildings undergoing specified alterations to contain storage space, devices or mechanisms that facilitate source separation and storage of designated recyclable materials to enable the local government unit to efficiently collect, process, market and sell the designated materials. Such recommendations shall include, but shall not be limited to separate chutes to facilitate source separation in multi-family dwellings, storage areas that conform to fire and safety code regulations, and specialized storage containers.

The Solid Waste Management Plan shall indicate the specific measures to be undertaken to meet the recycling goals pursuant to the objectives of the Act.

e) Composting

The composting component shall include a program and implementation schedule which shows the methods by which the LGU shall, in combination with the source reduction and recycling components, reduce a sufficient amount of solid waste disposed of within its jurisdiction to comply with the diversion requirements of Section 20 of the Act and Section 7 Rule VII of these IRR.

The LGU composting components shall describe the following:

1. The types of materials which will be composted under the programs;
2. The methods for determining the categories of solid wastes to be diverted from disposal at a disposal facility through composting; and

3. New facilities, and expansion of existing facilities needed to implement the composting component.

The LGU composting component shall describe methods for developing the markets for composted materials, including, but not limited to, an evaluation of the feasibility of procurement preferences for purchase of composted products. Each LGU may determine and grant a price preference to encourage the purchase of composted products.

f) Collection and Transfer

The plan shall take into account the geographic subdivisions to define the coverage of the solid waste collection area in every barangay. The barangay shall be responsible for ensuring that a 100% collection efficiency from residential, commercial, industrial and agricultural sources, where necessary within its area of coverage, is achieved. Toward this end, the plan shall define and identify the specific strategies and activities to be undertaken by its component barangays, taking into account the following concerns:

1. Availability and provision of properly designed containers or receptacles in selected collection points for the temporary storage of solid waste while awaiting collection and transfer to processing sites or to final disposal sites;
2. Segregation of different types of solid waste for re-use, recycling and composting;
3. Hauling and transfer of solid waste from source or collection points to processing sites or final disposal sites;
4. Issuance and enforcement of ordinances to effectively implement a collection system in the barangay; and
5. Provision of properly trained officers and workers to handle solid waste disposal.

The plan shall define and specify the methods and systems for the transfer of solid waste from specific collection points to solid waste management facilities.

g) Processing

The plan shall define the methods and the facilities required to process the solid waste, including the use of intermediate treatment facilities for composting, recycling, conversion and other waste processing systems. Other appropriate waste processing technologies may also be considered provided that such technologies conform with internationally acceptable and other standards set in other laws and regulations.

h) Solid Waste Facility Capacity and Final Disposal

The solid waste facility component shall include, but shall not be limited to, a projection of the amount of disposal capacity needed to accommodate the solid waste generated, reduced by the following:

1. Implementation of source reduction, recycling, and composting programs required in this Section or through implementation of other waste diversion activities;
2. Any permitted disposal facility which will be available during the 10-year planning period; and
3. All disposal capacity which has been secured through an agreement with another LGU, or through an agreement with a solid waste enterprise.

The plan shall identify existing and proposed disposal sites and waste management facilities in the city or municipality or in other areas. The plan shall specify the strategies for the efficient disposal of waste through existing disposal facilities and the identification of prospective sites for future use. The selection and development of disposal sites shall be made on the basis of internationally accepted standards and on the guidelines set in Sections 41 and 42 of the Act.

Strategies shall be included to improve said existing sites to reduce adverse impact on health and the environment, and to extend life span and capacity. The plan shall clearly define

projections for future disposal site requirements and the estimated cost for these efforts.

Open dumpsites shall not be allowed as final disposal sites. If an open dumpsite is existing within the city or municipality, the plan shall make provisions for its closure or eventual phase out within the period specified under the framework and pursuant to the provisions under Section 37 of the Act. As an alternative, sanitary landfill sites shall be developed and operated as a final disposal site for solid and, eventually, residual wastes of a municipality or city or a cluster of municipalities and/or cities. Sanitary landfills shall be designed and operated in accordance with the guidelines set under Sections 40 and 41 of the Act.

i) Education and Public Information

The education and public information component shall describe how the LGU will educate and inform its citizens about the source reduction, recycling, and composting programs.

The plan shall make provisions to ensure that information on waste collection services, solid waste management and related health and environmental concerns are widely disseminated among the public. This shall be undertaken through the print and broadcast media and other government agencies in the municipality. The DECS and the Commission on Higher Education shall ensure that waste management shall be incorporated in the curriculum of primary, secondary and college students.

j) Special Wastes

The special waste component shall include existing waste handling and disposal practices for special waste or household hazardous wastes, and the identification of current and

proposed programs to ensure the proper handling, re-use, and long-term disposal of special wastes.

k) Resource Requirement and Funding

The funding component includes identification and description of project costs, revenues, and revenue sources the LGU will use to implement all components of the LGU solid waste management plan.

The plan shall likewise indicate specific projects, activities, equipment and technological requirements for which outside sourcing of funds or materials may be necessary to carry out the specific components of the plan. It shall define the specific uses for its resource requirements and indicate its costs. The plan shall likewise indicate how the province, city or municipality intends to generate the funds for the acquisition of its resource requirements. It shall also indicate if certain resource requirements are being or will be sourced from fees, grants, donations, local funding and other means. This will serve as basis for the determination and assessment of incentives which may be extended to the province, city or municipality as provided for in Section 45 of the Act.

l) Privatization of Solid Waste Management Projects

The plan shall likewise indicate specific measures to promote the participation of the private sector in the management of solid wastes, particularly in the generation and development of the essential technologies for solid waste management. Specific projects or component activities of the plan which may be offered as private sector investment activity shall be identified and promoted as such. Appropriate incentives for private sector involvement in solid waste management shall likewise be established and provided for in the plan, in consonance with Section 45 hereof and other existing laws, policies and regulations; and

m) Incentive Programs

A program providing for incentives, cash or other wise, which shall encourage the participation of concerned sectors shall likewise be included in the plan.

Section 4. Considerations of local government SWM Plans prior to the Act's effectivity

Acknowledging that a number of LGUs have initiated efforts in preparing their respective solid waste management plan, prior to the effectivity of the Act, these efforts shall be recognized as works complying with the pertinent provisions of the Act; provided that, earlier developed plans shall be made consistent with the elements prescribed in Section 3 under Rule VII of this rules and regulations. Said plan upon its validation and adjustments shall be subject to approval by the Commission.

Section 5. Clustering of Common Solid Waste Management Problems

The Department shall publish guidelines for the identification of areas which have common solid waste management problems and are appropriate units for clustered solid waste management services. The guidelines shall be based on the following considerations:

- a) the size and location of areas which should be included;
- b) the volume of solid waste which would be generated;
- c) the available means of coordinating local government planning between and among the LGUs and for the integration of such with the national plan;
- d) possible lifespan of the disposal facilities; and
- e) common waste treatment and disposal facilities

The Commission shall recommend to concerned local government units to consolidate and coordinate efforts, services and resources

for jointly addressing solid waste management issues. Furthermore, technical guidelines, criteria for joint activities and projects, and a set of incentive systems for LGUs opting to consolidate efforts by jointly planning and implementing a comprehensive SWM programs for their respective areas of jurisdictions shall be subsequently specified and regularly updated by the Department.

Mandatory public hearings for the national framework and local government solid waste management plans shall be undertaken by the Commission and the respective Boards. Provided that, the Commission and respective Boards ensure that at least three (3) weeks notice, prior to the hearing is given to the public. Such notice shall include an explanation of the hearing process, location, and any other factor, either the Commission or respective Boards consider relevant.

The Commission shall formulate standard rules and procedures for the conduct of public hearings. However, each hearing shall be of a substantive nature. It shall include more than just a description of the National Framework and local government solid waste management plans, by the Commission and respective Boards.

Every citizen shall be given the right and opportunity to comment on the Framework, and solid waste management plans, preferably in writing.

All records of the proceedings of said hearings shall be filed with the Commission and the respective boards; and that they shall be readily available and accessible to the public. The Commission and respective boards shall formulate their decision whether to adopt, reject or revise the reviewed plans on the basis of materials and information, provided their knowledge and experience, in addition to the materials adduced in public hearings.

Section 7. Establishing Mandatory Solid Waste Diversion

Each LGUSWM plans shall include an implementable schedule which shows that within five (5) years after the effectivity of the Act, the LGU shall divert at least 25% of all solid waste from waste disposal facilities through re-use, recycling and composting activities and other resource recovery activities. The baseline for the 25% shall be derived from the waste characterization results which each LGUs are mandated to undertake. Subsequently the waste diversion goals shall be increased every three (3) years thereafter. Nothing in this IRR however, prohibits a local government unit from implementing re-use, recycling and composting activities designed to exceed the 25% goal.

RULE VIII. IMPLEMENTATION OF THE ECOLOGICAL SOLID WASTE MANAGEMENT SYSTEMS

Section 1. Overall Policy

It shall be the overall policy of the Department to strictly implement the provisions of the Rules and Regulations of the Act. The implementation of the ecological solid waste management shall fundamentally take into account the management of waste in the following hierarchy:

- a) Source reduction and minimization of wastes generated at source;
- b) Resource recovery, recycling and reuse of wastes at the barangay;
- c) Efficient collection, proper transfer and transport of wastes by city/municipality; and
- d) Efficient management of residuals and of final disposal sites and/or any other related technologies for the destruction/reuse of residuals.

Section 2. Implementation of the Ecological Solid Waste Management Systems

The Local Government Code, the LGUs shall be primarily responsible for the implementation and enforcement of the ecological solid waste management systems within their respective jurisdictions.

Waste segregation and collection shall be conducted at the barangay level specifically for biodegradable/compostable and reusable/recyclable wastes. The collection and disposal of non-recyclable/non-recoverable materials and special wastes shall be the responsibility of the city or municipality.

RULE IX. WASTE SEGREGATION AT SOURCE

Section 1. Waste Segregation and Volume Reduction at Source

Volume reduction at the source shall be the first priority of the ecological SWM system. All LGUs shall actively promote among its constituencies the reduction and minimization of wastes generated at source; responsibility for sorting and segregation of biodegradable and non-biodegradable wastes shall be at the household level and all other sources.

Section 2. Minimum Requirements for Segregation and Volume Reduction

The following shall be the minimum requirements for segregation and storage of solid waste pending collection:

- a) There shall be a separate container for each type of waste from all sources. For bulky waste, it will suffice that the same be collected and placed in a separate container and in designated areas;

- b) The solid waste container depending on its use shall be properly marked or identified for on-site collection as “compostable,” “recyclable” or “special waste,” or any other classification as may be determined by the Commission; and
- c) For premises containing six (6) or more residential units, the LGUs shall promulgate ordinances and regulations requiring the owner or person in charge of such premises to:
 - 1. Provide for the residents a designated area and containers in which to accumulate source separated recyclable materials to be collected by the barangay or private collector; and
 - 2. Notify the occupants of such buildings of the requirements of the Act and the regulations promulgated pursuant thereto.
- d) For all commercial, institutional and industrial establishments, the LGUs shall promulgate ordinances requiring the owner or head of the institutions to:
 - 1. Provide a designated area and containers in which to accumulate source separated recyclable materials to be collected by the barangay or private collector;
 - 2. Notify all workers, employees, and entities working in the premises of the requirements of the Act and the regulations promulgated pursuant thereto; and
 - 3. No scavenging or unauthorized collection in designated segregation containers or areas shall be allowed.

RULE X. COLLECTION, TRANSPORT AND HANDLING OF SOLID WASTES

Section 1. Minimum standards for the collection, transport and handling of Solid Wastes

The following shall be the minimum standards and requirements for the collection, transport and handling of solid waste:

- a) All collectors and other personnel directly dealing with collection of solid waste shall be equipped with personal protective equipment and paraphernalia such as, but not limited to gloves, masks and safety boots, to protect them from the hazards of handling solid wastes.
- b) The City or Municipal Health Officer shall provide necessary training to the collectors and personnel to ensure that the solid wastes are handled properly in accordance with the guidelines pursuant to the Act. The Commission through the National Ecology Center, in coordination with the DOH shall develop training guidelines.
- c) Collection of solid waste shall be done in a manner that prevents damage to the container and spillage or scattering of solid waste within the collection vicinity.
- d) The equipment used in the collection and transportation of solid waste (or materials which have been separated for the purpose of recycling) shall be constructed, operated and maintained in such a manner as to minimize health and safety hazards to solid waste management personnel and the public.
- e) Equipment shall be maintained in good condition and kept clean to prevent the propagation or attraction of vectors and the creation of nuisances.

- f) The use of separate collection schedules and/or separate trucks or haulers shall be required for specific types of wastes. Otherwise, vehicles used for the collection and transport of solid wastes shall have the appropriate compartments to facilitate efficient storing of sorted wastes while in transit. The waste compartment shall have a cover to ensure the containment of solid wastes while in transit.
- g) Vehicles shall be designed to consider road size, condition and capacity to ensure the safe and efficient collection and transport of solid wastes.
- h) For the purpose of identification, vehicles shall bear the body number, the name, and telephone number of the contractor/agency collecting solid waste.

Section 2. Minimum Requirements for Establishing and Operating Transfer Stations

Transfer stations shall be designed and operated for efficient waste handling capacity and in compliance with environmental standards and guidelines set pursuant to the Act, these IRRs and other regulations. In addition the design and operation of transfer stations shall conform to the following standards and criteria:

- a) Leachate and Drainage Control – Facilities shall be designed such that waste shall not come into contact with run-off and to prevent the generation of leachate.
- b) Provisions for vector, odor, litter and dust control shall be included.
- c) The siting of the transfer station shall consider the land use plan, proximity of collection area, and accessibility of haul routes to disposal facility. The design shall give primary consideration to size and space sufficiency in order to

accommodate the storage of waste, and vehicles for the loading and unloading of wastes.

- d) The following records shall be kept and maintained, such records shall be submitted to the Department upon request:
 - 1. Record of daily weights or volumes of waste received and transferred accurate to within ten percent (10%) and adequate for overall planning purposes and tracking of waste volumes
 - 2. Daily logbook or file of the following information shall be maintained: fires, special occurrences, unauthorized loads, injury and property damage
- e) Waste shall be removed from the transfer station within twenty-four (24) hours of its receipt.

RULE XI. MATERIALS RECOVERY FACILITIES AND COMPOSTING

Section 1. Operations of a Materials Recovery Facility

Barangays shall be responsible for the collection, segregation, recycling of biodegradable, recyclable, compostable and reusable wastes. MRFs will be established in every barangay or cluster of barangays.

The facility shall be established in a barangay-owned or leased land or any suitable open space to be determined by the barangay through its Sanggunian. For this purpose, the barangay or cluster of barangays shall allocate a certain parcel of land for the MRF. The determination of site and actual establishment of the facility shall likewise be subject.

The MRF shall receive biodegradable wastes for composting and mixed non-biodegradable wastes for final segregation, re-use and

recycling. Provided, that each type of mixed waste is collected from the source and transported to the MRF in separate containers.

The resulting residual wastes shall then be transferred to a long-term storage or disposal facility or sanitary landfill.

Materials recovery facilities shall be designed to receive, sort, process and store compostable and recyclable material efficiently and in an environmentally sound manner. The facility shall address the following considerations:

- a) The building and/or land layout and equipment must be designed to accommodate efficient and safe materials processing, movement and storage;
- b) The building must be designed to allow efficient and safe external access and to accommodate internal flow;
- c) If the MRF includes a composting operation, it shall comply with the provisions of Section 2 and of Rule XI of this IRR applicable to composting and composts;
- d) The following records shall be kept and maintained, such records shall be submitted to the Department upon request:
 - 1) Record of daily weights or volumes of waste received, processed and removed from site accurate to within ten percent (10%) and adequate for overall planning purposes and tracking of success of waste diversion goals; and
 - 2) Daily logbook or file of the following information shall be maintained: fire, special occurrences, unauthorized loads, injury and property damage

Section 2. Guidelines for Compost Quality

Organic fertilizers derived from compost and intended to be distributed commercially shall conform with the standards for organic fertilizers set by the Fertilizer and Pesticide Authority of the Department of Agriculture. Compost products intended for

commercial or non-commercial distribution shall be free from hazardous/toxic constituent above permissible levels, and shall be tested for such constituents using the Toxicity Characteristic Leaching Procedure (TCLP) test method developed by the United States Environmental Protection Agency (USEPA).

Section 3. Inventory of Markets for Composts

Within six (6) months after the effectivity of this Act, the DA shall publish an inventory of existing markets and demands for composts. Said inventory shall thereafter be updated and published annually: Provided that composting of agricultural wastes, and other compostable materials, including but not limited to garden wastes, shall be encouraged.

Section 4. Minimum Requisites for Operating Composting Facilities

Composting facilities shall conform to the following siting, design and operating standards and criteria:

- a) The Facility shall not be sited in areas subject to frequent flooding, unless engineering controls are provided in the design to prevent inundation of the facility.
- b) Leachate and Drainage Control
 1. Facilities shall be designed such that compost piles, windrows, residues and processed material will not come in contact with surface storm run-off.
 2. Where excess leachate storage is provided, discharge of leachate into any body of water is prohibited unless such discharge meets the limits prescribed by the DENR standards for effluents. Where leachate needs to be stored, it shall comply with the provisions of Section 1(k) of Rule XIV of this IRR. Provisions shall be made such that

leachate is re-circulated back into compost piles or windrows as much as possible.

- c) Provisions for vector, odor, litter and dust control shall be included
- d) Records keeping shall be maintained at all times in accordance with Section 2(b) of Rule XIV of this IRR.
- e) Residues shall be managed as solid waste and shall be disposed of as such.
- f) Temperatures of compost piles, curing piles and processed composts shall be maintained in safe levels to prevent spontaneous combustion.
- g) Aerobic conditions shall be maintained to prevent creation of dangerous gases such as methane.

Provided that, individual household backyard composting shall be exempted from the provisions of Section.

All technical reports, technical documents, plans and specifications pertaining to the engineering of the facility and other waste management facilities shall be certified based on EMB requirements.

RULE XII. IMPLEMENTING A RECYCLING PROGRAM

Section 1. Formulating a Recycling Program (Eco-labeling, Reclamation, Buy Back Mechanism)

The DTI shall, in cooperation with the Department, DILG/LGUs, sectors practicing recycling and other concerned agencies, shall undertake a study of existing markets for processing and purchasing recyclable materials, and the potential steps necessary to expand these markets.

When developing the market for recycled goods, an investigation of markets should be made for each recyclable material, as defined in the Act, by the Commission, DTI, DOF and the NEC, and should include at a minimum:

- a) identifying potential purchasers of the recovered material through standard market research techniques;
- b) directly contacting buyers and determining the buyers quality specifications, potential transportation agreements and any minimum quantity criteria.

All information from the investigation of markets, including a list of prospective buyers of recycled products, and a list of procedures, standards and strategies to market recyclable materials and develop local markets, shall be easily accessible by the public, through the solid waste management information database, formulated by the National Ecology Center.

Section 2. Environmentally Preferable Purchasing

The Commission, DTI, DOF, NPS and the NEC, shall encourage national and local governments to purchase environmentally preferable products and services.

All government personnel shall seek to reduce the environmental damages associated with their purchases by increasing their acquisition of environmentally preferable products and services to the extent feasible, consistent with price, performance, availability and safety considerations.

Responsibility for environmentally preferable purchasing shall be shared among the program, acquisition and procurement personnel of government agencies.

The principles of pollution prevention, life cycle perspective/multiple environmental attributes, comparison of environmental impacts – recovery time and geographic scale, differences among competing products’ environmental

performance and human health shall all be considered in environmentally preferable purchasing.

Section 3. Specifications, Product Descriptions and Standards

It shall be the responsibility of the DTI to conduct a study into product standards for recyclable and recycled materials. Such a study shall consider and include, through not be limited to any existing standards on recycled and recyclable products and existing international practices. In the formulation of such a study, DTI shall consult with affected industries and other concerned agencies; provided that, the results of such a study and any subsequent guidelines or standards formulated, shall be easily accessible to the public through the NEC database.

Section 4. Eco-labeling

The Department of Trade and Industry – Bureau of Product Standards (DTI-BPS) shall formulate and implement a coding system for packaging materials and products to facilitate waste recycling and re-use. The coding system shall initially be based on ISO 14020 series standards, particularly, ISO standard 14024, “Environmental Labeling – Practitioner Programs – Guiding Principles, Practices and Certification Procedures of Multiple Criteria (type 1) Programs’, with criteria to be determined on the basis of life cycle assessment of the product group.

The criteria shall be regularly reviewed to ensure their appropriateness and currency in light of scientific and technical progress, and of the experience gained in this area, and to ensure consistency with relevant, internationally recognized standards.

DTI shall clarify the principles for establishing the effectivity level of the eco-label, in order to facilitate consistent and effective implementation of the scheme.

The eco-label shall include simple, accurate, non-deceptive and scientifically based information on the key environmental aspects which are considered in the award of the label in order to enable consumers to make informed choices. Provided DTI shall make relevant information about the attributes of the products available to purchasers, and that information on the process and methodologies used in the eco-labeling process, shall be available to all interested parties.

Section 5. Non-Environmentally Acceptable Products

The Commission should decide which products or packaging are non-environmentally acceptable. Provided, that this criteria is regularly reviewed to ensure its appropriateness and currency, in light of scientific and technical progress, and of the experience gained in this area.

Prohibiting non-environmentally acceptable products, any decision to prohibit certain packaging types and products must be supported by available scientific, environmental, technical and economic information and technical studies through, but not limited to life cycle assessment and economic analysis. Provided that the Commission consults representatives from affected industries and subject to public notice and hearing.

Further, in making such decisions, the Commission shall make every effort to reach agreement by consensus. If all efforts at consensus have been exhausted, and no agreement reached, such decisions shall, as a last resort, be adopted by a two-thirds majority vote of the Commission.

Based on the assessments made, the Commission may decide:

- a) which products should be added to or removed from the list of non-environmentally acceptable products;
- b) the mechanism, scope and timing of the control measures that should apply to those products;

- c) possible alternatives to controlled products as defined in RA 6969;
- d) costs and benefits of relevant control strategies; and
- e) the specific measures to be undertaken to comply with Section 29 of the Act.

The list on non-environmentally acceptable products shall be made available to the public through the solid waste management information database.

Prior to each annual revision and update of the list of non-environmentally acceptable products, the Commission shall seek information from the appropriate experts qualified in the fields mentioned and in any other field deemed necessary to the revision. Notice of the updated list will also be given to the public and affected industries and at least 60 days shall be allocated for comment of the public and affected industries. Any written comments may be submitted to the Commission.

Provided, the list of non-environmentally acceptable products and the schedule for their phase-out, shall be included in the solid waste management information database, formulated by the National Ecology Center.

Section 6. Reclamation Programs and Buy-back Centers

The NEC shall assist LGUs in establishing and implementing deposit or reclamation programs in coordination with manufacturers, recyclers and generators to provide separate collection systems or convenient drop-off locations for recyclable materials and particularly for separated toxic components of the waste stream like dry cell batteries and tires to ensure that they are not incinerated or disposed of in landfill.

In assisting LGUs in the establishment of buyback centers and reclamation programs, the NEC shall conduct a detailed study on feasible reclamation programs and buyback centers. The NEC shall also assist in implementing such programs and centers, by

cooperating with respective LGUs in the formulation of related ordinances.

RULE XIII OPERATIONS OF CONTROLLED DUMPSITES

Section 1. Controlling the Operation of Open Dumpsites

No open dumpsites shall be established and operated by any person or entities, including the LGUs, will be allowed. Within three (3) years following the effectivity of the Act, all open dumpsites shall be converted to controlled dumpsites to operate only within five (5) years and beyond the said period shall consider these facilities as deemed closed and phased out. The Commission through the Department shall issue subsequent guidelines that will classify controlled dumpsites according to the following considerations:

- a) Volume of wastes received;
- b) Types and character of wastes received; and
- c) Cost requirements for operating the facilities.

Section 2. Minimum Requirements for Operation of Controlled Dumpsites

The following minimum requirements shall be applied in siting, designing and operation of controlled dumpsites:

- a) Daily cover consisting of inert materials or soil of at least 6 inches in thickness shall be applied at the end of the working day; where there is a lack of onsite soil material, other alternative materials may be used subject to the prior written approval of the enforcement authority and the Department;
- b) Drainage and runoff control shall be designed and managed such that storm water does not come in contact with waste and that discharge of sediments into the receiving body of water is minimized. Appropriate erosion protection shall be installed at storm discharge outfalls;

- c) Provision for aerobic and anaerobic decomposition shall be instituted to control odor;
- d) Working areas shall be minimized and kept at no more than a ratio of 1.5 square meter (sqm) or less per ton/day (tpd) of waste received on a daily basis, e.g. 30 sqm working area for a 20 tpd facility;
- e) Security fencing shall be provided to prevent illegal entries, trespassing and large animal entries. Large animals shall include but not limited to adult domesticated or feral animals such as dogs, cats, cattle, pigs, carabaos and horses. Provisions for litter control including the use of litter fences and daily picking of litter shall be included;
- f) Basic record keeping including volume of waste received daily, special occurrences such as fires, accidents, spills, unauthorized loads (maintain record of unauthorized and rejected loads, name and address of hauler and generator of such unauthorized waste), and daily waste inspection logs;
- g) Provision of maintained all-weather access roads;
- h) Controlled waste picking and trading, if allowed by owner/operator, in order to facilitate daily covering and compliance to Subsections (a) through (e) above;
- i) Provision of at least 0.60 m final soil cover at closure, and post-closure maintenance of cover, drainage and vegetation; Post-closure maintenance shall be for a period of ten (10) years;
- j) Site shall not be located in flood plains and areas subject to periodic flooding and it shall be hydro-geologically suitable, i.e., adequate separation or clearance between waste and underlying groundwater and any surface body of water shall be provided. Engineering controls shall be provided otherwise.

- k) Open dumpsites that do not comply with siting requirements of this Section shall be closed immediately. A replacement facility shall be, at a minimum, a controlled dump and shall meet the requirements of Rule XIII, and other applicable provisions of the IRR

RULE XIV OPERATIONS OF SANITARY LANDFILLS

Section 1. Minimum Considerations for Siting and Designing Sanitary Landfills

The following guidelines, standards and criteria shall be applied in siting and designing sanitary landfills:

- a) The location of the facility shall be consistent with the overall land use plan of the LGU.
- b) The site shall be accessible from major roadways and thoroughfares, provided that if it is not accessible, the project design shall include means of access.
- c) The site shall have an adequate quantity of earth cover material that is easily handled and compacted; as an alternative, an offsite guaranteed source of cover material shall be identified.
- d) If the site is located within two (2) kilometers of an airport runway, it shall not pose a bird hazard to aircraft. The Owner/Operator shall institute a bird control program so as to prevent hazards to aircraft if bird population becomes significant due to the operation of the landfill. The site shall comply with other requirements for safety of flying aircraft in terms of height of structures, such as provisions for obstruction lights, if required.
- e) Locations of public water supply intakes located within one (1) kilometer from the facility, including active public drinking water supply wells, shall be shown on a facility map.

- f) The facility shall not be constructed within 75 meters from a Holocene fault or known recent active fault.
- g) If significant archaeological and cultural resources are present at the site, such resources shall be protected and preserved.
- h) If the site is a habitat of listed endangered species, mitigation measures for protection of the species as required by applicable laws shall be included in the project proposal.
- i) The site shall be chosen with regard to the sensitivities of the community's residents. The Sangguniang Bayan/Lungsod of the host LGU shall adopt a resolution confirming compliance with the pertinent siting, design criteria and standards. The resolution shall be deemed as having fully satisfied the public sensitivity requirement of this section.
- j) Except as provided by Section (m) of Rule XIV, for landfills located in sensitive resources areas, landfills shall be provided with a base liner system consisting of clay and/or geosynthetic membranes (geomembrane). If clay is used, it shall have a minimum thickness of 0.75m and permeability of 1×10^{-6} cm/sec or less. Geomembranes shall be at least 1.5 mm thick with a permeability of 1×10^{-14} cm/sec or less; Geosynthetic Clay Liners (GCL) shall have a thickness of at least 64 mm and a permeability of 1×10^{-9} cm/sec or less. If composite liner is used (clay under geo-membrane), the thickness of the clay liner may be reduced to 0.60 m. The overlying geomembrane shall have the same properties as stated above. In the design of geosynthetic liners, international standards (e.g. Geosynthetic Research Institute, or applicable ASTM standards) shall be used for its design and specifications in terms of properties, manufacturing and construction quality assurance and testing procedures.
- k) Leachate collection and removal system shall be provided and designed such that leachate buildup in the landfill will be minimized. For design purposes, an allowable leachate level of

not more than 0.60 meter over the liner system shall be maintained. If leachate is discharged to a receiving body of water, the discharge shall meet effluent discharge and water quality criteria prescribed by DENR.

- l) Leachate storage facilities shall be designed with containment systems to prevent leachate from spillage and its migration into underlying groundwater or nearby surface body of water. For leachate impoundment ponds, the design shall include a geomembrane liner system, underlain by a low permeability soil layer of at least 0.30 m thick. The geomembrane liner shall be at least 1.5 mm thick with a permeability of 1×10^{-14} cm/sec or less; Liner specifications, CQA and engineering certification requirements shall be per provisions of Section 1m of Rule XIV. Adequate freeboard including allowance for rainfall volume and other safeguards shall be provided to prevent pond overflowing.

- m) The site shall be located in an area where the landfill's operation will not detrimentally affect environmentally sensitive resources such as aquifers, groundwater reservoir or watershed area, by provision of the following special mitigation measures and additional criteria:
 1. The facility shall be a minimum 50 meters away from any perennial stream, lake or river.
 2. The site shall be evaluated for presence of geologic hazards, faults, unstable soils, its foundation stability, and its hydrogeologic character. The site shall not be located in a floodplain.
 3. It shall be provided with a composite base liner system consisting of a minimum 1.5 millimeter (mm) thick high density polyethylene liner (HDPE) underlain by a soil liner with a minimum thickness to 0.60 meter (m) and maximum permeability of 1×10^{-6} centimeter/second (cm/sec).
 4. A Geosynthetic Clay Liner (GCL) with a minimum thickness of 6.4 mm and permeability of 1×10^{-9} cm/sec or less, may be substituted for the soil liner. Likewise, the

design of the final cap shall be equivalent to its liner system in terms of permeability. The thickness of the final cover system shall be at least 1.5 m including a minimum 0.60 m thick soil foundation layer, its final cap, a drainage layer, and a vegetative layer of at least 0.30 m thick. If the thickness of the equivalent final cap makes the entire cover system less than 1.5 m thick, the deficiency shall be made up by increasing the thickness of the foundation layer.

5. Strict liner and final cap construction quality assurance (CQA) and testing shall be performed by a third party experienced in earthwork, clay and geosynthetic liner installation, quality assurance supervision, testing and inspection. The lead CQA person, as a minimum qualification or experience, must have supervised the installation of at least 100,000 square meters each of clay and geosynthetic liner system; the CQA person or firm shall submit a construction completion report within 60 days of liner or final cap construction completion to the Department, certifying that construction of each liner system was performed and completed in accordance with its plans and specifications. The CQA report shall be certified by a registered Civil or Geotechnical Engineer or other registered Engineer, provided that the certifying Engineer shall have at least designed or supervised the installation of soil and geosynthetic liners of quantities similar to those of the lead CQA person.
- n) The design of the landfill shall be statistically stable and shall be able to withstand the effects of a ground acceleration generated by an earthquake of 100-year or more recurrence interval.
 - o) A separation of at least two (2.0) meters shall be maintained between the top of the liner system and underlying groundwater.
 - p) A temporary impoundment for drainage runoff shall be provided with a detention time sufficient for sediment removal and/or reduction, prior to its discharge.

- q) The site shall be large enough to accommodate the community's waste for a period of five (5) years or more during which people must internalize the value of environmentally sound and sustainable waste disposal.
- r) The site chosen shall facilitate developing a landfill that will satisfy budgetary constraints, including site development, operation for many years, closure and post-closure care and possible remediation costs.
- s) Operating plans shall include provisions for coordinating with recycling and resource recovery projects.
- t) Designation of a separate containment area for household hazardous wastes.
- u) A gas control system shall be provided when the volume of waste in the landfill has reached 0.5 million metric tons. The owner/operator shall consider recovery and conversion of methane gas into usable energy if economically viable. Prior to installation of gas control facilities, perimeter boundary gas monitoring shall be performed in accordance with Section 2(b) of Rule XIV.
- v) Groundwater monitoring wells shall be placed at appropriate locations and depth for taking water samples that are representative of groundwater quality and for predicting groundwater flow.
- w) Cover shall consist of a daily soil cover at least 6 inches in thickness applied at the end of each workday. Alternative Daily Cover (ADC), maybe used provided that the owner/operator can demonstrate to the Department in writing, the equivalency of the proposed ADC in controlling infiltration, vector, odor and litter based on technical research or studies. In areas within the landfill that will not be used for at least 180 days, an additional interim soil cover of 6 inches thick shall be placed over the existing daily cover. The final

cover shall consist of, from bottom to top, the foundation layer (consisting of 0.60m thick soil layer including interim cover), a final cap with an equivalent permeability as that of its liner system. A drainage layer and a vegetative layer. Installation of final cover shall be completed within six (6) months from the last receipt of waste.

- x) Closure of the landfill shall be completed within one year of cessation of landfill operation.
- y) Post-closure care shall be for a period of fifteen (15) years. DENR shall establish post-closure guidelines and requirements for financial assurance mechanisms within one year.
- z) Small facility exemption from specific standards of this Section. The DENR will establish criteria for exemption within one (1) year from approval of the IRR.
- aa) All technical reports, technical documents, plans and specifications pertaining to the engineering of the facility shall be certified and sealed by a licensed Engineer with relevant experience and expertise.

Section 2. Minimum Considerations for Operating Sanitary Landfills

In the operation of sanitary landfills, each site operator shall maintain the following minimum operating requirements:

- a) Disposal site records of, but not limited to:
 - 1. Records of weights or volumes accepted in a form and manner approved by the Department. Such records shall be submitted to the Department upon request, accurate to within ten percent (10%) and adequate for overall planning purposes and forecasting the rate of site filling;

2. Records of excavations which may affect the safe and proper operation of the site or cause damage to adjoining properties;
 3. Daily logbook or file of the following information: fire, landslides, earthquake damage, unusual and sudden settlement, injury and property damage, accidents, explosions, receipt or rejection of non-permitted wastes, flooding and other unusual occurrences;
 4. Record of personnel training; and
 5. Copy of written notification to the Department, local health agency, and fire authority of names, addresses and telephone numbers of the operator or responsible party of the site.
- b) Water quality monitoring of surface and ground waters and effluent, and gas emissions shall be performed in frequencies prescribed by the Department on a project by project basis; Parameters for groundwater, effluent and surface waters shall be as prescribed by the Department in the facility's permit. For landfills sited under Section 1m of Rule XIV of this IRR, groundwater, perimeter gas monitoring and receiving surface water monitoring shall be on a quarterly basis and treated leachate effluent discharge shall be monitored for pH, 5-day Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS) concentrations on a weekly basis or when discharged if discharge is not on a daily basis, and shall not exceed limits prescribed by the Department according to the classification of the receiving body of water. Other parameters to be monitored and their respective frequencies shall be in accordance with the facility's permit. Owners/Operators of Section 1m of Rule XIV facilities shall submit monitoring and inspection reports on a quarterly basis to the designated enforcement authority with a copy furnished to the Department and other relevant agencies. The report shall be certified as to its correctness and accuracy by the owner/operator or his designated (in writing) representative. For other facilities, reporting frequencies shall be specified by the Department but

in no case will it be more frequent than quarterly basis unless the facility is in a state of verification/assessment monitoring.

- c) Groundwater Sampling Protocol – The DENR shall establish requirements and guidelines within one year from approval of this IRR.
- d) Background Groundwater Quality Monitoring Statistical Data Evaluation and Establishment of Concentration Limits for Contaminant Indicators – The DENR shall establish requirements and guidelines within one year from approval of IRR.
- e) Detection Groundwater Monitoring Data Statistical Analysis, Verification Monitoring – The DENR shall establish requirements and guidelines within one year from approval of IRR.
- f) Assessment Monitoring and Corrective Action – The DENR shall establish requirements and guidelines within one year from approval of IRR.
- g) Documentation of approvals, all reports, certification, plans and specifications, as built drawings, determinations and other requirements by the Department and other pertinent and relevant documents shall be kept in the facility's operating record.
- h) Signs:
 - 1. Each point of access from a public road shall be posted with an easily visible sign indicating the facility name and other pertinent information as required by the Department;
 - 2. If the site is open to the public, there shall be an easily visible sign at the primary entrance of the site indicating the name of the site operator, the operator's telephone number and hours of operation; and easily visible sign at an appropriate point shall indicate the schedule of charges and

the general types of materials which will be accepted or not;

3. If the site is open to the public, there shall be an easily visible road sign and/or traffic control measures which direct traffic to the active face and other areas where wastes or recyclable materials will be deposited; and
 4. Additional signs and/or measures may be required at a disposal site by the Department to protect personnel and public health and safety.
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- i) The site shall be designed to discourage unauthorized access by persons and vehicles by using a perimeter barrier or topographic constraints. Areas within the site where open storage or ponding of hazardous materials occurs shall be separately fenced or otherwise secured as determined by the Department. The Department may also require that other areas of the site to be fenced to create an appropriate level of security.
 - j) Roads within the permitted facility boundary shall be designed to minimize the generation of dust and the tracking of materials onto adjacent public roads. Such roads shall be kept in safe condition and maintained such that vehicle access and unloading can be conducted during inclement weather.
 - k) Sanitary facilities consisting of adequate number of toilets and handwashing facilities shall be available to personnel at or in the immediate vicinity of the site.
 - l) Safe and adequate drinking water supply for the site personnel shall be available.
 - m) The site shall have communication facilities available to site personnel to allow quick response to emergencies.
 - n) Where operations are conducted during hours of darkness, the site and/or equipment shall be equipped with adequate lighting

as approved by the Department to ensure safety and to monitor the effectiveness of operations.

- o) Operating and maintenance personnel shall wear and use appropriate safety equipment as required by the Department.
- p) Personnel assigned to operate the site shall be adequately trained in subject pertinent to the site operation and maintenance, hazardous materials recognition and screening and heavy equipment operations, with emphasis on safety, health, environmental controls and emergency procedures. A record of such training shall be placed in the operating record.
- q) The site operator shall provide adequate supervision of a sufficient number of qualified personnel to ensure proper operation of the site in compliance with all applicable laws, regulations, permit conditions and other requirements. The operator shall notify the Department and local health agency in writing of the names, addresses, and telephone number of the operator or responsible party. A copy of the written notification shall be placed in the operating record.
- r) Any disposal site open to the public shall have an attendant present during public operating hours or the site shall be inspected by the operator on a regularly scheduled basis, as determined by the Department.
- s) Unloading of solid wastes shall be confined to a small area as possible to accommodate the number of vehicles using the area without resulting in traffic, personnel, or public safety hazards. Waste materials shall normally be deposited at the toe of the fill, or as otherwise approved by the Department. For practical purposes, a working area shall be limited to 1.5 square meter or less per ton/day (tpd) of waste received on a daily basis, e.g. 30 sqm working area for a 20 tpd facility.
- t) Solid waste shall be spread and compacted in layers with repeated passages of the landfill equipment to minimize voids

within the cell and maximize compaction. The loose layer shall not exceed a depth approximately 0.60 m or two feet before compaction. Spreading and compacting shall be accomplished as rapidly as practicable, unless otherwise approved by the Department.

- u) Covered surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding. Grades shall be established of sufficient slopes to accost for future settlement of the fill surface. Other effective maintenance methods may be allowed by the Department.
- v) Cover material or native material unsuitable for cover, stockpiled on the site for use or removal, shall be placed so as not to cause problems or interfere with unloading, spreading, compacting, access, safety, drainage or other operations.

PART IV SOLID WASTE MANAGEMENT FINANCING, INCENTIVES AND COST RECOVERY

RULE XV. FINANCING OF SOLID WASTE MANAGEMENT INITIATIVES

Section 1. National Solid Waste Management Fund

There is hereby established a National Solid Waste Management Fund (SWMF), also known as the Fund which shall be a special account in the National Treasury, and administered by the Commission. The fund shall be a catalytic fund which shall initiate bigger and wider SWM engagements in the future. LGUs may avail of the Fund and accordingly, the Commission shall develop the scheme or guidelines for the Fund administration. Reporting on the status of such Fund shall be transparent and shall be annually published by the Commission in collaboration with the Commission on Audit, four (4) months after the end of each fiscal year.

Section 2. Sources and Use of the National SWM Fund

The Fund shall be sourced from the following:

- a) Donations, endowments, grants and contributions from domestic and foreign sources.
- b) Amounts specifically appropriated for the Fund under the annual General Appropriations Act.
- c) Fines collected under Sec. 49 of the Act shall be allocated based on a sharing scheme between the Fund and the LGU concerned which shall be formulated by the Commission.

The Fund shall be used to support endeavors, which enhance the implementation of the Act. These shall include activities on the following:

- a) Products, facilities, technologies and processes to enhance proper solid waste management
- b) Awards
- c) Incentives
- d) Research programs
- e) Information, education, communication and monitoring activities
- f) Technical assistance
- g) Capability building activities

Section 3. Criteria for Availing the National SWM Fund

Subject to the availability of funds, the Fund may be made available to the SWM project/activities of LGUs on the basis of a set of criteria formulated through a consultative process, duly published and copied to all LGUs. Such criteria shall be reviewed and updated as necessary. Henceforth, the criteria for availment of the Fund shall include but not be limited to the list as follows:

- a) The SWM Plan of the proponent LGU from which the project/activity was designed has been duly approved by the Commission.

- b) Funding request for project/activity does not exceed PHP1,500,000; provided however, the Commission Secretariat shall review the funding level every three years. Only one (1) project/activity per LGU shall be eligible for support.
- c) Project/activity types under the following categories shall be considered:
 - 1. SWM projects which shall catalyze investment from the private sector and/or other investors
 - 2. Innovative SWM approaches
 - 3. Prototyping SWM models
- d) The LGU may avail of the SWM Fund once in every three (3) years, but not for the same project/activity
- e) The LGU does not have another outside fund source for SWM tasks.
- f) The LGU is committed to put in counterpart funds, the computation of which shall be provided by the Commission Secretariat per LGU classification.
- g) The process for Fund availment is completed.

Section 4. Process for Availing the National SWM Fund

The Commission through the Secretariat shall prescribe a simple procedure and proforma for fund application. The Commission shall strive for a decentralized system of accepting, appraising and approving of proposals. Furthermore, report proforma as well as procedures for the handling of government fund shall be provided by the Commission. In general, the availment process shall start from the submission of a project/activity concept drawn from the SWM plan. Once the concept proposal is approved, the LGU shall submit a detailed version of the proposal for review and final decision by the Commission. Subject to a more detailed

procedural guideline to be issued by the Commission the general process is described in Appendix B of these IRR.

In no case shall the Fund be used for the creation of positions or payment of salaries and wages.

Section 5. Establishment of Local SWM Fund

Barangay councils may issue council resolutions to establish ordinances for the creation of a Local Solid Waste Management Fund (also known as the Local Fund), pursuant to the relevant provisions of RA 7160. Funds for the Local fund shall be derived from the LGU collection of fines. The ordinance may vest authority in the Local SWM Board of every LGU to administer the Local Fund as a special account of the LGU, and to develop pertinent guidelines on the management of the Local Fund.

In the case of clustered LGUs, a governing Memorandum of Agreement of the cluster may be created in addition to ordinances, stipulating that the Local SWM Cluster Board shall administer the Local Fund. Moreover, stipulating that the Local SWM Cluster Board shall develop schemes to sustain the Local Fund including resource generating ventures and placing appropriate monies as Trust.

The ordinance may stipulate that reporting on the status of the Local Fund be transparent and that a report be issued annually, to the Commission or other relevant authority, by the LGU in collaboration with the Commission on Audit four (4) months after the end of each fiscal year. The Local SWM Cluster Board may conduct the same process of reporting. Further, the ordinance may include, however, shall not be limited to the following provisions:

Section 6. Sources and Use of the Local SWM Fund

Funds that will constitute the Local SWM Fund can be sourced from the following:

- a) Donations, endowments, grants and contributions from domestic and foreign sources.
- b) LGU allocation of fines collected.
- c) Fees collected from provision of solid waste services such as collection, recycling, and transport among others.
- d) Sub-contracting fees including management, transport and others, as stipulated in the contract or Memorandum of Agreement as in the case of private sector's and civil society's engagement of SWM services, respectively.
- e) LGU may allocate fund from the 20% Development Fund for waste management.

The Local Fund may be used to support endeavors, which enhance the implementation of the Act. These may include activities/projects on the following:

- a) Products, facilities, technologies and processes to enhance proper solid waste management
- b) Research activities
- c) Information, education, communication and monitoring activities
- d) Capability building activities

Section 7. Criteria for Accessing the Local Fund

- a) The proposed project/activity be based on the approved SWM Plan(s) of the LGU or the cluster of LGUs.
- b) The level of funding request for a project/activity shall be determined by the Local SWM Board/Local SWM Cluster Board. Only one (1) project per LGU, private sector or civil society group in a locality, respectively, shall be eligible for support.
- c) Project/activity types under the following categories may be considered:
 1. SWM projects which catalyze investment from the private sector and/or other investors

2. Innovative SWM approaches
 3. Prototyping SWM models
- d) A proponent may avail of the Local Fund once in every three (3) years, however, not for the same project/activity. Private sector and civil society groups shall be accredited by the Local SWM Board/Local SWM Cluster Board, and the process shall be defined by the respective boards.
 - e) The process for the availment of funds be completed.

Section 8. Process for Availing the Local Fund

The Local SWM Board/Local SWM Cluster Board shall prescribe a simple procedure and proforma for fund application. An efficient system of accepting, appraising and approving of proposals shall be established by the respective boards. Furthermore, report proforma as well as procedures for the handling of government funds, shall be provided by the boards. In general, the availment process shall start from the submission of a project/activity concept drawn from the SWM plan. Once the concept proposal is approved, the proponent shall submit a detailed version of the proposal for review and final decision by the board. Subject to a detailed guideline which the respective Local SWM Boards will promulgate, the general process is described in Appendix C.

In no case shall the Community Fund be used for the creation of positions or payment of salaries.

RULE XVI INCENTIVES

Section 1. Incentives

Incentives shall be provided for the purpose of encouraging LGUs, enterprises, private sector and civil society to develop or undertake socially acceptable, effective and efficient solid waste management, and/or to actively participate in any program for the

promotion thereof, as provided for in the Act, and these IRRs. The incentives may be fiscal including duties, taxes, interest rates or non-fiscal, including simplified bureaucratic procedures and reduced paper requirements.

- a) Rewards - shall be provided to LGUs, individuals, private organizations and entities, including non-government organizations, that have undertaken outstanding and innovative projects, technologies, processes and techniques or activities in re-use, recycling and reduction. The reward shall be appropriately sourced from the Fund.

A set of standards for innovativeness, proactivity, exemplary and outstanding SWM endeavors shall be formulated by the Commission and localized by the Local SWM Boards. There may be a variety of criteria for granting rewards, including though not limited to, the following categories:

1. For LGUs who initiate policy reform on SWM, principally by including co-management and the decentralization of authority to conceptualize, support and implement SWM development projects.
2. For LGUs using methodologies which substantively reduce the generation of wastes and which thereby exceed the 25% waste diversion goal.
3. For LGUs with comprehensive SWM prototypes which have undergone professional evaluation as matured models on SWM with complete coverage on the sustainable development requisites like the social, economic, cultural, political, technological, institutional and ecological dimensions.
4. For LGUs using alternative indigenous processes, materials, technologies and approaches which have been exhaustively screened for social acceptability, efficiency and effectivity.
5. For LGUs hosting SWM facilities. The Commission shall promulgate within one (1) year following the effectivity of these IRR specific guidelines that will provide specific

incentives, aside from giving grants and other financial assistance packages, to LGUs hosting or offering to host SWM facilities. The principle by which this package of incentive is designed resolves round the recognition of paying for the access granted to the present and future use of resources that are within the localities. The set of incentives may include, among others, targeting subsidies for specific use of resources like water and power; plowing back certain percentage of the profits generated from the facility to support development initiatives of the LGUs or payment of royalties for continued operation of the facilities. The Commission shall task DENR to undertake a study that will look into the specific aspects of these incentives and present to the public within a year the results of the said study.

The rewards may be monetized or non-monetized depending on the valuation of the awarding body, in this case, the Commission and Local SWM Boards. The manner of selection for the awardees shall be transparent and public.

- b) Grants -Under the Fund, the provinces, cities and municipalities with Commission approved SWM Plans, shall be entitled to receive project/activity grants for a range of SWM endeavors.
- c) Fiscal Incentives - A Committee on Fiscal Incentives for SWM Projects and Initiatives (CFI) may be established by the Commission. Committee members may serve a fixed 3-year term. The CFI may be chaired by the DOF and co-chaired by the DTI, and its members constituted by the chairpersons. The organizational protocol of the committee may be formulated by the committee members, but duly approved by the chair of the Commission. This committee may be responsible for providing the technical basis for the fiscal incentives, design proposals, review and for setting the required standards and processes to avail of these fiscal incentives. The procedures for availment of incentives under EO 226 shall be followed.

Existing Environment-Friendly Establishment. The Commission may provide monetary and non-monetary incentives to existing businesses and industries that have been professionally evaluated to engage in socially acceptable, effective and efficient recycling of wastes. The Commission shall formulate the criteria in awarding these incentives such as:

1. Tax and Duty Exemption on Imported Capital Equipment and Vehicles

Within ten (10) years upon effectivity of this Act, LGUs, enterprises or private entities shall enjoy tax and duty-free importation of machinery, equipment, vehicles and spare parts used for collection and processing of solid wastes. Provided, that the importation of such machinery, equipment, vehicle and spare parts shall comply with the following conditions:

- i. They are not manufactured domestically in sufficient quantity, of comparable quality and at reasonable prices;
- ii. They are reasonably needed and will be used actually, directly and exclusively for the above mentioned activities; and
- iii. The approval of the Board of investment (BOI) of the DTI for the importation of such machinery, equipment, vehicle and spare parts.

Provided further that, the sale, transfer or disposition of such machinery, equipment, vehicle and spare parts, without prior approval of the BOI, within five (5) years from the date of acquisition shall be prohibited, otherwise, the LGU concerned, enterprises or private entities and the vendee, transferee or assignee shall be liable to pay twice the amount of tax and duty exemption given it.

2. Tax Credit on Domestic Capital Equipment

Within ten (10) years from the effectivity of the Act, a tax credit equivalent to 50% of the value of the national internal revenue taxes and customs duties that would have been waived on the machinery, equipment, private entities, including NGOs, subject to the same conditions and prohibition.

3. Tax and Duty Exemption of Donations, Legacies and Gift.

All legacies, gifts and donations to LGUs, enterprises or private entities, including NGOs, for the support and maintenance of the program for socially acceptable, effective and efficient solid waste management shall be exempt from all internal revenue taxes and customs duties, and shall be deductible in full from the gross income of the donor for income tax purposes. The standard procedures for such exemptions are contained in the Tariff and Customs Code, Section 105-106.

4. Financial Assistance Program

Government financial institutions such as the Development Bank of the Philippines (DBP), Landbank of the Philippines (LBP), Philippine National Bank (PNB), Government Service Insurance System (GSIS), and such other government institutions providing financial services shall, in accordance with and to the extent allowed by the enabling provisions of their respective charters or applicable laws, accord high priority to extend financial services to individuals, enterprises, or private entities engaged in solid waste management. These services maybe in the form of, but are not limited to the list as below:

- i. Provision of technical assistance to prospective SWM project proponents
- ii. Special interest rates

- iii. Collateral for loans
 - iv. Grace period of loans
- d) Non-Fiscal Incentives - LGUs/Authorities, enterprises or private entities shall also be entitled to applicable non-fiscal incentives formerly provided for under E.O. 226, otherwise known as the Omnibus Investments Code.

1. Enhanced Procedure for Importation

The Commission shall define a simplified and more efficient process for the importation of equipment, spare parts, new materials and supplies; provided the process is in accordance with the existing custom standards.

2. Enhanced Procedure for Exportation

An enhanced procedure to export locally processed products from SWM projects shall be established by the Commission. Similarly, the Commission shall develop export standards for SWM processed products.

3. Enhanced Certification, Permitting and Licensing Processes

The Commission through the Department shall provide support to SWM projects requiring an ECC. It shall thereby hasten the EIA process by formulating a guideline for the specific procedure of EIA for SWM projects. Similarly, the Local SWM Boards/Local SWM Cluster Boards shall establish simplified and efficient procedure for permitting and licensing functions.

4. Knowledge and Skills Exchange

The Commission, Local SWM Boards and Local SWM Cluster Boards shall provide cross study visits in-country and outside the country, in order to model SWM projects. The travel requirements and process shall be established by

the Commission in accordance with existing governmental procedures.

5. Employment of Foreign Nationals

Pursuant to the relevant provisions of EO 226, procedures for an enhanced processing of the employment of foreign nationals shall be hereafter followed.

- e) Private Sector Participation - Essentially, contractual arrangement is envisaged to be entered into by a Local SWM Board/Local SWM Cluster Board. This provides authority for the private sector to finance, construct, operate and maintain a facility and, in the process, to charge user fees or receive compensation. The Commission shall further define the guidelines for the private sector engagement.

The choice of the participation mode may vary from any of the scheme authorized under the BOT Law, RA 6957, as amended by RA 7718 and its implementing Rules and Regulations or joint venture arrangement allowed under the Local Government Code, RA 7160, as well as other private sector funded arrangements.

The following rights may be bestowed on the private sector proponent:

1. To operate the facility over a fixed period, not to exceed 50 years;
2. To charge facility user fees, tolls, rentals or share in the revenue of the project; and
3. To recover capital, operating and maintenance expenses and earn a reasonable return on investment.

RULE XVII. COST RECOVERY MECAHNISMS

Section 1. Power to Collect Solid Waste Management Fees

The Local SWM Board/Local SWM Cluster Board shall impose fees on the SWM services provided for by the LGU and/or any authorized organization or unit. In determining the amounts of the fees, a Local SWM Board/Local SWM Cluster Board shall include only those costs directly related to the adoption and implementation of the SWM Plan and the setting and collection of the local fees. This power to impose fees may be ceded to the private sector and civil society groups which have been duly accredited by the Local SWM Board/Local SWM Cluster Board; provided, the SWM fees shall be covered by a Contract or Memorandum of Agreement between the respective board and the private sector or civil society group.

The fees shall pay for the costs of preparing, adopting and implementing a SWM Plan prepared pursuant to the Act. Further, the fees shall also be used to pay the actual costs incurred in collecting the local fees and for project sustainability.

Section 2. Basis of SWM Service Fees

Reasonable SWM service fees shall be computed based on but not limited to the following minimum factors:

- a) Types of solid waste to include special waste
- b) amount/volume of waste
- c) distance of the transfer station to the waste management facility
- d) capacity or type of LGU constituency
- e) cost of construction
- f) cost of management
- g) type of technology

Section 3. Collection of Fees

Fees may be collected corresponding to the following levels:

- a) **Barangay** - The Barangay may impose fees for collection and segregation of biodegradable, compostable and reusable wastes from households, commerce, other sources of domestic wastes, and for the use of Barangay MRFs. The computation of the fees shall be established by the respective SWM boards. The manner of collection of the fees shall be dependent on the style of administration of respective Barangay Councils. However, all transactions shall follow the Commission on Audit rules on collection of fees.
- b) **Municipality** - The municipal and city councils may impose fees on the barangay MRFs for the collection and transport of non-recyclable and special wastes and for the disposal of these into the sanitary landfill. The level and procedure for exacting fees shall be defined by the Local SWM Board/Local SWM Cluster Board and supported by LGU ordinances, however, payments shall be consistent with the accounting system of government.
- c) **Private Sector/Civil Society Group** - On the basis of the stipulations of contract or Memorandum of Agreement, the private sector or civil society group shall impose fees for collection, transport and tipping in their SLFs. Receipts and invoices shall be issued to the paying public or to the government.

Section 4. Collection and Retention of Fines

The collection of fines under the penal provisions of the Act may be conducted by the Local SWM Board/Local SWM Cluster Board or any other authorized body. The collection shall be receipted. Alternatively, the Local SWM Board/Local SWM Cluster Board and/or any duly authorized body shall retain the 40% portion of the collected fees from fines and remit 60% of the same to the Fund, as

prescribed herein. Thereafter, the retained percentage is deposited under the Local Fund, the procedure for which shall be defined by the Local SWM Board/Local SWM Cluster Board.

Section 5. Special Account

The Local SWM Board/Local SWM Cluster Board shall establish appropriate special accounts for the fines, fees, donations and other monies collected or generated under the Act and this IRR.

PART V. PROHIBITED ACTS, PENALTIES AND SUITS

RULE XVIII PENAL PROVISIONS

Section 1. Prohibited Acts

The following acts are prohibited:

- a) Littering, throwing, dumping of waste matters in public places, such as roads, sidewalks, canals, esteros or parks, and establishment, or causing or permitting the same;
- b) Undertaking activities or operating, collecting or transporting equipment in violation of sanitation operation and other requirements or permits set forth in or established pursuant to the Act;
- c) The open burning of solid waste;
- d) Causing or permitting the collection of non-segregated or unsorted waste;
- e) Squatting in open dumps and landfills;
- f) Open dumping, burying of biodegradable or non-biodegradable materials in flood-prone areas;
- g) Unauthorized removal of recyclable material intended for collection by authorized persons;
- h) The mixing of source-separated recyclable material with other solid waste in any vehicle, box, container or receptacle used in solid waste collection or disposal;

- i) Establishment or operation of open dumps as enjoined in the Act, or closure of said dumps in violation of Sec. 37 of the Act;
- j) The manufacture, distribution or use of non-environmentally acceptable packaging materials;
- k) Importation of consumer products packaged in non-environmentally acceptable materials;
- l) Importation of toxic wastes misrepresented as “recyclable” or “with recyclable content”;
- m) Transport and dumping in bulk of collected domestic, industrial, commercial and institutional wastes in areas other than centers of facilities prescribed under the Act;
- n) Site preparation, construction, expansion or operation of waste management facilities without an Environmental Compliance Certificate required pursuant to Presidential Decree No. 1586 and the Act and not conforming with the land use plan of the LGU;
- o) The construction of any establishment within two hundred (200) meters from open dump or controlled dumps or sanitary landfills; and
- p) The construction or operation of landfills or any waste disposal facility on any aquifer, groundwater reservoir or watershed area and/or any portion thereof.

The Commission may also issue further guidelines that consider existing and relevant laws and regulations, and which may further define the scope and coverage of the above prohibited acts.

Section 2. Specific Prohibition Against the Use of Open Dumps for Solid Waste.

No open dumps shall be established and operated, nor any practice or disposal of solid waste by any person, including LGUs, which constitutes the use of open dumps for solid waste, be allowed after the effectivity of the Act; Provided, that within three (3) years after the effectivity of the Act, every LGU shall convert its open dumps into controlled dumps; Provided, further, that no controlled dumps shall be allowed five (5) years following effectivity of the Act. In

order to facilitate the Act’s requirement that LGUs convert their open dumps into controlled dumps, the Commission, shall direct the Department in collaboration with DILG, to formulate a staged-compliance program. The staged compliance program shall consider but not be limited to respective LGU classification and abilities to immediately comply with Section 41 of the Act. It shall also establish its base line from the inventory of all open dumpsites in the country, which must be completed not more than three (3) months following effectivity of these Rules and Regulations.

Section 3. Fines and Penalties

The following schedule of fines and penalties shall be imposed, upon conviction:

SPECIFIC VIOLATIONS (under Section 49 of the Act)	FINES	PENALTIES
Paragraph 1. Littering, throwing, dumping of waste matters in public places, such as roads, sidewalks, canals, esteros or parks, and establishment, or causing or permitting the same	Payment in the amounts not less than Three hundred pesos (P300.000) but not more than One thousand pesos (P1,000.00) <u>or</u>	Rendering of community service for not less than one (1) day to not more than fifteen (15) days to an LGU where such prohibited acts are committed <u>or both</u>
Para 2. Undertaking activities or operating, collecting or transporting equipment in violation of sanitation operation and other requirements or permits set forth in or established pursuant to the Act	Payment in the amounts not less than Three hundred pesos (P300.000) but not more than One thousand pesos (P1,000.00) <u>or</u>	Imprisonment of not less than one (1) day to not more than fifteen (15) days <u>or both</u>
Para 3. The open burning of solid waste		

SPECIFIC VIOLATIONS (under Section 49 of the Act)	FINES	PENALTIES
<p>Para 4. Causing or permitting the collection of non-segregated or unsorted waste</p> <p>Para 5. Squatting in open dumps and landfills</p> <p>Para 6. Open dumping, burying of biodegradable or non-biodegradable materials in flood-prone areas</p> <p>Para 7. Unauthorized removal of recyclable material intended for collection by authorized persons</p>	<p>Payment in the amounts not less than One thousand pesos (P1,000.00) but not more than Three thousand pesos (P3,000.00) <u>or</u></p>	<p>Imprisonment of not less than fifteen (15) days to not more than six (6) months <u>or both</u></p>
<p>Para 8. The mixing of source-separated recyclable material with other solid waste in any vehicle, box, container or receptacle used in solid waste collection or disposal</p> <p>Para 9. Establishment or operation of open dumps as enjoined in the Act, or closure of said dumps in violation of Sec. 37 of the Act</p> <p>Para 10. The manufacture, distribution or use of non-environmentally acceptable packaging materials</p> <p>Para 11. Importation of consumer products packaged in non-environmentally acceptable materials</p>	<p>For the first time, shall pay a fine of Five hundred thousand pesos (P500,000.00) plus an amount not less than five percent (5%) but not more than ten percent (10%) of his net annual income during the previous year</p>	<p>The additional penalty of imprisonment of a minimum period of one (1) year, but not to exceed three (3) years at the discretion of the court, shall be imposed for second or subsequent violations of Sec. 48 of the Act, paragraphs (9) and (10)</p>

SPECIFIC VIOLATIONS (under Section 49 of the Act)	FINES	PENALTIES
<p>Para 12. Importation of toxic wastes misrepresented as “recyclable” or “with recyclable content”</p> <p>Para 13. Transport and dumping in bulk of collected domestic, industrial, commercial and institutional wastes in areas other than centers of facilities prescribed under the Act</p>	<p>Payment in the amounts not less than Ten thousand pesos (P10,000.00) but not more than Two hundred thousand pesos (P200,000.00) <u>or</u></p>	<p>Imprisonment of not less than thirty (30) days but not more than three (3) years, <u>or both</u></p>
<p>Para 14. Site preparation, construction, expansion or operation of waste management facilities without an Environmental Compliance Certificate required pursuant to Presidential Decree No. 1586 and the Act and not conforming with the land use plan of the LGU</p> <p>Para 15. The construction of any establishment within two hundred (200) meters from open dump or controlled dumps or sanitary landfills</p> <p>Para 16. The construction or operation of landfills or any waste disposal facility on any aquifer, groundwater reservoir or watershed area and/or any portion thereof.</p>	<p>Payment in the amounts not less than One hundred thousand pesos (P100,000.00) but not more than One million pesos (P1,000,000.00) <u>or</u></p>	<p>Imprisonment of not less than one (1) year but not more than six (6) years, <u>or both</u></p>

If the offense is committed by a corporation, partnership, or other juridical entity duly organized in accordance with law, the chief executive officer, president, general manager, managing partner or

such other officer-in-charge shall be liable for the commission of the offense penalized under the Act.

If the offender is an alien, he shall, after service of the sentence prescribed above, be deported without further administrative proceedings.

The fines herein prescribed shall be increased by at least ten percent (10%) every three (3) years to compensate for inflation and to maintain the deterrent function of such fines.

RULE XIX
ADMINISTRATIVE AND ENFORCEMENT PROCEDURES

Section 1. Proceedings

In the enforcement of the Act and this IRR, both criminal and administrative proceedings may be instituted.

Section 2. Criminal Actions

Violators of Section 48 of the Act shall be subject to criminal proceedings, pursuant to the relevant provisions of the revised rules on criminal procedure.

Section 3. Enforcement Mechanism

The Commission shall define the roles of the Department, other concerned agencies, LGUs and any other agency deemed responsible for the implementation and enforcement of the Act and its IRRs. It shall also promulgate detailed procedures and protocols for such implementation and enforcement of the Act and its IRRs at the Commission and local governmental level.

Section 4. Enforcement at the Local Government Level

LGUs shall be required to legislate appropriate ordinances to aid in the implementation of the Act and in the enforcement of its provisions. Specific measures to implement and enforce Section 48 of the Act should be included; Provided, such ordinances shall be formulated pursuant to relevant provisions of RA 7160; provided further, that the Commission shall aid LGUs in this process particularly by giving advisory assistance. For this purpose, a pro forma ordinance shall be established by the Commission for the guidance of LGUs. However, LGUs shall not be limited to this pro forma nor shall it prejudice any further improvement, modifications and revisions LGUs may chose to undertake of the pro forma.

Section 5. Deputization of Solid Waste Management Officers

The Commission shall be authorized to deputize persons, individuals or entities to be Solid Waste Management Officer, giving them authority to effect the arrest of violators in accordance with the law, for purposes of enforcing and implementing the Act, its IRRs and other rules and regulations governing solid waste management. Provided however, that no person is deputized until they have completed the necessary training and capacity building, required by the NEC, for the effective implementation of the Act and its IRRs.

The deputization shall be upon the recommendations of the Provincial Solid Waste Management Board and City/Municipal Solid Waste Management Boards. The Commission shall deputize only those persons of known integrity and probity, who have completed the aforementioned training and capacity building of the National Ecology Center. Further, the Commission shall formulate the necessary guidelines for the protocol and procedures for deputization within six (6) months following the effectivity of these Rules and Regulations.

Section 6. Enforcement by the Commission

The Commission shall provide a mechanism whereby, any citizen, LGU or concerned agency may file an action/complaint directly with the Secretariat and concurrently with any other appropriate legal proceeding.

Section 7. Actions and Procedures

The following sets of general procedures shall guide the administration of actions until such time as the Commission shall issue more detailed guidelines and procedures for the administration of enforcement.

- a) Commencement of Actions -Actions may be instituted for violations of any of the prohibited acts under the Act of these Rules and Regulations, and/or any further orders issued by the aforementioned agencies under the enforcement mechanism section of the IRRs.

Actions shall be commenced by any person filing a written complaint, or by the Department on its own initiative, or by the filing of a charge by any deputized agent of the Department, Commission or the LGU, before the court hearing officer.

However, the commencement of such an action shall be without prejudice to the right of any individual or affected person to file any other appropriate legal action for the violation of the Act, its IRRs and/or any further orders issued by the aforementioned concerned agencies.

The LGU ordinance shall prescribe the rules and procedures for the commencement of an action/complaint at the local level.

- b) Charge Sheets - For actions initiated by the respective LGUs, the filing of charge sheets shall be in accordance with the rules and procedures prescribed by relevant ordinances and pursuant

to the relevant provisions of RA 7160. Actions initiated by and for the Department shall follow the existing rules and procedures of the Agency. The charge sheet shall be in writing and drawn in clear and concise language. It shall recite the ultimate facts constituting the cause(s) of action and/or the violations committed under the Act and/or these Implementing Rules and Regulations, as well as all information pertinent thereto and shall be duly signed by the apprehending officer. The charge sheet shall include a notice requiring the Respondent to appear and answer the charge, and specify the date, time and place indicated therein which shall not be less than fifteen (15) days nor more than thirty (30) days from receipt hereof.

- c) Filing and Service of Charge Sheet/Complaint - The charge sheet shall be filed in two (2) copies before the secretariat. Upon the receipt of the charge sheet and/or a complaint, the secretariat shall determine the appropriate agency, to which the charge sheet and/ or complaint may be remitted.
- d) Hearing -Designated hearing officers of the appropriate agencies, to which the charge sheet/complaint is remitted, shall regard both the validity of the action/complaint and the appropriate authority, to which the charge sheet should proceed and be determined and shall make recommendations, thereto.

Hearing officers shall be appointed and undertake their responsibilities pursuant to the guidelines and criteria of their existing agency.

Department Secretaries shall be responsible for undertaking the appropriate action regarding the action/complaint, once the secretariat has determined that it should proceed to his/her particular agency. Existing agency procedures shall apply where appropriate, including both administrative and criminal procedure.

- e) Nature and Procedure - Subject to the basic requirements of due process, the proceedings herein provided shall be summary in nature. The technical rules of evidence obtaining in courts of law shall not bind the designated adjudicating unit for LGUs or of the Department as the case maybe. Similarly the rules of the Court shall not apply in proceedings before the adjudicating unit except in a supplementary character and only whenever applicable.

Section 8. Closure or Suspension of Operations of Solid Waste Management Facilities

The Department shall have the authority to order the closure or suspension of developments, construction or operation of solid waste management facilities pursuant to existing laws, rules and regulations.

Section 9. Authentication with Official Seal

All decisions, orders and appropriate legal documents hereinafter promulgated shall be issued with the official seal of the Department or the government agencies designated by the Commission.

RULE XX. SUITS

Section 1. Citizen Suits

The purposes of this section are to:

- a) promote the participation of the citizens in the enforcement of the Act
- b) ensure that government officials to take the necessary and appropriate action to abate and/or control pollution.

The legal actions contemplated under this section of the IRR are for civil and criminal remedies. The procedure for administrative

sanctions is discussed under Section 50 and Section 61 of the Act and IRR, respectively.

Any citizen may file an appropriate civil, criminal or administrative action in the proper courts/bodies against:

- a. Any person who violates or fails to comply with the provisions of the Act or this rules and regulations; or
- b. The Department or other implementing agencies with the respect to orders, rules and regulations issued inconsistent with the Act; and/or
- c. Any public officer who willfully or grossly neglects the performance of an act specifically enjoined as a duty by the Act or this rules and regulations.

Provided, however, that no suit can be filed until after thirty-day (30) notice has been given to the public officer and the alleged violator concerned and no appropriate action has been taken thereon.

Section 2. Suits and Strategic Legal Action Against Public Participation (SLAPP) and the Enforcement of the Act.

Where a suit is brought against a person who filed an action as provided in Sec. 52 of the Act, or against any person, institution or government agency that implements the Act, it shall be the duty of the investigating prosecutor or the Court, as the case may be, to immediately make a determination not exceeding thrity (30) days whether said legal action has been filed to harass, vex, exert undue pressure or stifle such legal recourses of the person complaining of or enforcing the provisions of the Act. Upon determination thereof, evidence warranting the same, the Court shall dismiss the case and award attorney's fees and double damages.

This provision shall also apply and benefit public officers who are sued for acts committed in their official capacity, there being no

grave abuse of authority, and done in the course of enforcing the Act.

Section 3. Administrative Sanctions

Local government officials and officials of government agencies concerned, who fail to comply with and enforce rules and regulations promulgated relative to the Act shall be charged administratively in accordance with the Ombudsman Law and RA 7160 and other existing laws , rules and regulations.

Any citizen may file an action. The action shall be filed with the DILG or the Ombudsman, if related to any LGU, or to any government agency/employee, respectively.

PART VI. RESEARCH, PUBLIC INFORMATION AND ACCESS TO RECORDS

RULE XXI. RESEARCH AND PUBLIC INFORMATION

Section 1. Research on Solid Waste Management

The Department, in consultations with the cooperating agencies, shall encourage, cooperate with and may render financial and other assistance to appropriate government agencies, academe, private institutions and individuals in the conduct and promotion of researches, experiments, and other studies on solid waste management.

- a) The DOH, in coordination with the concerned agencies and institutions, shall spearhead the study on the adverse health effects of the unintentional release of by-products of combustion (e.g., dioxins and furans) and methods to eliminate said effects. Likewise, the health effects of solid wastes to scavengers, garbage collectors and other personnel involved in the solid waste management (SWM) programs shall be looked into by concerned agencies.

b) The DENR, in coordination with the concerned agencies and institutions shall:

1. Spearhead the setting of standards for leachate.
2. Conduct monitoring of the leachate contamination of ground water and surface water.
3. Chair the panel that will evaluate research proposals on solid waste management for possible funding.
4. Lead in the benchmarking of researches on solid wastes for the identification of gaps.
5. Study on factors for success/failure of community-based waste management initiatives.
6. Pursue improvement in the disposal practices for the solid wastes including sludge.
7. Undertake researches on economic instruments in solid waste management.

c) The DOST, in coordination with the concerned agencies and institutions, shall:

1. Initiate study on the alternative usage of non-recyclable and non-reusable materials.
2. Develop an environmental technology verification (ETV) program in the evaluation of technologies prior to its introduction locally. ETV will serve as basis for verifying the performance of technology under local conditions.
3. Promote the development of clean technology (CT)/production (CP) program in industry. Technical assistance program shall be provided by concerned agencies to implement CP and CT by the industries.
4. Develop and apply new and improved methods of collecting and disposing of solid wastes and processing and recovering materials and energy from solid wastes.
5. Improved utilization of various types of organic materials as source of fertilizer and biofuels.
6. Conduct of study and development of new uses of recovered resources.

- d) The DA, in coordination with the concerned agencies and institutions, shall:
 - 1. Lead in the improvement of composting technology and make such more affordable to communities at the barangay levels.
 - 2. Identify/inventory existing markets and demand for compost.
 - 3. Encourage the composting of agricultural waste, and other compostable materials including, but not limited to garden waste.
 - 4. Assist the compost producers to ensure that the compost products conform to standards.
 - 5. Set standards for organic fertilizers from compost.

- e) The DOE, in coordination with the concerned agencies and institutions, shall:
 - 1. Spearhead landfill extraction and utilization of biogas.
 - 2. Lead in production of usable forms of recovered resources, including fuels from solid waste.

In carrying out solid waste management related researched and studies, the Secretary of the Department or the authorized representative may provide grants or enter into contract with government agencies, non-government organizations, academe, private institutions and individuals

The private sector is further encourage to pursue researched in solid waste management.

Section 2. Environmental Education in the Formal and Non-formal Sectors

- a) The Department of Education (DeptEd), the Technical Education and Skills Development Authority (TESDA), the Commission on Higher Education (CHED), the Department of

Environmental and Natural Resources (DENR), and other concerned government agencies, shall aggressively incorporate ecological waste management in the school systems at all levels, emphasizing the involvement of the school administrators, teaching and non-teaching staff, and studentry in school-wide and nearby community waste management actions, and in the strengthening of the waste management content in the curricula.

- b) Such education program shall emphasize, but not be limited to, the ill-effects of solid wastes relative to human health and the environment, waste minimization and pollution prevention, waste segregation (biodegradable and non-biodegradable) and storage, waste reduction at source, waste recycling/reuse, composting, different methods of waste management and economic benefits derived thereat, and other community-based solutions to the solid waste problem.
- c) The education program should also include the provisions of the prohibited acts, their sanction, and the right of citizens to file suits.

Section 3. Public Education and Information

- a) The Department of Interior and Local Governments (DILG) and its leagues, in coordination with the National Ecology Center and its local counterparts, shall ensure active education and public information on waste management of every local government unit, down to the barangay levels.
- b) The local government units, down to the barangay levels, shall allocate a portion of their funds, to public education and information activities on ecological waste management particularly biodegradable and non-biodegradable wastes including, but not limited to, installation of billboards on collection days for specific waste types, other outdoor signages, stickers, flyers, conduct of seminars, and other effective non-traditional information strategies.

- c) The Office of the Press Secretary, the Philippine Information Agency, the Kapisanan ng mga Brodkaster ng Pilipinas, the National Press Club, the Philippine Press Institute and the private sector (particularly the entertainment and advertising industries), shall allocate regular free air time and print spaces on waste management matters, in television, radio, broadsheets, outdoor signages, other telecommunications, information technologies and non-traditional medial channels.
- d) The DILG, through the Philippine National Police, the Department of National Defense and the Philippine Coast Guard, shall help enforce compliance to Sections 48 and 49 of the said prohibited acts of this Law.
- e) All government offices, at the national and local levels, within the executive, legislation and judicial branches, and government-owned and controlled corporations, shall ensure information, education and actual implementation of waste management programs at the workplaces and work premises, including the pursuit of environment-friendly purchasing policies for their respective offices.
- f) The DENR, other concerned government agencies, educational associations, non-government organizations, people's organizations and the private sector, shall also help implement various efforts in the education and public information on waste management.
- g) All garbage collection and hauling companies shall also be directed to install visible signs in their collection and hauling trucks, describing the waste type they are supposed to collect (for example, NABUBULOK, NARERESIKLO, DI NABUBULOK).
- h) All garbage collection and hauling companies shall also be enjoined to employ other possible media approached to ensure compliance to mandatory waste segregation (for example, use

of bell, characteristic music, jingle, slogan, color-coded trucks, and the like) in their garbage collection vehicles.

- i) All institutions in the foregoing provisions are directed to submit periodic reports to the appropriate local solid waste management boards. The criteria and mechanisms for the report and its submission may be specified by the NSWMC. The report shall thereafter be submitted to the NSWMC secretariat. Sample copies of education and public information materials and strategies employed, shall be part of such submissions.

RULE XXII. ACCESS TO RECORDS

Section 1. Public Access to Records

Any record, report or information obtained by the NSWMC and /or its secretariat, and their local offices, under the Act and the IRR, shall be available to the public.

Section 2. Business and Industry Role

The Commission shall encourage commercial and industrial establishments through appropriate incentives other than tax incentives:

- a) To initiate, participate and invest in integrated ecological solid waste management projects;
- b) To manufacture environmental-friendly products, to introduce, develop and adopt innovative processes that shall recycle and re-use materials, conserve raw materials and energy, reduce waste and prevent pollution; and
- c) To undertake community activities to promote and propagate effective solid waste management practices.

PART VII. FINAL PROVISIONS

Section 1. Separability Clause

If any section or provision of these Rules and Regulations is held or declared unconstitutional or invalid by a competent court, the other sections or provisions hereof shall continue to be in force as if the sections or provisions so annulled or voided had never been incorporated herein.

Section 2. Repealing Clause

All Rules and Regulations or parts of said rules and regulations of pertinent laws inconsistent with these Rules and Regulations are hereby revised, amended, modified and/or superseded as the case may be by these Rules and Regulations.

Section 3. Amendments

These Rules and Regulations may be amended and/or modified from time to time by the Department of Environment and Natural Resources.

Section 4. Effectivity

These Implementing Rules and Regulations shall take effect fifteen (15) days from the date of its publication in the *Official Gazette* or in at least two (2) newspapers of general circulation.

(Sgd.) HEHERSON T. ALVAREZ
Secretary

REPUBLIC OF THE PHILIPPINES
CONGRESS OF THE PHILIPPINES
Metro Manila
TWELFTH CONGRESS OF THE REPUBLIC)
OF THE PHILIPPINES)
Third Regular Session)

REPUBLIC ACT 9275

**AN ACT PROVIDING FOR A COMPREHENSIVE WATER QUALITY MANAGEMENT AND
FOR OTHER PURPOSES**

Be it enacted by the Senate and the House of Representatives of the Philippines in Congress assembled:

CHAPTER 1
GENERAL PROVISIONS

Article 1
Declaration of Principles and Policies

SECTION 1. *Short Title.* - This Act shall be known as the "Philippine Clean Water Act of 2004."

SEC. 2. *Declaration of Policy.* - The State shall pursue a policy of economic growth in a manner consistent with the protection, preservation and revival of the quality of our fresh, brackish and marine waters. To achieve this end, the framework for sustainable development shall be pursued. As such, it shall be the policy of the State:

- a) To streamline processes and procedures in the prevention, control and abatement of pollution of the country's water resources;
- b) To promote environmental strategies, use of appropriate economic instruments and of control mechanisms for the protection of water resources;
- c) To formulate a holistic national program of water quality management that recognizes that water quality management issues cannot be separated from concerns about water sources and ecological protection, water supply, public health and quality of life;
- d) To formulate an integrated water quality management framework through proper delegation and effective coordination of functions and activities;
- e) To promote commercial and industrial processes and products that are environment friendly and energy efficient;
- f) To encourage cooperation and self-regulation among citizens and industries through the application of incentives and market-based instruments and to promote the role of private industrial enterprises in shaping its regulatory profile within the acceptable boundaries of public health and environment;
- g) To provide for a comprehensive management program for water pollution focusing on pollution prevention;
- h) To promote public information and education and to encourage the participation of an informed and active public in water quality management and monitoring;
- i) To formulate and enforce a system of accountability for short and long-term adverse environmental impact of a project, program or activity; and

j) To encourage civil society and other sectors, particularly labor, the academe and business undertaking environment-related activities in their efforts to organize, educate and motivate the people in addressing pertinent environmental issues and problems at the local and national levels.

SEC. 3. Coverage of the Act. – This Act shall apply to water quality management in all water bodies: *Provided*, That it shall primarily apply to the abatement and control of pollution from land based sources: *Provided, further*, That the water quality standards and regulations and the civil liability and penal provisions under this Act shall be enforced irrespective of sources of pollution.

Article 2

Definition of Terms

SEC. 4. Definition of Terms. - As used in this Act:

a) *Aquifer* - means a layer of water-bearing rock located underground that transmits water in sufficient quantity to supply pumping wells or natural springs.

b) *Aquatic life* - means all organisms living in freshwater, brackish and marine environments.

c) *Beneficial use* - means the use of the environment or any element or segment thereof conducive to public or private welfare, safety and health; and shall include, but not be limited to, the use of water for domestic, municipal, irrigation, power generation, fisheries, livestock raising, industrial, recreational and other purposes.

1. *Use of water for domestic purposes* - means the utilization of water for drinking, washing, bathing, cooking or other household needs, home gardens and watering of lawns or domestic animals;

2. *Use of water for municipal purposes* - means the utilization of water for supplying water requirements of the community;

3. *Use of water for irrigation* - means the utilization of water for producing agricultural crops;

4. *Use of water for power generation* - means the utilization of water for producing electrical or mechanical power;

5. *Use of water for fisheries* - means the utilization of water for the propagation of culture of fish as a commercial enterprise;

6. *Use of water for livestock raising* - means the utilization of water for large herds or flocks of animals raised as a commercial enterprise;

7. *Use of water for industrial purposes* - means the utilization of water in factories, industrial plants and mines, including the use of water as an ingredient of a finished product; and

8. *Use of water for recreational purposes* - means the utilization of water for swimming pools, bath houses, boating, water skiing, golf courses and other similar facilities in resorts and other places of recreation.

d) *Classification/Reclassification of Philippine Waters* – means the categorization of all water bodies taking into account, among others, the following:

(1) existing quality of the body of water;

(2) size, depth, surface area covered, volume, direction, rate of flow and gradient of stream;

(3) most beneficial existing and future use of said bodies of water and lands bordering them, such as for residential, agricultural, aquacultural, commercial, industrial, navigational, recreational, wildlife conservation and aesthetic purposes; and

(4) vulnerability of surface and groundwater to contamination from pollutive and hazardous wastes, agricultural chemicals and underground storage tanks of petroleum products.

e) *Civil Society* - means non-government organizations (NGOs) and people's organizations (POs).

f) *Cleaner production* - means the application of an integrated, preventive environmental strategy to processes, products, services to increase efficiency and reduce risks to humans and the environment;

g) *Clean-up operations* - means activities involving the removal of pollutants discharged or spilled into a water body and its surrounding areas, and the restoration of the affected areas to their former physical, chemical and biological state or conditions.

- h) *Contamination* - means the introduction of substances not found in the natural composition of water that make the water less desirable or unfit for intended use.
- i) *Department* - means the Department of Environment and Natural Resources.
- j) *Discharge* includes, but is not limited to, the act of spilling, leaking, pumping, pouring, emitting, emptying, releasing or dumping of any material into a water body or onto land from which it might flow or drain into said water.
- k) *Drinking water* - means water intended for human consumption or for use in food preparation.
- l) *Dumping* - means any unauthorized or illegal disposal into any body of water or land of wastes or toxic or hazardous material: *Provided*, That it does not mean a release of effluent coming from commercial, industrial, and domestic sources which are within the effluent standards.
- m) *Effluent* - means discharges from known source which is passed into a body of water or land, or wastewater flowing out of a manufacturing plant, industrial plant including domestic, commercial and recreational facilities.
- n) *Effluent standard* - means any legal restriction or limitation on quantities, rates, and/or concentrations or any combination thereof, of physical, chemical or biological parameters of effluent which a person or point source is allowed to discharge into a body of water or land.
- o) *Environmental management* - means the entire system which includes, but is not limited to, conservation, regulation and minimization of pollution, clean production, waste management, environmental law and policy, environmental education and information, study and mitigation of the environmental impacts of human activity, and environmental research.
- p) *Environmental management system* - means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.
- q) *Freshwater* - means water containing less than 500 ppm dissolved common salt, sodium chloride, such as that in groundwater, rivers, ponds and lakes.
- r) *Groundwater* - means a subsurface water that occurs beneath a water table in soils and rocks, or in geological formations.
- s) *Groundwater vulnerability* - means relative ease with which a contaminant located at or near the land surface can migrate to the aquifer or deep well.
- t) *Groundwater vulnerability map* - means the identified areas of the land surface where groundwater quality is most at risk from human activities and shall reflect the different degrees of groundwater vulnerability based on a range of soil properties and hydro-geological criteria to serve as guide in the protection of the groundwater from contamination.
- u) *Hazardous waste* - means any waste or combination of wastes of solid, liquid, contained gaseous, or semi-solid form which cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness, taking into account toxicity of such waste, its persistence and degradability in nature, its potential for accumulation or concentration in tissue, and other factors that may otherwise cause or contribute to adverse acute or chronic effects on the health of persons or organism.
- v) *Industrial waste* - means any solid, semi-solid or liquid waste material with no commercial value released by a manufacturing or processing plant other than excluded material.
- w) *Integrated Water Quality Management Framework* – means the policy guideline integrating all the existing frameworks prepared by all government agencies on water quality involving pollution from all sources. Specifically, the framework shall contain the following:
 (a) water quality goals and targets; (b) period of compliance; (c) water pollution control strategies and techniques; (d) water quality information and education program; (e) human resources development program.
- x) *Margin* - means a landward and outer limiting edge adjacent to the border of any water bodies or a limit beyond where saturation zone ceases to exist.
- y) *National Water Quality Status Report* – means a report to be prepared by the Department indicating: (a) the location of water bodies, their water quality, taking into account seasonal, tidal and other variations, existing and potential uses and sources of pollution per specific pollutant and pollution load assessment; (b) water quality management areas pursuant to Section 5 of this Act; and (c) water classification.

z) *Non-point source* - means any source of pollution not identifiable as point source to include, but not be limited to, runoff from irrigation or rainwater which picks up pollutants from farms and urban areas.

aa) *Point source* - means any identifiable source of pollution with specific point of discharge into a particular water body.

bb) *Pollutant* - shall refer to any substance, whether solid, liquid, gaseous or radioactive, which directly or indirectly:

(i) alters the quality of any segment of the receiving water body so as to affect or tend to affect adversely any beneficial use thereof;

(ii) is hazardous or potentially hazardous to health;

(iii) imparts objectionable odor, temperature change, or physical, chemical or biological change to any segment of the water body; or

(iv) is in excess of the allowable limits or concentrations or quality standards specified, or in contravention of the condition, limitation or restriction prescribed in this Act.

cc) *Pollution control technology* - means pollution control devices or apparatus, processes, or other means that effectively prevent, control or reduce pollution of water caused by effluents and other discharges, from any point source at levels within the water pollution standards.

dd) *Potentially infectious medical waste* - includes isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, and other disposable medical equipment and material that may pose a risk to the public health, welfare or the marine environment.

ee) *Secretary* - means the Secretary of the Department of Environment and Natural Resources (DENR).

ff) *Septage* - means the sludge produced on individual onsite waste water disposal systems, principally septic tanks and cesspools.

gg) *Sewage* - means water-borne human or animal wastes, excluding oil or oil wastes, removed from residences, buildings, institutions, industrial and commercial establishments together with such groundwater, surface water and storm water as maybe present including such waste from vessels, offshore structures, other receptacles intended to receive or retain wastes, or other places or the combination thereof.

hh) *Sewerage* - includes, but is not limited to, any system or network of pipelines, ditches, channels, or conduits including pumping stations, lift stations and force mains, service connections including other constructions, devices, and appliances appurtenant thereto, which involves the collection, transport, pumping and treatment of sewage to a point of disposal.

ii) *Sludge* - means any solid, semi-solid or liquid waste or residue generated from a wastewater treatment plant, water supply treatment plant, or water control pollution facility, or any other such waste having similar characteristics and effects.

jj) *Surface water* - means all water which is open to the atmosphere and subject to surface runoff.

kk) *Treatment* - means any method, technique, or process designed to alter the physical, chemical or biological and radiological character or composition of any waste or wastewater to reduce or prevent pollution.

ll) *Toxic amount* - means the lowest amount of concentration of toxic pollutants which may cause chronic or long-term acute or lethal conditions or effects to the aquatic life or health of persons or which may adversely affect designated water uses.

mm) *Waste* - means any material either solid, liquid, semisolid, contained gas or other forms resulting from industrial, commercial, mining or agricultural operations, or from community and household activities that is devoid of usage and discarded.

nn) *Wastewater* - means waste in liquid state containing pollutants.

oo) *Water body* - means both natural and man-made bodies of fresh, brackish, and saline waters, and includes, but is not limited to, aquifers, groundwater, springs, creeks, streams, rivers, ponds, lagoons, water reservoirs, lakes, bays, estuarine, coastal and marine waters. Water bodies do not refer to those constructed, developed and used purposely as water treatment facilities and/or water storage for recycling and re-use which are integral to process industry or manufacturing.

pp) *Water pollution* - means any alteration of the physical, chemical or biological or radiological properties of a water body resulting in the impairment of its purity or quality.

qq) *Water quality* - means the characteristics of water which define its use in terms of physical, chemical, biological, bacteriological or radiological characteristics by which the acceptability of water is evaluated.

rr) *Water quality guidelines* - means the level for a water constituent or numerical values of physical, chemical, biological and bacteriological or radiological parameters which are used to classify water resources and their use, which does not result in significant health risk and which are not intended for direct enforcement but only for water quality management purposes, such as determining time trends, evaluating stages of deterioration or enhancement of the water quality, and as basis for taking positive action in preventing, controlling or abating water pollution.

ss) *Water Quality Management Area Action Plan* - includes, but not be limited to, the following:

(a) goals and targets including sewerage or septage program; (b) schedule of compliance to meet the applicable requirements of this Act; (c) water pollution control strategies or techniques; (d) water quality information and education program; (e) resource requirement and possible sources; (f) enforcement procedures of the plan; and (g) rewards and incentives under Chapter 4 of this Act.

CHAPTER 2

WATER QUALITY MANAGEMENT SYSTEM

Article 1

General Provisions

SEC. 5. *Water Quality Management Area.* - The Department, in coordination with National Water Resources Board (NWRB), shall designate certain areas as water quality management areas using appropriate physiographic units such as watershed, river basins or water resources regions. Said management areas shall have similar hydrological, hydrogeological, meteorological or geographic conditions which affect the physicochemical, biological and bacteriological reactions and diffusions of pollutants in the water bodies, or otherwise share common interest or face similar development programs, prospects, or problems. Said management area shall be governed by a governing board composed of representatives of mayors and governors of member local government units (LGUs), and representatives of relevant national government agencies, duly registered nongovernmental organization, water utility sector, and business sector. The Department representative shall chair the governing board. In the case of the LGUs with memberships on more than one (1) management board, the LGU shall designate only one (1) single representative for all the management areas where it is a member. The governing board shall formulate strategies to coordinate policies necessary for the effective implementation of this Act in accordance with those established in the framework and monitor the compliance with the action plan. Each management area shall create a multi-sectoral group to establish and effect water quality surveillance and monitoring network including sampling schedules and other similar activities. The group shall submit its report and recommendation to the chairman of the governing board.

A technical secretariat for each management area is hereby created which shall be part of the Department and shall provide technical support to the governing board. They shall be composed of at least four (4) members who shall have the following minimum qualifications:

- a) One (1) member shall be a member of the Philippine Bar;
- b) One (1) member shall be a Chemical Engineer, Chemist, Sanitary Engineer, Environmental Engineer or Ecologist or have significant training and experience in chemistry;
- c) One (1) member shall be a Civil Engineer or Hydrologist or have significant training and experience in closely related fields and mainly experience on ground water, respectively; and
- d) One (1) member shall be a Geologist or Biologist or have significant training

and experience in closely related fields.

The areas within the jurisdiction of the Laguna Lake Development Authority (LLDA) shall be designated as one management area under the administration of LLDA in accordance with Republic Act No. 4850, as amended: *Provided, however,* That the standards promulgated pursuant to this Act and wastewater charge system established pursuant hereof shall be enforced in said area.

SEC. 6. Management of Non-attainment Areas. - The Department shall designate water bodies, or portions thereof, where specific pollutants from either natural or man-made source have already exceeded water quality guidelines as non-attainment areas for the exceeded pollutants. It shall prepare and implement a program that will not allow new sources of exceeded water pollutant in non-attainment areas without a corresponding reduction in discharges from existing sources: *Provided,* That if the pollutant is naturally occurring, e.g. naturally high boron and other elements in geothermal areas, discharge of such pollutant may be allowed: *Provided, further,* That the effluent concentration of discharge shall not exceed the naturally occurring level of such pollutant in the area: *Provided, finally,* That the effluent concentration and volume of discharge shall not adversely affect water supply, public health and ecological protection. The Department shall, in coordination with NWRB, Department of Health (DOH), Department of Agriculture (DA), governing board and other concerned government agencies and private sectors shall take such measures as may be necessary to upgrade the quality of such water in non-attainment areas to meet the standards under which it has been classified. Upgrading of water quality shall likewise include undertakings which shall improve the water quality of a water body to a classification that will meet its projected or potential use. The LGUs shall prepare and implement contingency plans and other measures including relocation, whenever necessary, for the protection of health and welfare of the residents within potentially affected areas.

SEC. 7. National Sewerage and Septage Management Program. - The Department of Public Works and Highways (DPWH), through its relevant attached agencies, in coordination with the Department, LGUs and other concerned agencies, shall, as soon as possible, but in no case exceeding a period of twelve (12) months from the effectivity of this Act, prepare a national program on sewerage and septage management in connection with Section 8 hereof. Such program shall include a priority listing of sewerage, septage and combined sewerage-septage projects for LGUs based on population density and growth, degradation of water resources, topography, geology, vegetation, programs/projects for the rehabilitation of existing facilities and such other factors that the Secretary may deem relevant to the protection of water quality. On the basis of such national listing, the national government may allot, on an annual basis, funds for the construction and rehabilitation of required facilities.

Each LGU shall appropriate the necessary land, including the required rights-of-way/ road access to the land for the construction of the sewage and/or septage treatment facilities. Each LGU may raise funds to subsidize necessary expenses for the operation and maintenance of sewerage treatment or septage facility servicing their area of jurisdiction through local property taxes and enforcement of a service fee system.

SEC. 8. Domestic Sewage Collection, Treatment and Disposal. - Within five (5) years following the effectivity of this Act, the agency vested to provide water supply and sewerage facilities and/or concessionaires in Metro Manila and other highly urbanized cities (HUCs) as defined in Republic Act No. 7160, in coordination with LGUs, shall be required to connect the existing sewage line found in all subdivisions, condominiums, commercial centers, hotels, sports and recreational facilities, hospitals, market places, public buildings, industrial complex and other similar establishments including households to available sewerage system: *Provided,* That the said connection shall be subject to sewerage services charge/fees in accordance with existing laws, rules or regulations unless the sources had already utilized their own sewerage system: *Provided, further,* That all sources of sewage and septage shall comply with the requirements herein. In areas not considered as HUCs, the DPWH in coordination with the Department, DOH and other concerned agencies, shall employ septage or combined sewerage-septage management system.

For the purpose of this section, the DOH, in coordination with other government agencies, shall formulate guidelines and standards for the collection, treatment and disposal of sewage including guidelines for the establishment and operation of centralized sewage treatment system.

SEC. 9. National Water Quality Management Fund. - A water quality management fund, to be administered by the Department, in coordination with other concerned agencies, as a special account in the National Treasury is hereby established. The fund shall be used to finance the following:

- a) Finance containment and clean-up operations of the government in water pollution cases;
- b) Guarantee restoration of ecosystems and rehabilitation of affected areas;
- c) Support research, enforcement and monitoring activities;
- d) Provide technical assistance to the implementing agencies;
- e) Grant rewards and incentives;
- f) Support information and educational campaign; and
- g) Such other disbursements made solely for the prevention, control or abatement of water pollution and management and administration of the management areas in the amounts authorized by the Department.

The fines imposed and damages awarded to the government by the Pollution Adjudication Board (PAB), proceeds of permits issued by the Department under this Act, donations, endowments and grants in the form of contributions to the national government under this Act shall form part of the fund. Such donations, endowments and grants shall be exempt from donor's taxes and all other taxes, charges or fees imposed by the government and shall be deductible from the gross income of the donor for income tax purposes.

Disbursements from the fund shall be subject to the usual accounting and budgeting rules and regulations.

SEC. 10. The Area Water Quality Management Fund. - The area water quality management fund is hereby established for the maintenance and upkeep of the water bodies in a water quality management area. The fund shall be utilized for the grant of rewards and incentives for entities whose effluent discharges are better than the water quality criteria of the target classification of the receiving body of water, loans for acquisitions and repairs of facilities to reduce quantity and improve quality of wastewater discharges, and regular maintenance of the water bodies within the management area.

An amount of not more than ten percent (10%) of the total amount accruing to the funds annually shall be allocated for the operational expenses of the governing board, its secretariat and multi-sectoral water quality surveillance and monitoring network. This fund shall initially be sourced from the fines incurred by the establishments located in rural areas before the effectivity of this Act. Thereafter, the fees collected under the wastewater charge system established under Section 13 of this Act, donations, endowments and grants for water quality management of the area shall accrue to the fund.

Disbursements from the fund shall be subject to the usual accounting and budgeting rules and regulations. This fund shall be managed by the Board of the corresponding management area.

SEC. 11. Water Quality Variance for Geothermal and Oil and Gas Exploration.

- The Department may provide variance in water quality criteria and standards for geothermal exploration that encounters reinjection constraints: *Provided*, That there shall be provision for adequate protection of beneficial use of water bodies downstream of the geothermal project: *Provided, further*, That this provision may be applied to oil and gas exploration as determined by the Department.

SEC. 12. Categories of Industry Sector. - Within twenty-four (24) months from the effectivity of this Act, and every two (2) years thereafter, the Department shall, through due public consultation, revise and publish a list of categories of industry sector for which effluent standards will be provided for each significant wastewater parameter per industry sector.

The Department shall provide additional classification based on other parameters specifically associated to discharge of a particular industry which shall be included in the listing of categories prescribed in the preceding paragraph.

Article 2 Water Pollution Permits and Charges

SEC. 13. Wastewater Charge System. – The Department shall implement a wastewater charge system in all management areas including the Laguna Lake Region and Regional Industrial Centers through the collection of wastewater charges/fees. The system shall be established on the basis of payment to the government for discharging wastewater into the water bodies. Wastewater charges shall be established taking into consideration the following:

- (a) To provide strong economic inducement for polluters to modify their production or management processes or to invest in pollution control technology in order to reduce the amount of water pollutants generated;
- (b) To cover the cost of administering water quality management or improvement programs;
- (c) Reflect damages caused by water pollution on the surrounding environment, including the cost of rehabilitation;
- (d) Type of pollutant;
- (e) Classification of the receiving water body; and
- (f) Other special attributes of the water body.

The fee shall be based on the net waste load depending on the wastewater charge formula which shall be established with due public consultation within six (6) months from the effectivity of this Act: *Provided*, That net waste load shall refer to the difference of the initial waste load of the abstracted water and the waste load of the final effluent discharge of an industry: *Provided, further*, That no net waste load shall be lower than the initial waste load: *Provided, finally*, That wastewater charge system shall not apply to wastewater from geothermal exploration. Industries whose water effluent are within standards promulgated pursuant to this Act, shall only be charged with minimal reasonable amount which shall be determined by the Department after due public consultation, giving account to volumetric rate of discharge and the effluent concentration.

SEC. 14. Discharge Permits. – The Department shall require owners or operators of facilities that discharge regulated effluents pursuant to this Act to secure a permit to discharge. The discharge permit shall be the legal authorization granted by the Department to discharge wastewater: *Provided*, That the discharge permit shall specify among others, the quantity and quality of effluent that said facilities are allowed to discharge into a particular water body, compliance schedule and monitoring requirement. As part of the permitting procedure, the Department shall encourage the adoption of waste minimization and waste treatment technologies when such technologies are deemed cost effective. The Department shall also develop procedures to relate the current water quality guideline or the projected water quality guideline of the receiving water body/ies with total pollution loadings from various sources, so that effluent quotas can be properly allocated in the discharge permits. For industries without any discharge permit, they may be given a period of twelve (12) months after the effectivity of the implementing rules and regulations promulgated pursuant to this Act, to secure a discharge permit. Effluent trading may be allowed per management area.

Article 3 Financial liability mechanism

SEC. 15. Financial Liability for Environmental Rehabilitation. - The Department shall require program and project proponents to put up environmental guarantee fund (EGF) as part of the environmental management plan attached to the environmental compliance certificate pursuant to Presidential Decree No. 1586 and its implementing rules and regulations. The EGF shall finance the maintenance of the health of the ecosystems and specially the conservation of watersheds and aquifers affected by the development, and the needs of emergency response, clean-up or

rehabilitation of areas that may be damaged during the program's or project's actual implementation. Liability for damages shall continue even after the termination of a program or project and, until the lapse of a given period indicated in the environmental compliance certificate, as determined by the Department. The EGF may be in the form of a trust fund, environmental insurance, surety bonds, letters of credit, self-insurance and any other instruments which may be identified by the Department. The choice of the guarantee instrument or combinations thereof shall depend, among others, on the assessment of the risks involved and financial test mechanisms devised by the Department. Proponents required to put up guarantee instruments shall furnish the Department with evidence of availment of such instruments from accredited financial instrument providers.

SEC. 16. Clean-Up Operations. - Notwithstanding the provisions of Sections 15 and 26 hereof, any person who causes pollution in or pollutes water bodies in excess of the applicable and prevailing standards shall be responsible to contain, remove and clean-up any pollution incident at his own expense to the extent that the same water bodies have been rendered unfit for utilization and beneficial use: *Provided*, That in the event emergency clean-up operations are necessary and the polluter fails to immediately undertake the same, the Department, in coordination with other government agencies concerned, shall conduct containment, removal and clean-up operations. Expenses incurred in said operations shall be reimbursed by the persons found to have caused such pollution upon proper administrative determination in accordance with this Act. Reimbursements of the cost incurred shall be made to the Water Quality Management Fund or to such other funds where said disbursements were sourced.

SEC. 17. Programmatic Environmental Impact Assessment. – The Department shall implement programmatic compliance with the environmental impact assessment system, as in the following types of development:

- (a) development consisting of a series of similar projects, or a project subdivided into several phases and/or stages whether situated in a contiguous area or geographically dispersed; and
- (b) development consisting of several components or a cluster of projects colocated in an area such as an industrial estate, an export processing zone, or a development zone identified in a local land use plan. Programmatic compliance with the environmental impact assessment system shall be guided by carrying capacity assessments determined from ecological profiles. Ecological profiles shall identify environmental constraints and opportunities in programmatic areas. Programmatic assessment shall also take into account cumulative impacts and risks.

Consistent with the provisions of the Local Government Code, the Department may enter into agreement with LGUs to incorporate programmatic environmental impact assessment into the preparation, updating or revision of local land use plans and area development plans.

SEC. 18. Environmental Impact Assessment System Programmatic Compliance with Water Quality Standards. – The Department may allow each regional industrial center established pursuant to Republic Act No. 7916 (PEZA law) to allocate effluent quotas to pollution sources within its jurisdiction that qualify under an environmental impact assessment system programmatic compliance program in accordance with Presidential Decree No. 1586 and its implementing rules and regulations.

CHAPTER 3 INSTITUTIONAL MECHANISM

SEC. 19. Lead Agency. - The Department shall be the primary government agency responsible for the implementation and enforcement of this Act unless otherwise provided herein. As such, it shall have the following functions, powers and responsibilities:

- a) Prepare a National Water Quality Status Report within twenty-four (24) months from the effectivity of this Act: *Provided*, That the Department shall thereafter review or revise and publish annually, or as the need arises, said report;

- b) Prepare an Integrated Water Quality Management Framework within twelve (12) months following the completion of the status report;
- c) Prepare a ten (10) - year Water Quality Management Area Action Plan within twelve (12) months following the completion of the framework for each designated water management area. Such action plan shall be reviewed by the water quality management area governing board every five (5) years or as the need arises;
- d) Prepare and publish a national groundwater vulnerability map incorporating the prevailing standards and methodologies, within twenty four (24) months after the effectivity of this Act;
- e) Enforce, review and revise within twelve (12) months from the effectivity of this Act water quality guidelines after due consultation with the concerned stakeholder sectors: *Provided*, That the Department, in coordination with appropriate agencies shall review said guidelines every five (5) years or as need arises;
- f) Review and set effluent standards every five (5) years from the effectivity of this Act or sooner as determined by the Department: *Provided*, That in the interim, the provisions of DENR Administrative Order No. 35 of the Department shall apply: *Provided, further*, That when new and more stringent standards are set in accordance with this section, the Department may establish a grace period with a maximum of five (5) years: *Provided, finally*, That such grace period shall be limited to the moratorium on the issuance of cease and desist and/or closure order against the industry's operations except in the event such operation poses serious and grave threat to the environment, or the industry fails to institute retooling, upgrading or establishing an environmental management system (EMS).
- g) Establish within twelve (12) months from the effectivity of this Act, internationally- accepted procedures for sampling and analysis of pollutants and in coordination with other concerned agencies, formulate testing procedures and establish an accreditation system for laboratories;
- h) Within eighteen (18) months from the effectivity of this Act and every two (2) years thereafter, categorize point and non-point sources of water pollution;
- i) Classify groundwater sources within twelve (12) months from the effectivity of this Act;
- j) Classify or reclassify all water bodies according to their beneficial usages: *Provided*, That in the interim, the provisions of DENR Administrative Order No. 34 shall apply: *Provided, further*, That such classification or reclassification shall take into consideration the operation of businesses or facilities that are existing prior to the effectivity of the Act: *Provided, furthermore*, That the Department may authorize the use of the water for other purposes that are more restrictive in classification: *Provided, finally*, That discharges resulting from such use shall meet the effluent standards set by the Department;
- k) Exercise jurisdiction over all aspects of water pollution, determine its location, magnitude, extent, severity, causes, effects and other pertinent information on pollution, and to take measures, using available methods and technologies to prevent and abate such pollution;
- l) Exercise supervision and control over all aspects of water quality management;
- m) Establish a cooperative effort in partnership with the government, LGUs, academic institutions, civil society and the private sector to attain the objectives of this Act;
- n) Disseminate information and conduct educational awareness and value formation programs and campaigns on the effects of water pollution on health and environment, water quality management, and resource conservation and recovery to encourage an environmentally action-oriented society in coordination with government agencies identified in Section 22 (f);
- o) Promote and encourage private and business sectors especially manufacturing and processing plants the use of water quality management systems equipment, including but not limited to, industrial wastewater treatment collection and treatment facilities;
- p) Report, on an annual basis, to Congress the quality status of water bodies and other pertinent information and recommend possible legislation, policies and programs for environmental management and water pollution control;
- q) Issue rules and regulations for the effective implementation of the provisions of this Act;
- r) Issue orders against any person or entity and impose fines, penalties and other administrative sanctions to compel compliance with water quality regulations and the provisions of this Act;
- s) Undertake appropriate protocol with other concerned agencies for immediate coordinated responses to water related emergency incidents;
- t) Issue permits, clearances and similar instruments pursuant to this Act; and

u) Exercise such powers and perform such other functions as may be necessary to carry out the objectives of this Act.

The Department shall gradually devolve to the LGUs, and to the governing boards the authority to administer some aspects of water quality management and regulation, including, but not to be limited to, permit issuance, monitoring and imposition of administrative penalties, when, upon the Department's determination, the LGU or the governing board has demonstrated readiness and technical capability to undertake such functions.

SEC. 20. Role of Local Government Units (LGUs). - LGUs shall share the responsibility in the management and improvement of water quality within their territorial jurisdictions. Each LGU shall within six (6) months after the establishment of the water quality management area action plan prepare a compliance scheme in accordance thereof, subject to review and approval of the governing board.

Each LGU shall, through its Environment and Natural Resources Office (ENRO) established in Republic Act No. 7160, have the following powers and functions:

- a) Monitoring of water quality;
- b) Emergency response;
- c) Compliance with the framework of the Water Quality Management Action Plan;
- d) To take active participation in all efforts concerning water quality protection and rehabilitation; and
- e) To coordinate with other government agencies and civil society and the concerned sectors in the implementation of measures to prevent and control water pollution:

Provided, however, That in provinces/cities/municipalities where there are no environment and natural resources officers, the local executive concerned may, with the approval of the Secretary of the DENR designate any of his official and/or chief of office preferably the provincial, city or municipal agriculturist, or any of his employee: *Provided, finally,* That in case an employee is designated as such, he must have sufficient experience in environmental and natural resources management, conservation and utilization.

SEC. 21. Business and Industry Role in Environmental Management. – The Department and the LGUs, in coordination with the appropriate government agencies, and in consultation with the business and industrial sectors including chambers of commerce, shall formulate appropriate incentives for the adoption of procedures that will preserve and protect our water bodies through the introduction of innovative equipment and processes that reduce if not totally eliminate the discharge of pollutants into our water bodies.

SEC. 22. Linkage Mechanism. - The Department and its concerned attached agencies including LLDA shall coordinate and enter into agreement with other government agencies, industrial sector and other concerned sectors in the furtherance of the objectives of this Act. The following agencies shall perform the functions specified hereunder:

- (a) Philippine Coast Guard in coordination with the DA and the Department shall enforce for the enforcement of water quality standards in marine waters, set pursuant to this Act, specifically from offshore sources;
- (b) DPWH through its attached agencies, such as the MWSS, LWUA, and including other urban water utilities for the provision of sewerage and sanitation facilities and the efficient and safe collection, treatment and disposal of sewage within their area of jurisdiction;
- (c) DA, shall coordinate with the Department, in the formulation of guidelines for the re-use of wastewater for irrigation and other agricultural uses and for the prevention, control and abatement of pollution from agricultural and aquaculture activities: *Provided,* That discharges coming from non-point sources be categorized and further defined pursuant to this Act: *Provided, further,* That the Bureau of Fisheries and Aquatic Resources (BFAR) of the DA shall be primarily responsible for the prevention and control of water pollution for the development, management and conservation of the fisheries and aquatic resources;

- (d) DOH shall be primarily responsible for the promulgation, revision and enforcement of drinking water quality standards;
- (e) DOST, in coordination with the Department and other concerned agencies, shall prepare a program for the evaluation, verification, development and public dissemination of pollution prevention and cleaner production technologies; and
- (f) Department of Education (DepEd), Commission on Higher Education (CHED), Department of the Interior and Local Government (DILG) and Philippine Information Agency (PIA) shall assist and coordinate with the Department in the preparation and implementation of a comprehensive and continuing public education and information program pursuant to the objectives of this Act.

SEC. 23. Requirement of Record-keeping, Authority for Entry to Premises

and Access to Documents. – The Department or its duly authorized representative shall, after proper consultation and notice, require any person who owns or operates any pollution source or who is subject to any requirement of this Act to submit reports and other written information as may be required by the Department.

Any record, report or information obtained under this section shall be made available to the public, except upon a satisfactory showing to the Department by the entity concerned that the record, report, or information or parts thereof, if made public, would divulge secret methods or processes entitled to protection as intellectual property. Such record, report or information shall likewise be incorporated in the Department's industrial rating system. Pursuant to this Act, the Department, through its authorized representatives, shall have the right to: (a) enter any premises or to have access to documents and relevant materials as referred to in the herein preceding paragraph; (b) inspect any pollution or waste source, control device, monitoring equipment or method required; and (c) test any discharge. In cases of fish kill incidence, the Bureau of Fisheries of the DA, in the course of its investigation, may enter the premises of an establishment reported to have caused said incident.

SEC. 24. Pollution Research and Development Programs. – The Department, in coordination with the Department of Science and Technology (DOST), and other concerned agencies and academic research institutions, shall establish a national research and development program for the prevention and control of water pollution. As part of said program, the DOST shall conduct and promote the coordination and acceleration of research, investigation, experiments, training, surveys and studies relating to the causes, extent, prevention and control of pollution among concerned government agencies and research institutions.

CHAPTER 4 INCENTIVES AND REWARDS

SEC. 25. Rewards. - Rewards, monetary or otherwise, shall be provided to individuals, private organization and entities, including civil society, that have undertaken outstanding and innovative projects, technologies, processes and techniques or activities in water quality management. Said rewards shall be sourced from the Water Quality Management Fund herein created.

SEC. 26. Incentives Scheme. - An incentive scheme is hereby provided for the purpose of encouraging LGUs, water districts (WDs), enterprises, or private entities, and individuals, to develop or undertake an effective water quality management, or actively participate in any program geared towards the promotion thereof as provided in this Act.

A. Non-fiscal Incentive

1. *Inclusion in the Investments Priority Plan (IPP).* – Subject to the rules and regulations of the Board of Investments (BOI), industrial wastewater treatment and/or adoption of water pollution control technology, cleaner production and waste minimization technology shall be classified as preferred areas of investment under its annual priority plan and shall enjoy the applicable fiscal and non-fiscal incentives as may be provided for under the Omnibus Investment Code, as amended.

Fiscal Incentives

1. *Tax and Duty Exemption on Imported Capital Equipment* - Within ten (10) years upon the effectivity of this Act, LGUs, WDs, enterprises or private entities shall enjoy tax-and-duty-free importation of machinery, equipment and spare parts used for industrial wastewater treatment/collection and treatment facilities: *Provided*, That the importation of such machinery, equipment and spare parts shall comply with the following conditions:

a) They are not manufactured domestically in sufficient quantity, of comparable quality and at reasonable prices;

b) They are reasonably needed and will be used actually, directly and exclusively for the above mentioned activities; and

c) Written endorsement by the Department that the importation of such machinery, equipment and spare parts would be beneficial to environmental protection and management: *Provided, further*, That the sale, transfer or disposition of such machinery, equipment and spare parts without prior approval of the BOI within five (5) years from the date of acquisition shall be prohibited, otherwise the LGU concerned, WD, enterprise or private entity and the concerned vendee, transferee or assignee shall be solidarily liable to pay twice the amount of tax and duty exemption given it.

2. *Tax Credit on Domestic Capital Equipment* - Within ten (10) years from the effectivity of this Act, a tax credit equivalent to one hundred percent (100%) of the value of the national internal revenue taxes and customs duties that would have been waived on the machinery, equipment, and spare parts, had these items been imported shall be given to enterprises or private entities and individuals, subject to the same conditions and prohibition cited in the preceding paragraph.

3. *Tax and Duty Exemption of Donations, Legacies and Gifts* - All legacies, gifts and donations to LGUs, WDs, enterprises, or private entities and individuals, for the support and maintenance of the program for effective water quality management shall be exempt from donor's tax and shall be deductible from the gross income of the donor for income tax purposes. Imported articles donated to, or for the account of any LGUs, WDs, local water utilities, enterprises, or private entities and individuals to be exclusively used for water quality management programs shall be exempted from the payment of customs duties and applicable internal revenue taxes. Industrial wastewater treatment and/or installation of water pollution control devices shall be classified as pioneer and preferred areas of investment under the BOI's annual priority plan and shall enjoy the applicable fiscal and non-fiscal incentives as may be provided for under the Omnibus Investment Code, as amended.

B. Financial Assistance Program

Government financial institutions such as the Development Bank of the Philippines, Land Bank of the Philippines, Government Service Insurance System, and such other government institutions providing financial services shall, in accordance with and to the extent allowed by the enabling provisions of their respective charters or applicable laws, accord high priority to extend financial services to LGUs, WDs, enterprises, or private entities engaged in sewage collection and treatment facilities.

C. Extension of Grants to LGUs

Cities and municipalities which shall establish or operate sewerage facilities may be entitled to receive grants for the purpose of developing technical capabilities.

CHAPTER 5 CIVIL LIABILITY/PENAL PROVISIONS

SEC. 27. Prohibited Acts. - The following acts are hereby prohibited:

a) Discharging, depositing or causing to be deposited material of any kind directly or indirectly into the water bodies or along the margins of any surface water, where, the same shall be liable to be washed into such surface water, either by tide action or by storm, floods or otherwise, which could cause water pollution or impede natural flow in the water body;

b) Discharging, injecting or allowing to seep into the soil or sub-soil any substance in any form that would pollute groundwater. In the case of geothermal projects,

and subject to the approval of the Department, regulated discharge for short-term activities (e.g. well testing, flushing, commissioning, venting) and deep re-injection of geothermal liquids may be allowed: *Provided*, That safety measures are adopted to prevent the contamination of the groundwater;

- c) Operating facilities that discharge regulated water pollutants without the valid required permits or after the permit was revoked for any violation of any condition therein;
- d) Disposal of potentially infectious medical waste into sea water by vessels unless the health or safety of individuals on board the vessel is threatened by a great and imminent peril;
- e) Unauthorized transport or dumping into sea waters of sewage sludge or solid waste as defined under Republic Act No. 9003;
- f) Transport, dumping or discharge of prohibited chemicals, substances or pollutants listed under Republic Act No. 6969;
- g) Operate facilities that discharge or allow to seep, willfully or through gross negligence, prohibited chemicals, substances or pollutants listed under R. A. No. 6969, into water bodies or wherein the same shall be liable to be washed into such surface, ground, coastal, and marine water;
- h) Undertaking activities or development and expansion of projects, or operating wastewater/ sewerage facilities in violation of Presidential Decree No. 1586 and its implementing rules and regulations;
- i) Discharging regulated water pollutants without the valid required discharge permit pursuant to this Act or after the permit was revoked for any violation of any condition therein;
- j) Noncompliance of the LGU with the Water Quality Framework and Management Area Action Plan. In such a case, sanctions shall be imposed on the local government officials concerned;
- k) Refusal to allow entry, inspection and monitoring by the Department in accordance with this Act;
- l) Refusal to allow access by the Department to relevant reports and records in accordance with this Act;
- m) Refusal or failure to submit reports whenever required by the Department in accordance with this Act;
- n) Refusal or failure to designate pollution control officers whenever required by the Department in accordance with this Act; and
- o) Directly using booster pumps in the distribution system or tampering with the water supply in such a way as to alter or impair the water quality.

SEC. 28. Fines, Damages and Penalties. - Unless otherwise provided herein, any person who commits any of the prohibited acts provided in the immediately preceding section or violates any of the provision of this Act or its implementing rules and regulations, shall be fined by the Secretary, upon the recommendation of the PAB in the amount of not less than Ten thousand pesos (P10,000.00) nor more than Two hundred thousand pesos (P200,000.00) for every day of violation. The fines herein prescribed shall be increased by ten percent (10%) every two (2) years to compensate for inflation and to maintain the deterrent function of such fines: *Provided*, That the Secretary, upon recommendation of the PAB may order the closure, suspension of development or construction, or cessation of operations or, where appropriate disconnection of water supply, until such time that proper environmental safeguards are put in place and/or compliance with this Act or its rules and regulations are undertaken. This paragraph shall be without prejudice to the issuance of an *ex parte* order for such closure, suspension of development or construction, or cessation of operations during the pendency of the case.

Failure to undertake clean-up operations, willfully, or through gross negligence, shall be punished by imprisonment of not less than two (2) years and not more than four (4) years and a fine not less than Fifty thousand pesos (P50,000.00) and not more than One hundred thousand pesos (P100,000.00) per day for each day of violation. Such failure or refusal which results in serious injury or loss of life and/or irreversible water contamination of surface, ground, coastal and marine water shall be punished with imprisonment of not less than six (6) years and one (1) day and not more than twelve (12) years, and a fine of Five hundred thousand pesos (P500,000.00) per day for each day during which the omission and/or contamination continues.

In case of gross violation of this Act, the PAB shall issue a resolution recommending that the proper government agencies file criminal charges against the violators.

Gross violation shall mean any of the following:

(a) deliberate discharge of toxic pollutants identified pursuant to Republic Act No. 6969 in toxic amounts;

(b) five (5) or more violations within a period of two (2) years; or

(c) blatant disregard of the orders of the PAB, such as the non-payment of fines,

breaking of seals or operating despite the existence of an order for closure, discontinuance or cessation of operation. In which case, offenders shall be punished with a fine of not less than Five hundred thousand pesos (P500,000.00) but not more than Three million pesos (P3,000,000.00) per day for each day of violation or imprisonment of not less than six (6) years but not more than ten (10) years, or both, at the discretion of the court. If the offender is a juridical person, the president, manager and the pollution control officer or the official in charge of the operation shall suffer the penalty herein provided. For violations falling under Section 4 of Presidential Decree No. 979 or any regulations prescribed in pursuance thereof, such person shall be liable for a fine of not less than Fifty thousand pesos (P50,000.00) nor more than One million pesos (P1,000,000.00) or by imprisonment of not less than one (1) year nor more than six (6) years or both, for each offense, without prejudice to the civil liability of the offender in accordance with existing laws. If the offender is a juridical entity, then its officers, directors, agents or any person primarily responsible shall be held liable: *Provided*, That any vessel from which oil or other harmful substances are discharged in violation of Section 4 of Presidential Decree No. 979 shall be liable for penalty of fine specified in the immediately preceding paragraph and clearance of such vessel from the port of the Philippines may be withheld until the fine is paid and such penalty shall constitute a lien on such vessel which may be recovered in proceedings by libel in *rem* in the proper court which the vessel may be. The owner or operator of a vessel or facility which discharged the oil or other harmful substances will be liable to pay for any clean-up costs.

Provided, finally, That water pollution cases involving acts or omissions committed within the Laguna Lake Region shall be dealt with in accordance with the procedure under Republic Act No. 4850 as amended.

SEC. 29. Administrative Sanctions Against Non-compliance with the Water Quality Management Area Action Plan. - Local government officials concerned shall be subject to administrative sanctions in case of failure to comply with their action plan in accordance with the relevant provisions of Republic Act No. 7160.

CHAPTER 6 ACTIONS

SEC. 30. Administrative Action. - Without prejudice to the right of any affected person to file an administrative action, the Department shall, on its own instance or upon verified complaint by any person, institute administrative proceedings in the proper forum against any person who violates:

a) Standards or limitations provided by this Act; or

b) By any such order, rule or regulation issued by the Department with respect to such standard or limitation.

CHAPTER 7 FINAL PROVISIONS

SEC. 31. Appropriations. - An amount of One hundred million pesos (P100,000,000.00) shall be appropriated from the savings of the National Government to the Department for the initial implementation of this Act. Thereafter, the amount necessary to effectively carry out the provisions of

this Act shall be included in the General Appropriations Act of the year following its enactment into law and thereafter.

SEC. 32. *Implementing Rules and Regulations.* - The Department, in coordination with the Committees on Environment and Ecology of the Senate and the House of Representatives, respectively and other concerned agencies, shall promulgate the implementing rules and regulations for this Act, within one (1) year after the enactment of this Act: *Provided*, That rules and regulations issued by other government agencies and instrumentalities for the prevention and/or abatement of water pollution not inconsistent with this Act shall supplement the rules and regulations issued by the Department, pursuant to the provisions of this Act. The draft of the implementing rules and regulations shall be published and be the subject of public consultations with affected sectors. There shall be a mandatory review of the implementing rules and regulations and standards set pursuant to the provisions of this Act.

SEC. 33. *Joint Congressional Oversight Committee.* - There is hereby created a Joint Congressional Oversight Committee to monitor the implementation of the Act and to review the implementing rules and regulations promulgated by the Department.

The Committee shall be composed of five (5) Senators and five (5) Representatives to be appointed by the Senate President and the Speaker of the House of Representatives, respectively. The Oversight Committee shall be co-chaired by the Chairpersons of the Committee on Environment of the Senate and the Committee on Ecology of the House of Representatives.

SEC. 34. *Repealing Clause.* - Presidential Decree No. 984 is hereby repealed. Republic Act Nos. 6969 and 4850 as amended, Presidential Decree Nos. 1586, 1152, 979 and 856 are hereby amended and modified accordingly. All other laws, orders, issuance, rules and regulations inconsistent herewith are hereby repealed or modified accordingly.

SEC. 35. *Separability Clause.* - If any provision of this Act or the application of such provision to any person or circumstances is declared unconstitutional, the remainder of the Act or the application of such provision to other person or circumstances shall not be affected by such declaration.

SEC. 36. *Effectivity.* - This Act shall take effect fifteen (15) days from the date of its publication in the *Official Gazette* or in at least two (2) newspapers of general circulation.

Approved,

Sgd. JOSE DE VENECIA JR.
Speaker of the House
of Representative

Sgd. FRANKING DRILON
President of the Senate

This Act which is a consolidation of Senate Bill No. 2115 and House Bill No. 5398 was finally passed by the Senate and the House of Representatives on February 4, 2004.

Sgd. ROBERTO P. NAZARENO
Secretary General
House of Representatives

Sgd. OSCAR G. YABES
Secretary of Senate

Approved: March 2, 2004

Sgd. GLORIA MACAPAGAL ARROYO
President of the Philippines



Republic of the Philippines
Department of Environment and Natural Resources
Visayas Avenue, Diliman, Quezon City 1110
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929-70-41 to 43

MAY 16 2005

DENR Administrative Order
No. 2005- 10

**SUBJECT: Implementing Rules and Regulations of the
Philippine Clean Water Act of 2004 (Republic
Act No. 9275)**

Pursuant to Section 32 of the Philippine Clean Water Act of 2004, and Executive Order No. 192 (1987), the Department of Environment and Natural Resources hereby adopts and promulgates the following rules and regulations, in coordination with the Committee on Environment and Natural Resources of the Senate and the Committee on Ecology of the House of Representatives, and other concerned agencies:

Rule 1. Title. These rules shall be known as the Implementing Rules and Regulations (IRR) of the Philippine Clean Water Act of 2004.

1.1 Reference. The text of Republic Act No. 9275 (CWA) is reproduced herein for reference purposes.

1.2 Effectivity of the CWA. The CWA was published on April 21, 2004 and subsequently took effect on May 6, 2004.

**CHAPTER 1
GENERAL PROVISIONS**

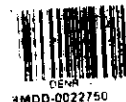
Article 1

Declaration of Principles and Policies

SECTION 1. Short Title. - This Act shall be known as the "Philippine Clean Water Act of 2004."

SEC. 2. Declaration of Policy. - The State shall pursue a policy of economic growth in a manner consistent with the protection, preservation and revival of the quality of our fresh, brackish and marine waters. To achieve this end, the framework for sustainable development shall be pursued. As such, it shall be the policy of the State:

- a) To streamline processes and procedures in the prevention, control and abatement of pollution of the country's water resources;
- b) To promote environmental strategies, use of appropriate economic instruments and of control mechanisms for the protection of water resources;



- c) To formulate a holistic national program of water quality management that recognizes that water quality management issues cannot be separated from concerns about water sources and ecological protection, water supply, public health and quality of life;
- d) To formulate an integrated water quality management framework through proper delegation and effective coordination of functions and activities;
- e) To promote commercial and industrial processes and products that are environment friendly and energy efficient;
- f) To encourage cooperation and self-regulation among citizens and industries through the application of incentives and market-based instruments and to promote the role of private industrial enterprises in shaping its regulatory profile within the acceptable boundaries of public health and environment;
- g) To provide for a comprehensive management program for water pollution focusing on pollution prevention;
- h) To promote public information and education and to encourage the participation of an informed and active public in water quality management and monitoring;
- i) To formulate and enforce a system of accountability for short and long-term adverse environmental impact of a project, program or activity; and
- j) To encourage civil society and other sectors, particularly labor, the academe and business undertaking environment-related activities in their efforts to organize, educate and motivate the people in addressing pertinent environmental issues and problems at the local and national levels.

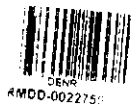
Rule 2. Interpretation of the Declaration of Policy. The policy statements in Section 2 of the CWA shall be interpreted collectively, and all regulations issued pursuant to the CWA and decisions over disputes in specific cases shall be implemented or made with due consideration of this policy. Issues and cases shall be resolved in a fair and objective manner. The CWA and these rules shall be construed liberally in favor of protecting the quality of water resources and public health.

SEC. 3. Coverage of the Act. – This Act shall apply to water quality management in all water bodies: Provided, That it shall primarily apply to the abatement and control of pollution from land based sources: Provided, further, That the water quality standards and regulations and the civil liability and penal provisions under this Act shall be enforced irrespective of sources of pollution.

Rule 3. Applicability of the CWA to marine pollution and disposal of effluents on land.

3.1 Applicability of standards. In addition to regulating pollution of water bodies, the Department shall formulate and apply standards for the transport and disposal of effluent, sewage and septage offsite, whether offshore or on land as well as disposal of industrial wastewater on land. The DA shall develop guidelines for re-use of wastewater for irrigation purposes or as soil conditioner or fertilizer, provided that the discharge of effluents on land shall comply with conditions provided under Rule 14.6 herein.

3.2 Penalties. The penalties under Sec. 28 of the CWA shall apply to offenses committed under the Marine Pollution Decree (P.D. No. 979, as amended) and administrative penalties for aquatic pollution, without prejudice to criminal sanctions under the Fisheries Code.



3.3 Enforcement. The Department shall coordinate with the Philippine Coast Guard with respect to the enforcement of standards and regulations in offshore areas including the discharge of wastewater by ships.

Article 2
Definition of Terms

SEC. 4. Definition of Terms. - As used in this Act:

- a) **Aquifer - means a layer of water-bearing rock located underground that transmits water in sufficient quantity to supply pumping wells or natural springs.**
- b) **Aquatic life - means all organisms living in freshwater, brackish and marine environments.**
- c) **Beneficial use - means the use of the environment or any element or segment thereof conducive to public or private welfare, safety and health; and shall include, but not be limited to, the use of water for domestic, municipal, irrigation, power generation, fisheries, livestock raising, industrial, recreational and other purposes.**
 - 1. **Use of water for domestic purposes - means the utilization of water for drinking, washing, bathing, cooking or other household needs, home gardens and watering of lawns or domestic animals;**
 - 2. **Use of water for municipal purposes - means the utilization of water for supplying water requirements of the community;**
 - 3. **Use of water for irrigation - means the utilization of water for producing agricultural crops;**
 - 4. **Use of water for power generation - means the utilization of water for producing electrical or mechanical power;**
 - 5. **Use of water for fisheries - means the utilization of water for the propagation of culture of fish as a commercial enterprise;**
 - 6. **Use of water for livestock raising - means the utilization of water for large herds or flocks of animals raised as a commercial enterprise;**
 - 7. **Use of water for industrial purposes - means the utilization of water in factories, industrial plants and mines, including the use of water as an ingredient of a finished product; and**
 - 8. **Use of water for recreational purposes - means the utilization of water for swimming pools, bath houses, boating, water skiing, golf courses and other similar facilities in resorts and other places of recreation.**
- d) **Classification/Reclassification of Philippine Waters – means the categorization of all water bodies taking into account, among others, the following: (1) existing quality of the body of water; (2) size, depth, surface area covered, volume, direction, rate of flow and gradient of stream; (3) most beneficial existing and future use of said bodies of water and lands bordering them, such as for residential, agricultural, aquacultural, commercial, industrial, navigational, recreational, wildlife conservation and aesthetic purposes; and (4) vulnerability of surface and groundwater to contamination from pollutive and hazardous wastes, agricultural chemicals and underground storage tanks of petroleum products.**
- e) **Civil Society - means non-government organizations (NGOs) and people's organizations (POs).**
- f) **Cleaner production - means the application of an integrated, preventive environmental strategy to processes, products, services to increase efficiency and reduce risks to humans and the environment;**



- g) **Clean-up operations** - means activities involving the removal of pollutants discharged or spilled into a water body and its surrounding areas, and the restoration of the affected areas to their former physical, chemical and biological state or conditions.
- h) **Contamination** - means the introduction of substances not found in the natural composition of water that make the water less desirable or unfit for intended use.
- i) **Department** - means the Department of Environment and Natural Resources.
- j) **Discharge** includes, but is not limited to, the act of **spilling, leaking, pumping, pouring, emitting, emptying, releasing or dumping** of any material into a water body or onto land from which it might flow or drain into said water.
- k) **Drinking water** - means water intended for human consumption or for use in food preparation.
- l) **Dumping** - means any unauthorized or illegal disposal into any body of water or land of wastes or toxic or hazardous material: Provided, That it does not mean a release of effluent coming from commercial, industrial, and domestic sources which are within the effluent standards.
- m) **Effluent** - means discharges from known source which is passed into a body of water or land, or wastewater flowing out of a manufacturing plant, industrial plant including domestic, commercial and recreational facilities.
- n) **Effluent standard** - means any legal restriction or limitation on quantities, rates, and/or concentrations or any combination thereof, of physical, chemical or biological parameters of effluent which a person or point source is allowed to discharge into a body of water or land.
- o) **Environmental management** - means the entire system which includes, but is not limited to, conservation, regulation and minimization of pollution, clean production, waste management, environmental law and policy, environmental education and information, study and mitigation of the environmental impacts of human activity, and environmental research.
- p) **Environmental management system** - means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.
- q) **Freshwater** - means water containing less than 500 ppm dissolved common salt, sodium chloride, such as that in groundwater, rivers, ponds and lakes.
- r) **Groundwater** - means a subsurface water that occurs beneath a water table in soils and rocks, or in geological formations.
- s) **Groundwater vulnerability** - means relative ease with which a contaminant located at or near the land surface can migrate to the aquifer or deep well.
- t) **Groundwater vulnerability map** - means the identified areas of the land surface where groundwater quality is most at risk from human activities and shall reflect the different degrees of groundwater vulnerability based on a range of soil properties and hydrogeological criteria to serve as guide in the protection of the groundwater from contamination.
- u) **Hazardous waste** - means any waste or combination of wastes of solid, liquid, contained gaseous, or semi-solid form which cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness, taking into account toxicity of such waste, its persistence and degradability in nature, its potential for accumulation or concentration in tissue, and other factors that may otherwise cause or contribute to adverse acute or chronic effects on the health of persons or organism.



- v) **Industrial waste** - means any solid, semi-solid or liquid waste material with no commercial value released by a manufacturing or processing plant other than excluded material.
- w) **Integrated Water Quality Management Framework** -- means the policy guideline integrating all the existing frameworks prepared by all government agencies on water quality involving pollution from all sources. Specifically, the framework shall contain the following: (a) water quality goals and targets; (b) period of compliance; (c) water pollution control strategies and techniques; (d) water quality information and education program; (e) human resources development program.
- x) **Margin** - means a landward and outer limiting edge adjacent to the border of any water bodies or a limit beyond where saturation zone ceases to exist.
- y) **National Water Quality Status Report** -- means a report to be prepared by the Department indicating: (a) the location of water bodies, their water quality, taking into account seasonal, tidal and other variations, existing and potential uses and sources of pollution per specific pollutant and pollution load assessment; (b) water quality management areas pursuant to Section 5 of this Act; and (c) water classification.
- z) **Non-point source** - means any source of pollution not identifiable as point source to include, but not be limited to, runoff from irrigation or rainwater which picks up pollutants from farms and urban areas.
- aa) **Point source** - means any identifiable source of pollution with specific point of discharge into a particular water body.
- bb) **Pollutant** - shall refer to any substance, whether solid, liquid, gaseous or radioactive, which directly or indirectly:
 - (i) alters the quality of any segment of the receiving water body so as to affect or tend to affect adversely any beneficial use thereof;
 - (ii) is hazardous or potentially hazardous to health;
 - (iii) imparts objectionable odor, temperature change, or physical, chemical or biological change to any segment of the water body; or
 - (iv) is in excess of the allowable limits or concentrations or quality standards specified, or in contravention of the condition, limitation or restriction prescribed in this Act.
- cc) **Pollution control technology** - means pollution control devices or apparatus, processes, or other means that effectively prevent, control or reduce pollution of water caused by effluents and other discharges, from any point source at levels within the water pollution standards.
- dd) **Potentially infectious medical waste** - includes isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, and other disposable medical equipment and material that may pose a risk to the public health, welfare or the marine environment.
- ee) **Secretary** - means the Secretary of the Department of Environment and Natural Resources (DENR).
- ff) **Septage** - means the sludge produced on individual onsite wastewater-disposal systems, principally septic tanks and cesspools.
- gg) **Sewage** - means water-borne human or animal wastes, excluding oil or oil wastes, removed from residences, buildings, institutions, industrial and commercial establishments together with such groundwater, surface water and storm water as maybe present including such waste from vessels, offshore structures, other receptacles intended to receive or retain wastes, or other places or the combination thereof.



- hh) Sewerage - includes, but is not limited to, any system or network of pipelines, ditches, channels, or conduits including pumping stations, lift stations and force mains, service connections including other constructions, devices, and appliances appurtenant thereto, which involves the collection, transport, pumping and treatment of sewage to a point of disposal.
- ii) Sludge - means any solid, semi-solid or liquid waste or residue generated from a wastewater treatment plant, water supply treatment plant, or water control pollution facility, or any other such waste having similar characteristics and effects.
- jj) Surface water - means all water which is open to the atmosphere and subject to surface runoff.
- kk) Treatment - means any method, technique, or process designed to alter the physical, chemical or biological and radiological character or composition of any waste or wastewater to reduce or prevent pollution.
- ll) Toxic amount - means the lowest amount of concentration of toxic pollutants which may cause chronic or long-term acute or lethal conditions or effects to the aquatic life or health of persons or which may adversely affect designated water uses.
- mm) Waste - means any material either solid, liquid, semisolid, contained gas or other forms resulting from industrial, commercial, mining or agricultural operations, or from community and household activities that is devoid of usage and discarded.
- nn) Wastewater - means waste in liquid state containing pollutants.
- oo) Water body - means both natural and man-made bodies of fresh, brackish, and saline waters, and includes, but is not limited to, aquifers, groundwater, springs, creeks, streams, rivers, ponds, lagoons, water reservoirs, lakes, bays, estuarine, coastal and marine waters. Water bodies do not refer to those constructed, developed and used purposely as water treatment facilities and/or water storage for recycling and re-use which are integral to process industry or manufacturing.
- pp) Water pollution - means any alteration of the physical, chemical or biological or radiological properties of a water body resulting in the impairment of its purity or quality.
- qq) Water quality - means the characteristics of water which define its use in terms of physical, chemical, biological, bacteriological or radiological characteristics by which the acceptability of water is evaluated.
- rr) Water quality guidelines - means the level for a water constituent or numerical values of physical, chemical, biological and bacteriological or radiological parameters which are used to classify water resources and their use, which does not result in significant health risk and which are not intended for direct enforcement but only for water quality management purposes, such as determining time trends, evaluating stages of deterioration or enhancement of the water quality, and as basis for taking positive action in preventing, controlling or abating water pollution.
- ss) Water Quality Management Area Action Plan - includes, but not be limited to, the following: (a) goals and targets including sewerage or septage program; (b) schedule of compliance to meet the applicable requirements of this Act; (c) water pollution control strategies or techniques; (d) water quality information and education program; (e) resource requirement and possible sources; (f) enforcement procedures of the plan; and (g) rewards and incentives under Chapter 4 of this Act.

Rule 4. Additional terms used:

- 4.1 *Authorized inspection* – means inspection, whether announced or unannounced, conducted at any time by the multi-partite monitoring teams in relation to their function, or by a Department inspector where the inspector



presents a valid Department inspector's identification duly signed by the Secretary, EMB Director or EMB Regional Director to enter and inspect a pollution source. Inspections of effluents discharged outside the facility may be conducted at any time.

- 4.2 **Bureau** – refers to the Environmental Management Bureau of DENR.
- 4.3 **Commercial Wastewater** - means all the wastewater generated by trading or business establishment and/or any other related firms or companies, which include but not limited to restaurants, shopping malls, commercial laboratories, hospitals, markets, commercial condominiums, hotels, gasoline stations, and other establishments.
- 4.4 **Ecological Sanitation** – or ECOSAN is an approach with the objective of closing the nutrient loop between sanitation and agriculture. It includes all of the following ecological principles: (1) conscious conservation of resources; (2) recycling and reuse; (3) minimization of energy and water use; (4) pollution prevention; and, (5) rendering the recyclables (human and animal excreta and grey water) safe for reuse.
- 4.5 **Effluent quota** - refers to the maximum allowable pollution load that an establishment can discharge without affecting the present state or condition of the water body.
- 4.6 **Household Domestic Wastewater** - means the waste water discharges generated from household (single-residential structures) dwelling units specifically from toilets, kitchens, washing areas and other similar sanitary conveniences or facilities.
- 4.7 **Industrial Wastewater** - means all the wastewaters from any producing, manufacturing, processing, trade or business or any other operations/activities from industrial establishments.
- 4.8 **Land Application** - refers to the incorporation and/or application of effluent through available conventional irrigation methods for the distribution of material(s) into the land surface for the purpose of pollutant removal, assimilation and utilization.
- 4.9 **Loading Limit** - refers to the allowable pollutant loading limit per unit of time which the discharger is permitted to discharge into any receiving body of water or land resources.
- 4.10 **Loading Limit Compliance** - refers to the establishment or industry performances and practices in complying the stipulated allowable pollutant loading and other permit conditions for waste water discharge.
- 4.11 **New sources of pollution** – includes existing sources that have expanded or modified their production processes resulting in an increase in pollution load.
- 4.12 **Pre-Treatment Standards** – standards issued by the Bureau, upon recommendation of the WTP operator/water district or concessionaire, for treatment of wastewater prior to discharge into the sewerage system operated by the concerned WTP operator/water district or concessionaire.
- 4.13 **Rural Areas** – areas outside of component and highly urbanized cities as defined under the local government code.
- 4.14 **Sanitation facilities** - refers to on-site facilities such as toilets and septic tanks for safe disposal of human waste.
- 4.15 **Specific point of discharge** - refers to any discharges coming from a discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container,



rolling stock, concentrated animal feeding operation, or vessel or other floating craft.

4.16 **Total pollution load** - refers to the summation of the pollution load from all point and non-point sources, including natural sources.

CHAPTER 2
WATER QUALITY MANAGEMENT SYSTEM
Article 1
General Provisions

SEC. 5. Water Quality Management Area. - The Department, in coordination with National Water Resources Board (NWRB), shall designate certain areas as water quality management areas using appropriate physiographic units such as watershed, river basins or water resources regions. Said management areas shall have similar hydrological, hydrogeological, meteorological or geographic conditions which affect the physicochemical, biological and bacteriological reactions and diffusions of pollutants in the water bodies, or otherwise share common interest or face similar development programs, prospects, or problems.

Said management area shall be governed by a governing board composed of representatives of mayors and governors of member LGUs, and representatives of relevant national government agencies, duly registered nongovernmental organization, water utility sector, and business sector. The Department representative shall chair the governing board. In the case of the LGUs with memberships on more than one (1) management board, the LGU shall designate only one (1) single representative for all the management areas where it is a member.

The governing board shall formulate strategies to coordinate policies necessary for the effective implementation of this Act in accordance with those established in the framework and monitor the compliance with the action plan.

Each management area shall create a multi-sectoral group to establish and effect water quality surveillance and monitoring network including sampling schedules and other similar activities. The group shall submit its report and recommendation to the chairman of the governing board.

A technical secretariat for each management area is hereby created which shall be part of the Department and shall provide technical support to the governing board. They shall be composed of at least four (4) members who shall have the following minimum qualifications:

- a) One (1) member shall be a member of the Philippine Bar;
- b) One (1) member shall be a Chemical Engineer, Chemist, Sanitary Engineer, Environmental Engineer or Ecologist or have significant training and experience in chemistry;
- c) One (1) member shall be a Civil Engineer or Hydrologist or have significant training and experience in closely related fields and mainly experience on ground water, respectively; and
- d) One (1) member shall be a Geologist or Biologist or have significant training and experience in closely related fields.



The areas within the jurisdiction of the Laguna Lake Development Authority (LLDA) shall be designated as one management area under the administration of LLDA in accordance with R.A. No. 4850, as amended: Provided, however, That the standards promulgated pursuant to this Act and wastewater charge system established pursuant hereof shall be enforced in said area.

Rule 5. Designation and Management of Water Quality Management Areas (WQMA)

5.1 Procedure for designation of WQMA;

5.1.1 Initiating the process of designation. The Regional Offices of the Department shall initiate the process of designation by evaluating information using the criteria to be developed by the Department. However, any concerned government agency, including local government units, Protected Area Management Boards, watershed councils, Fisheries and Aquatic Resources Management Councils, government corporations with relevant concerns, or civil society, may propose the designation of a WQMA in their area to the Department and submit the relevant information. The concerned agency or organization shall follow the general procedure for designation outlined herein and coordinate with the Department throughout the process of consultations and data gathering.

5.1.2 Other considerations for designation. The Department shall also consider practical manageable size, integrated development or management plans, inter-LGU working relationships and existence of similar management areas or bodies in the designation of the WQMA.

5.1.3 Requirements for the proposal. The proposal for WQMA designation shall include a map of the area, technical description/justification, and management rationale including major threats to water quality.

5.1.4 Role of NWRB. The NWRB shall provide relevant technical data necessary for determining the appropriate boundaries of the WQMA. The NWRB shall work closely with the Department in the determination of such boundaries.

5.1.5 Convening of key stakeholders. The Regional Office of DENR shall inform and consult the Regional Development Council, LGUs, NGOs, water utilities and business sectors as well as Protected Areas Management Boards, watershed councils, Fisheries And Aquatic Resources Management Councils or government corporations with relevant concerns, where appropriate and relevant to a proposed WQMA, before the formal designation of the WQMA.

5.1.6 Public Consultations. The Department shall disseminate the proposal for WQMA designation in the proposed area and conduct public consultations after due notice. Consultations shall also cover areas contiguous to the proposed WQMA.



5.1.7 Designation by the Secretary. The designation of the WQMA shall be made by the Secretary upon recommendation of the Bureau, based on the proposal, technical studies and consultations. In the first year of implementation, the Secretary may designate WQMA based on previously identified priority areas. Thereafter, these initial WQMA may be subject to review and consultations for re-adjustment of boundaries and representation in the governing board, if necessary.

5.2 Re-designation of WQMA. When necessary, and only after undertaking necessary studies and conducting consultations with relevant local government authorities, the Secretary of the Department, upon recommendation of the Bureau, shall revise the designation of WQMA, re-adjust its boundaries or reconstitute its membership for adequate representation.

5.3 Membership in the Governing Board.

5.3.1 Appointment of Representatives. National agencies and local government units shall appoint their permanent and alternate members to the Board. The representative shall be able to make commitments. In case a local government unit belongs to more than one WQMA, the LGU shall designate the same representative for all the management areas where it is a member. National agencies shall likewise designate the same representatives to contiguous WQMA to ensure consistency and complementation of policies and activities.

5.3.2 Non-government Members. Within six (6) months from the designation of a particular WQMA, representative(s) from civil society, water utility and private business sectors in the WQMA or with recognized interests in the area shall be chosen from among themselves through sectoral assemblies convened for the purpose. Such assemblies shall be open to all accredited civil society or private business organizations in the proposed area. The Secretary may provide for several members from each non-government sector to ensure that significant sub-sectors are represented, depending on the size of the WQMA and complexity of the problems or issues faced. Each sub-sector shall choose their representative.

5.3.3 Terms of Membership. Members representing national government agencies shall serve permanently unless replaced by their appointing authority. Elected officials of local government units shall serve for such time as may be permitted by their terms of office, while their representatives shall serve for as long as they are authorized by the local government unit. Non-government members shall serve for a maximum of three (3) years, unless re-nominated. The representatives of the water utility sector shall serve for as long as they are authorized by the agency. When a representative from the civil society or business sector is incapacitated or resigns, the sector or sub-sector represented shall nominate a new representative who shall serve a full term.



5.3.4 Compensation and expenses. Members shall serve without compensation, except for actual and necessary expenses (i.e. travel) incurred in the performance of their duty, which shall be charged to the operational budget of the WQMA.

5.3.5 Chair of the Governing Board. The Secretary shall designate the Deputy representative as Chair of the Governing Board. However, the governing boards may choose a co-chair or alternate chair from among the member local chief executives to preside over regular meetings.

5.3.6 Meetings. The Governing Board shall meet quarterly or more often, as provided in the Governing Rules.

5.4 Functions of the Board. Each Governing Board shall perform the following functions within its jurisdiction:

5.4.1 Prepare and publish on a regular basis a Water Quality Status

5.4.2 Report for the WQMA and submit a copy to the Department for consolidation into the National Water Quality Status Report;

5.4.3 Formulate strategies to coordinate policies/regulations/local legislation necessary for the effective implementation of this Act in accordance with those established in the Framework;

5.4.4 Review the initial WQMA Action Plan prepared by the Department and draft a common and integrated compliance plan. Thereafter, prepare a draft Action Plan for succeeding periods for submission to the Department;

5.4.5 Monitor and facilitate the compliance of local governments with the WQMA Action Plan;

5.4.6 Coordinate relevant activities among its members and member agencies and facilitate resolution of conflicts; and

5.4.7 Undertake complementary interventions for non-point sources, considering their greater contribution to pollution.

5.5 Governing Rules. Governing Rules shall be issued by the individual Governing Boards. These governing rules shall be submitted to the Department, through the Regional Office, for comment to advise the Governing Board of possible conflict in policies and laws of national application.

5.6 Technical Working Groups. Technical working groups may be formed by the Governing Board to ensure broad-based participation in the work of the Governing Board. The Board shall identify the members of the TWG.

5.7 Multi-sectoral group. The Governing Rules shall provide for the creation and operation of a multi-sectoral group for water quality monitoring and surveillance. The Board shall ensure that the operations of the group do not unnecessarily duplicate the regular monitoring functions of government agencies and local governments. Inspections conducted by the multi-sectoral group shall be duly authorized by the chairman or co-chairman. Members of the inspection team must be adequately trained and formally deputized.



- 5.8 **Technical Secretariat.** The technical secretariat of the WQMA shall be based in the Regional Office of the Department. The Department may designate the same qualified personnel to serve in the secretariat of contiguous WQMA.
- 5.9 **Funding for Activities.** An amount of not more than ten percent (10%) of the total amount accruing to the Area Water Quality Management Fund annually shall be allocated for the operational expenses of the governing board, its secretariat and multi-sectoral water quality surveillance and monitoring network.
- 5.10 **LLDA as WQMA.** The LLDA governing board shall consist of the members of the LLDA board of directors and representatives from the sectors provided in Sec. 5 of the CWA. The jurisdiction, powers and functions of the governing board of the LLDA-WQMA shall be limited by the CWA, without prejudice to the powers and functions of the board of directors under R.A. 4850, as amended.

SEC. 6. Management of Non-attainment Areas. - The Department shall designate water bodies, or portions thereof, where specific pollutants from either natural or man-made source have already exceeded water quality guidelines as non-attainment areas for the exceeded pollutants. It shall prepare and implement a program that will not allow new sources of exceeded water pollutant in non-attainment areas without a corresponding reduction in discharges from existing sources: Provided, That if the pollutant is naturally occurring, e.g. naturally high boron and other elements in geothermal areas, discharge of such pollutant may be allowed: Provided, further, That the effluent concentration of discharge shall not exceed the naturally occurring level of such pollutant in the area: Provided, finally, That the effluent concentration and volume of discharge shall not adversely affect water supply, public health and ecological protection. The Department shall, in coordination with NWRB, Department of Health (DOH), Department of Agriculture (DA), governing board and other concerned government agencies and private sectors shall take such measures as may be necessary to upgrade the quality of such water in non-attainment areas to meet the standards under which it has been classified.

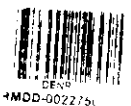
Upgrading of water quality shall likewise include undertakings which shall improve the water quality of a water body to a classification that will meet its projected or potential use.

The LGUs shall prepare and implement contingency plans and other measures including relocation, whenever necessary, for the protection of health and welfare of the residents within potentially affected areas.

Rule 6. Non-Attainment Areas.

6.1 General

- 6.1.1 **Designation of Non-Attainment Areas.** Within six (6) months from the effectivity of this IRR, the Department, in coordination with the local governments concerned, shall designate and delineate as non-attainment areas water bodies or portions thereof where specific



pollutants from either natural or man-made sources have already exceeded water quality guidelines issued pursuant to this Act.

6.1.2 Review of Area Designation. The Department shall revise and/or retain non-attainment area designations as additional data becomes available. Results from reviews of area designations will be made available for public comment/review.

6.1.3 Upgrading of Water Quality. The Department shall, within six (6) months from the designation of non-attainment areas, and in coordination with the NWRB, Department of Health (DOH), Department of Agriculture (DA), Governing Board and other concerned government agencies and private sectors, design and implement a plan specifically aimed to upgrade the water quality of water bodies designated as non-attainment areas to meet the guidelines under which they have been classified and to improve their classification to a level that meet their projected or potential use. The plan may include more stringent effluent standards that shall be applicable only to the non-attainment area.

6.1.4 Contingency Plan. The Department shall provide technical assistance to LGUs in the preparation and implementation of contingency plans and other measures necessary for the protection of health and welfare of the residents within areas potentially affected by the water quality of water bodies designated as non-attainment areas.

6.2 Existing Pollution Sources In Non-Attainment Areas

6.2.1 Identification of existing sources. The Bureau shall identify, as part of the plan to upgrade water quality, existing sources of water pollutants in designated non-attainment areas, including pollutants that are naturally occurring in the area.

6.2.2 Non-compliance. Pollution sources that are not in compliance with the effluent standards for the non-attainment area shall be subject to strict monitoring, without prejudice to the penalties and administrative remedies provided herein.

6.2.3 Naturally Occurring Pollutants. In areas where the concentration of specific naturally occurring pollutants is higher than the relevant water quality guideline, the discharge of such specific pollutant by existing point sources may be allowed only if the resultant total pollution load shall not adversely affect water supply, public health and ecological protection.

6.3 New Sources of Water Pollutants in Non-Attainment Areas

6.3.1 Limitation on new sources. No new sources of pollution for the specific pollutants for which the area is designated as non-attainment shall be allowed, unless there is a corresponding reduction in



discharges from existing sources and the total pollution load from all sources including the new source will not exceed the targets in the plan to upgrade of water quality as required by law and Rule 6.1.3.

6.3.2 *Lowest Achievable Effluent Rate.* New sources shall install and operate water pollution control technology that will provide the lowest achievable effluent rate (LAER) of the pollutant for which the area is designated non-attainment. The affected firm shall propose technologies it believes will meet the intent of this regulation. The Bureau shall approve the use of lowest achievable effluent rate control technologies.

6.3.3 *Effluent Averaging and Effluent Trading.* New sources subject to the non-attainment provisions may not use effluent trading or effluent averaging for compliance purposes.

SEC. 7. National Sewerage and Septage Management Program. - The Department of Public Works and Highways (DPWH), through its relevant attached agencies, in coordination with the Department, local government units (LGUs) and other concerned agencies, shall, as soon as possible, but in no case exceeding a period of twelve (12) months from the effectivity of this Act, prepare a national program on sewerage and septage management in connection with Section 8 hereof.

Such program shall include a priority listing of sewerage, septage and combined sewerage-septage projects for LGUs based on population density and growth, degradation of water resources, topography, geology, vegetation, programs/projects for the rehabilitation of existing facilities and such other factors that the Secretary may deem relevant to the protection of water quality. On the basis of such national listing, the national government may allot, on an annual basis, funds for the construction and rehabilitation of required facilities.

Each LGU shall appropriate the necessary land, including the required rights-of-way/road access to the land for the construction of the sewage and/or septage treatment facilities.

Each LGU may raise funds to subsidize necessary expenses for the operation and maintenance of sewerage treatment or septage facility servicing in their area of jurisdiction through local property taxes and enforcement of a service fee system.

Rule 7. National Sewerage and Septage Management Program (NSSMP). The DPWH shall, within twelve (12) months from the effectivity of the CWA, prepare a National Sewerage and Septage Management Program. The NSSMP shall be a framework plan which will be formulated to address various national issues on sanitation and treatment and disposal of wastewater, focusing on, among others, objectives, strategies, targets, institutional mechanism, financing mechanism, technology implementation, programming, monitoring and evaluation and other key national concerns. The program shall also include guidelines on sludge management for companies engaged in desludging operations.



7.1 Involvement of other Agencies.

7.1.1 Role of the DENR. The Department shall coordinate with DPWH and LGUs in complying with Sec. 7 of the CWA, contributing specific environmental criteria and data for the prioritization of sanitation, sewerage, septage management and combination of different systems and projects. It shall likewise present to LGUs, water concessionaires, water districts and other water utilities sustainable options such as community-based natural treatment systems, ecological sanitation concepts, water recycling and conservation systems and other low-cost innovative means to manage sewage and septage as a complement to other sewerage and sanitation programs.

7.1.2 Roles and responsibilities of other agencies. The DOH shall provide specific health criteria and data; the MWSS and LWUA shall contribute inputs relative to the responsibilities of concessionaires and water districts in sewerage, septage and sanitation management; the IEC program shall be developed through the assistance of the Dep. Ed, CHED and PIA. The League of Municipalities/Cities/Provinces shall contribute specific inputs reflecting the interests of LGUs. The LWUA and water districts may also submit to DPWH a listing of sewerage, septage and combined sewerage-septage projects for LGUs.

7.2 Role of LGUs. Each LGU, through the enactment of an ordinance, shall appropriate the necessary land including the required rights-of-way/road access to the land for the construction of the sewage and/or septage treatment facilities in accordance with the Local Government Code. It may enact ordinances adjusting local property taxes or imposing a service fee system to meet necessary expenses for the operation and maintenance of sewerage treatment or septage management facility servicing their area of jurisdiction. The LGUs shall submit to DPWH a priority listing of their projects based on realistic assessment of resources, including proposals for counterpart contributions. Such counterpart proposals shall be considered by the DPWH in prioritizing projects for implementation.

7.3 Exemptions from wastewater charges and liabilities. LGUs undertaking or about to undertake pilot ecological sanitation (ECOSAN) technologies and other sanitation technologies shall be exempt from wastewater charges or other liabilities for seven years from effectivity of the Act and shall be assisted by DENR in securing any necessary permits. Provided, that effluents from such pilot-testing activities shall meet effluent standards.

7.4 Provision of Lands and of Rights-of-Way by LGUs. Each LGU, through the enactment of an ordinance, shall appropriate the necessary land including the required rights-of-way/road access to the land for the construction of the sewage and/or septage treatment facilities in accordance with the Local Government Code.



- 7.5 ***Funding for the Operation and Maintenance of Sewerage Treatment and Septage Facilities.*** Each LGU may enact ordinances adjusting local property taxes or imposing a service fee system to meet necessary expenses for the operation and maintenance of sewerage treatment or septage management facility servicing their area of jurisdiction.

SEC. 8. Domestic Sewerage Collection, Treatment and Disposal. - Within five (5) years following the effectivity of this Act, the agency vested to provide water supply and sewerage facilities and/or concessionaires in Metro Manila and other highly urbanized cities (HUCs) as defined in Republic Act No. 7160, in coordination with LGUs, shall be required to connect the existing sewage line found in all subdivisions, condominiums, commercial centers, hotels, sports and recreational facilities, hospitals, market places, public buildings, industrial complex and other similar establishments including households to available sewerage system: Provided, That the said connection shall be subject to sewerage services charge/fees in accordance with existing laws, rules or regulations unless the sources had already utilized their own sewerage system: Provided, further, That all sources of sewage and septage shall comply with the requirements herein.

In areas not considered as HUCs, DPWH in coordination with the Department, DOH and other concerned agencies, shall employ septage or combined sewerage-septage management system.

For the purpose of this section, DOH, in coordination with other government agencies, shall formulate guidelines and standards for the collection, treatment and disposal of sewage including guidelines for the establishment and operation of centralized sewage treatment system.

Rule 8. Domestic sewage management.

- 8.1 ***Sewerage and Sanitation Projects.*** All projects/activities involving the collection, transport, treatment and disposal of sewage shall be in accordance with the guidelines on sanitation set by DOH. In case sewage, septage, or sludge is collected, transported, treated and disposed by a third party, the final disposal of the treated sewage, septage or sludge shall comply with the relevant standards issued by DOH. Provided, that reuse of treated sludge for agricultural purposes shall comply with the standards set by DENR and DA.
- 8.2 ***Pre-treatment Standards.*** For effluents that go through sewerage treatment systems, the Department may impose either Pre-treatment Standards for Existing Sources (PSES) and/ or Pre-treatment Standards for New Sources (PSNS), upon the recommendation of the operators of sewerage system/ wastewater treatment facilities. Separate standards for combination of different systems effluent should be set by the Department. Provided, that all sources of domestic wastewater including industries, except households, shall abide by the standards set pursuant to this Rule. The DPWH and DENR shall inform LGU building officials of the requirements in the CWA pertinent to issuing building permits, sewerage regulations, municipal and city planning. In the absence of pre-treatment standards, the operators of sewerage system/ wastewater



treatment facilities may require, by contract, effluent sources to meet standards for wastewater discharged into or treated by their facilities.

- 8.3 *Mandatory Connection to Existing Sewerage Lines.*** The DPWH shall coordinate with the water service providers and concessionaires in Metro Manila and other HUCs in preparing a compliance plan for mandatory connection of the identified establishments and households to the existing sewerage system. Mandatory connection under this Rule shall take into consideration the capacity of the sewerage system to accommodate the total wastewater load. Provided, that in areas where sewerage lines are not yet available upon the effectivity of this IRR, all sources of pollution shall connect to sewerage lines once said lines are made available by the agency concerned. Water concessionaires shall ensure compliance with effluent standards formulated pursuant to the Act. Provided finally, that for industries with domestic wastewater, a one-year phase-in period is given to restructure the drainage system to connect to existing wastewater treatment facility.
- 8.4 *Role of MWSS and Water Concessionaires in Metro Manila.*** In case of Metro Manila and other MWSS franchise areas being serviced by the water concessionaires, sewerage facilities and sewage lines shall be provided by water concessionaires in coordination with the LGUs in accordance with their concession agreements. Prior to connection to the main sewage line, secondary lines should already be in-place coming from pre-treatment facilities or directly from sources.
- 8.5 *Actions against Non-connection to Available Sewerage System.*** The Department shall withhold permits or refuse issuance of ECC for establishments that fail to connect their sewage lines to available sewerage system as required herein. Also, the Department shall request the LGUs, water districts and other appropriate agencies, in writing, to sanction persons who refuse connection of sewage lines to available sewerage systems, including non-issuance of Environmental Sanitation Clearance by DOH, in accordance with the Clean Water Act and other existing laws. Provided, further, that the water district shall deprive the property owner of any and all services provided by the water district should the property owner persist in refusing to connect with the water district's sewerage system pursuant to Sec. 29 of P.D. No. 198.
- 8.6 *Role of Water Supply Utilities.*** In the case of HUCs, non-HUCs and LGUs where water districts, water utilities and LGU water works have already been constituted and operational, the water supply utility provider shall be responsible for the sewerage facilities and the main lines pursuant to P.D. No. 198 and other relevant laws. In areas where there are no existing facilities, the LGUs, water districts or water utilities may adopt septage management program or other sanitation alternatives.



- 8.7 *Areas without concessionaires or water districts.* In the case of HUCs, non-HUCs and LGUs where water districts and water corporations have not yet been constituted and operational, the concerned LGU shall employ septage management system or other sanitation programs.

SEC. 9. National Water Quality Management Fund. - A water quality management fund, to be administered by the Department, in coordination with other concerned agencies, as a special account in the National Treasury is hereby established. The fund shall be used to finance the following:

- a) Finance containment and clean-up operations of the government in water pollution cases;
- b) Guarantee restoration of ecosystems and rehabilitation of affected areas;
- c) Support research, enforcement and monitoring activities;
- d) Provide technical assistance to the implementing agencies;
- e) Grant rewards and incentives;
- f) Support information and educational campaign; and
- g) Such other disbursements made solely for the prevention, control or abatement of water pollution and management and administration of the management areas in the amounts authorized by the Department.

The fines imposed and damages awarded to the government by the Pollution Adjudication Board (PAB), proceeds of permits issued by the Department under this Act, donations, endowments and grants in the form of contributions to the national government under this Act shall form part of the fund. Such donations, endowments and grants shall be exempt from donor's taxes and all other taxes, charges or fees imposed by the government and shall be deductible from the gross income of the donor for income tax purposes.

Disbursements from the fund shall be subject to the usual accounting and budgeting rules and regulations.

Rule 9. National Water Quality Management Fund

- 9.1 *Uses of the Fund.* Consistent with Sec. 9 of the CWA, the NWQMF may be used for activities of the Department that are in direct support of objectives outlined in the National Water Quality Action Plan (NWQAP). This can mean support, grant, and finance or otherwise assist activities such as, but not limited to:
- a) purchase of equipment related to water quality monitoring, reporting or management;
 - b) running costs for special campaigns, monitoring, enforcement or public awareness raising;
 - c) costs for special events related to water quality monitoring, enforcement etc.
 - d) research on water-related issues; and,
 - e) for remediation and rehabilitation of the area damaged as a result of violations; for this purpose the fine paid shall accrue to the area where the violation was committed.
 - f) hiring of staff for research, enforcement and monitoring activities.



- 9.2 **Decision Making on the Use of the NWQMF.** The Department through the Bureau shall formulate a detailed set of criteria (project design, management, reporting and accounting) for qualified or eligible projects and activities to be supported by the NWQMF. The Department will ensure the publication of an Annual Report, which specifies income and expenditure of the NWQMF, together with a summary of initiatives supported and refused. This Annual Report will be available within two (2) months after the end of the fiscal year.
- 9.3 **Accrual of Permit Fees.** Permit fees collected under Section 14 of the CWA shall accrue to the NWQMF.

SEC. 10. The Area Water Quality Management Fund. - The area water quality management fund is hereby established for the maintenance and upkeep of the water bodies in a water quality management area. The fund shall be utilized for the grant of rewards and incentives for entities whose effluent discharges are better than the water quality criteria of the target classification of the receiving body of water, loans for acquisitions and repairs of facilities to reduce quantity and improve quality of wastewater discharges, and regular maintenance of the water bodies within the management area.

An amount of not more than ten percent (10%) of the total amount accruing to the funds annually shall be allocated for the operational expenses of the governing board, its secretariat and multi-sectoral water quality surveillance and monitoring network.

This fund shall initially be sourced from the fines incurred by the establishments located in rural areas before the effectivity of this Act. Thereafter, the fees collected under the wastewater charge system established under Section 13 of this Act, donations, endowments and grants for water quality management of the area shall accrue to the fund.

Disbursements from the fund shall be subject to the usual accounting and budgeting rules and regulations. This fund shall be managed by the Board of the corresponding management area.

Rule 10. Area Water Quality Management Fund

- 10.1 **Area Water Quality Management Fund.** The Area Water Quality Management Fund (AWQMF) for each Water Quality Management Area shall be administered by each WQMA governing board for the maintenance and upkeep of the water bodies in a water quality management area.
- 10.2 **Uses of AWQMF.** The AWQMF will be used for activities of the WQMA that are in direct support of objectives outlined in the National Water Quality Action Plan (NWQAP) for the area. Consistent with Sec. 10 of the CWA, this can mean support, grant, and finance or otherwise assist activities such as, but not limited to:
- a) purchase of equipment related to water quality monitoring, reporting or management;
 - b) costs for special campaigns, monitoring, enforcement or public awareness raising;



- c) costs for special events related to water quality monitoring, enforcement etc.;
- d) hiring of staff for the Technical Secretariat of the WQMA
- e) operating costs of the Governing Board, its Technical Secretariat and multi-sectoral water quality surveillance and monitoring network which shall be an amount of not more than ten percent (10%) of the total amount accruing to the AWQMF annually. Ninety percent (90%) of the accruals shall be used for a) to d) above.

10.3 Custody of the Fund. Funds for the AWQMF shall be directly deposited in a Special Account under the name of the WQMA with any government depository bank in the area.

10.4 Decision Making on the Use of the AWQMF. The governing board of the WQMA shall formulate a detailed set of criteria (project design, project management, project reporting and project accounting) of qualified or eligible projects and activities to be supported by its AWQMF.

10.5 Disbursement. Disbursements from the fund shall be allowed only for activities/ projects identified in the WQMA action plan, and only after a request for funding has been received and approved by the governing board.

10.6 Annual report. Each governing board shall ensure the publication of an annual report which specifies income and expenditure of the AWQMF, together with a summary of initiatives supported and refused. This annual report shall be available within two (2) months after the end of the fiscal year.

10.7 Interim measures. Prior to designation of WQMA, the PAB shall keep a record of fines collected for eventual remittance to the appropriate WQMA. The PAB shall retain the fines collected in a special account, under authority of the CWA, in trust for the various WQMA yet to be designated.

SEC. 11. Water Quality Variance for Geothermal and Oil and Gas Exploration. - The Department may provide variance in water quality criteria and standards for geothermal exploration that encounters reinjection constraints: **Provided, That there shall be provision for adequate protection of beneficial use of water bodies downstream of the geothermal project: Provided, further, That this provision may be applied to oil and gas exploration as determined by the Department.**

Rule 11. Water Quality Variance for Geothermal and Oil and Gas Exploration. The Department, in consultation with the Department of Energy and other concerned agencies, shall formulate water quality criteria and standards specifically for geothermal exploration that encounters re-injection constraints, that provides adequate protection to other users of water bodies downstream of the geothermal project. **Provided, further, that the Department may formulate analogous water quality criteria and standards for oil and gas exploration.**



RMDD-0022750

SEC. 12. Categories of Industry Sector. – Within twenty-four (24) months from the effectivity of this Act, and every two (2) years thereafter, the Department shall, through due public consultation, revise and publish a list of categories of industry sector for which effluent standards will be provided for each significant wastewater parameter per industry sector.

The Department shall provide additional classification based on other parameters specifically associated to discharge of a particular industry which shall be included in the listing of categories prescribed in the preceding paragraph.

Rule 12. Categories of Industry Sector. Within twenty-four (24) months from the effectivity of the Act, the Department, after public consultation, shall revise and publish a list of categories of industry sectors. The list shall provide additional categories or sub-categories based on other parameters specifically associated with the pollution discharge of a particular industry. The Department may treat micro-, small and medium-sized enterprises (MSME) as a separate industry category for purposes of setting effluent standards and imposition of fees. Said listing shall be reviewed, revised and published every 2 years thereafter.

12.1 Effluent Standard per Industry Sector. Effluent standards per industry sector are industry-specific, technology-based standards that limit the amount of industrial wastewater pollutants being discharged into waters either directly to surface waters or indirectly through existing sewerage and treatment systems or those to be established under this law. Although the guidelines are developed based upon particular technologies, these rules will not require that dischargers use the technologies on which the standards were based. Individual facilities may meet the requirements using whatever combination of treatment technologies and process changes they choose.

12.2 Means to Determine Effluent standards. The Bureau shall plan for the collection and analysis of information pertaining to wastewater characteristics (e.g., pollutants discharged, wastewater flows), wastewater treatment technologies (e.g., pollution prevention techniques, in-process and end-of-pipe treatment systems), average volumes of discharge, concentrations of industries in one area, discharges peculiar to such industries and self-monitoring reports of similar facilities in the industry to evaluate appropriate technology-based limitations and standards in these priority industries. Consistent with equal protection, the Bureau shall prepare a formal justification for industry-specific standards for significant pollutants that are less stringent than the general effluent standards. In no case shall industry standards endanger public health or welfare. Provided, further that such standards shall not be inconsistent with regulations in non-attainment areas set by the Department or WQMA Governing Board. Provided finally that such standards shall be calibrated based on the classification of the receiving water body or specific land use restrictions of a specific land area, if any.

12.3 Monitoring of industries. Once established, the industry specific regulations shall serve as a basis for all monitoring or self-monitoring reports that shall be generated.



Article 2
Water Pollution Permits and Charges

SEC. 13. Wastewater Charge System. – The Department shall implement a wastewater charge system in all management areas including the Laguna Lake Region and Regional Industrial Centers through the collection of wastewater charges/fees. The system shall be established on the basis of payment to the government for discharging wastewater into the water bodies. Wastewater charges shall be established taking into consideration the following:

- (a) To provide strong economic inducement for polluters to modify their production or management processes or to invest in pollution control technology in order to reduce the amount of water pollutants generated;
- (b) To cover the cost of administering water quality management or improvement programs;
- (c) Reflect damages caused by water pollution on the surrounding environment, including the cost of rehabilitation;
- (d) Type of pollutant;
- (e) Classification of the receiving water body; and
- (f) Other special attributes of the water body.

The fee shall be based on the net waste load depending on the wastewater charge formula which shall be established with due public consultation within six (6) months from the effectivity of this Act: Provided, That net waste load shall refer to the difference of the initial waste load of the abstracted water and the waste load of the final effluent discharge of an industry: Provided, further, That no net waste load shall be lower than the initial waste load: Provided, finally, That wastewater charge system shall not apply to wastewater from geothermal exploration.

Industries whose water effluent are within standards promulgated pursuant to this Act, shall only be charged with minimal reasonable amount which shall be determined by the Department after due public consultation, giving account to volumetric rate of discharge and the effluent concentration.

Rule 13. Wastewater Charge System. A wastewater charge system is hereby implemented in all areas including non-attainment areas, the Laguna Lake Region and Regional Industrial Centers through the collection of wastewater discharge fees from all sources of wastewater discharges to include, but not limited to, effluent from wastewater treatment plant (WTP) and sewage treatment plant (STP), and discharges from water treatment facilities.

13.1 The Wastewater Discharge Fee Formula. The waste water discharge fee shall be computed based on the net waste load following the formula:

$$WDF = L_n \times R$$

Where: R is the rate per kilogram (PhP/kg) which is initially fixed at P5.00 per kilogram for priority pollutant parameter (e.g. BOD or TSS)



L_n refers to the net waste load (kg/year), computed further as follows:

$$L_n (\text{BOD5/TSS}) = [(C_f - C_a) (Q_f \times N_f)] \times 0.001$$

Where: C_f is the average daily effluent concentration limit (mg/l) for priority pollutant parameter (BOD or TSS); Q_f is the average daily volumetric flowrate measurement or final discharge effluent (m³/day) and N_f is the total number of discharge days in a year (days/year). C_a is the average water quality concentration limit for priority pollutant parameter (BOD or TSS) of abstracted or intake water (mg/l).

BOD concentration shall be used in the formula for wastewaters that have high organic or biodegradable materials. The TSS concentration shall be used for high inorganic or non-biodegradable materials. P5.00 per kilogram BOD or TSS shall be charged.

The formula shall be applied to all industrial and commercial wastewaters. However, the model shall be reviewed, revised and evaluated by the EMB /DENR as the need arises and subject to public consultations.

- 13.2 Fees for discharge of effluents for agricultural purposes.** Fees for discharge of effluents for agricultural purposes shall be assessed fixed fee, provided that the wastewater shall not drain into any water bodies. Provided further, that the conditions under Rule 14.6 are met. Once the standards for land discharge have been developed, the wastewater discharge fee shall be applied. Discharge on land other than for agricultural purposes shall be outright charged a wastewater discharge fee based on the above formula. Applicable conditions under Rule 14.6 shall apply.
- 13.3 Wastewater reused for irrigation and other agricultural purposes.** The Department of Agriculture, through its implementing agencies and bureaus shall provide guidelines for the safe re-use of wastewater for irrigation and other agricultural purposes. Such guidelines shall form the basis for the department to set standards for disposal on land and computation of the wastewater discharge fee.
- 13.4 Schedule for Implementation.** Unless otherwise stated herein, the wastewater charge system shall be implemented immediately in all areas upon the effectivity of this IRR.
- 13.5 Discharge fee surcharge.** New sources of pollution subject to the non-attainment provisions will be assessed a twenty percent (20%) surcharge (i.e., 120% of base) on the annual discharge fee for the pollutant(s) for which the area is designated non-attainment. New sources include existing sources of pollution that expand their operations resulting in



increase in effluent volume, or in concentration of the pollutant(s) for which the area is designated as non-attainment.

- 13.6 Expansion of Coverage.** The Department may expand coverage of the charge system to cover other pollutants after due consultations with the affected sectors. The Department shall prioritize application of the charge system on criteria pollutants that have exceeded guideline values in non-attainment areas.
- 13.7 Wastewater Recycled with Zero Discharge.** Industries that recycle their wastewater without discharge into any water body or land shall pay only the permit fee under Rule 14 below.
- 13.8 Wastewater Charges in ECOZONE.** The wastewater discharge fee shall be paid by the operator of the wastewater treatment plant located within ECOZONES. Provided, that industries within ECOZONES that are not connected to the WTP shall be liable for the wastewater charges individually.
- 13.9 Sewerage Treatment Plant.** The operator of sewerage treatment plant shall pay the wastewater charges for effluents from the treatment facilities. Provided, that the operator may claim contributions or sewerage fees from residences, establishments or industries that use the facilities. Establishments and industries discharging to and contributing for maintenance of the sewerage system and treatment facilities shall be exempt from paying the wastewater discharge fee.
- 13.10 Fees Collected from LLDA Area.** Wastewater discharge fees collected from the LLDA area shall accrue to the LLDA fund, provided that the funds are used for such purposes provided under the CWA and these rules.

SEC. 14. Discharge Permits. – The Department shall require owners or operators of facilities that discharge regulated effluents pursuant to this Act to secure a permit to discharge. The discharge permit shall be the legal authorization granted by the Department to discharge wastewater: Provided, That the discharge permit shall specify among others, the quantity and quality of effluent that said facilities are allowed to discharge into a particular water body, compliance schedule and monitoring requirement.

As part of the permitting procedure, the Department shall encourage the adoption of waste minimization and waste treatment technologies when such technologies are deemed cost effective.

The Department shall also develop procedures to relate the current water quality guideline or the projected water quality guideline of the receiving water body/ies with total pollution loadings from various sources, so that effluent quotas can be properly allocated in the discharge permits. For industries without any discharge permit, they may be given a period of twelve (12) months after the effectivity of the implementing rules and regulations promulgated pursuant to this Act, to secure a discharge permit.

Effluent trading may be allowed per management area.



Rule 14. Wastewater Discharge Permit. The discharge permit shall specify the quantity and quality of effluents that the permittee is allowed to discharge as well as the validity of the permit. The quantity and quality shall be based on the installed capacity of the facility.

14.1 Who May Apply for a Wastewater Discharge Permit. Any person that shall discharge in any manner wastewater into Philippine waters and/or land shall secure a wastewater discharge permit from the Regional Office of the Bureau. As such, a person shall file an application in two (2) copies using prescribed forms.

14.2 First time application. Persons applying for the first time shall submit such documents, information and data as may be required by the Regional Office including but not limited to the following, to be contained in a verified Engineer's Report prepared by a registered chemical or sanitary engineer or pollution control officer:

- a) vicinity map identifying the street address, location or plant premise;
- b) the nature of project or business;
- c) production capacity; quantity or volume and the generic name(s) of product(s);
- d) the nature and character of the applicant's wastewater and its physical and chemical composition;
- e) total daily volume of discharge of raw wastewater;
- f) treatment process and estimated treatment efficiency;
- g) the total daily volume of water consumption and discharge of final treated wastewater or effluent;
- h) the name of receiving body of water and its official water classification and in case of land discharge, the nearest receiving body of water and its official water classification;
- i) information on flow measurement equipment and procedure;
- j) Pollution prevention/ Environmental Management System plan or program.
- k) DENR ID Number as hazardous waste generator (if applicable)
- l) statement of the cost incurred in the installation and maintenance of wastewater treatment facility, if any.
- m) quality and quantity of abstracted water
- n) copy of the Environmental Compliance Certificate (ECC) from the Department or Certificate of Non-Coverage (CNC), as applicable.

Failure to submit the necessary requirements shall be sufficient ground for the disapproval of the application.

14.3 Renewal of discharge permits. Existing permittees shall submit the following in the application for renewal of discharge permit:

- a) copies of the quarterly self-monitoring reports for the immediately preceding year;
- b) A copy of the Certificate of Accreditation of the Pollution Control Officer duly issued by the Department, or appointment /designation as such by the Managing Head;



- c) Official Receipts for the payment of the applicable Permit Fee and the Wastewater Discharge Fee.
- d) Other documents that may be required related to land application.

Failure to submit the necessary requirements shall be sufficient ground for the disapproval of the application.

14.4 Processing of the Application for a Wastewater Discharge Permit. The Regional Office shall act on the application for a Wastewater Discharge Permit within thirty (30) working days from receipt of all the requirements.

14.5 Permit Fee. The applicant shall pay an annual permit fee following the schedule below:

Volumetric Rate of Discharge	Amount annual fee (pesos)		
	Without Heavy Metals	Heavy	With Heavy Metals
Zero discharge	2,000.00		
Below 10 m ³ /day	2,000.00		2,600.00
>10 m ³ /d – 30 m ³ /day	2,200.00		2,800.00
>30 m ³ /d – 100 m ³ /day	2,500.00		3,100.00
>100 m ³ /d – 150 m ³ /day	2,700.00		3,300.00
>150 m ³ /d	3,300.00		3,900.00

14.6 Requirements for the Approval and Issuance of a Wastewater Discharge Permit for Discharge of Effluents for Agricultural Purposes. The said permit shall be issued pursuant to Section 14. Provided that the following conditions shall be met before such permit is issued:

- a) Certified true copy of land ownership or notarized copy of agreement between the owner of the land where the effluent is to be applied and the discharger /permittee.
- b) The wastewater that shall be used for land application shall not contain toxic or hazardous substances (as defined in RA 6969).
- c) No wastewater applied for agricultural purposes shall directly or indirectly seep or drain into groundwater or nearby surface waters which will affect the quality of such ground and/or surface water
- d) A certification from the Department of Agriculture (DA) stating that “the quantity, quality and distribution methodology of application are suited for agricultural purposes” shall be submitted
- e) Land application shall be used only during periods of low surface water flow to enhance loading limits compliance.



- f) Submission of a baseline groundwater quality data and self-monitoring report within the discharge areas, and installation of at least one groundwater monitoring well which shall be drilled in each dominant direction of groundwater movement.
- g) Submission of an emergency plan – which shall respond to emergencies that can prevent or minimize damage to equipment, land, groundwater, etc., and/or public health.
- h) The plan shall highlight the design considerations, systems operation, treatment/ monitoring of soil, crops, effluent and groundwater before/after irrigation. Such requirements shall be in addition to section 14.2

14.7 Motion for Reconsideration. In case the application is denied a motion for reconsideration may be filed at the regional office within fifteen (15) working days from the date of receipt of a written notice of such disapproval. The Regional Office shall decide upon the petition within thirty (30) working days from the date of receipt of the motion.

14.8 Appeals. The decisions of the Regional Office may be appealed to the Secretary within fifteen (15) working days from receipt of written notice of such decision. Said appeal shall not stay the execution of the decision of the Regional Office unless ordered otherwise by the Secretary. The decision of the Secretary is final and executory.

14.9 Effectivity of the Discharge Permit. The Discharge Permit shall be valid for a maximum period of Five (5) years from the date of its issuance, renewable for 5-year periods. The Department may, however, renew the discharge permit valid for a longer period if the applicant has adopted waste minimization and waste treatment technologies, consistent with incentives currently provided has been paying the permit fees on time.

14.10 Geographically Targeted Permitting. The Regional Offices of the Bureau shall adopt a system of scheduling the expiration and renewal of permits on designated months of the year for identified clusters of LGUs in order to efficiently process applications. During the transition phase, the permit fee assessed shall be pro-rated to the period of effectivity of the permit.

14.11 Grounds for suspension or revocation of permits. After due notice and hearing, the Department thru the Bureau may suspend or revoke any existing and valid permit on any of the following grounds:

- a) Non-compliance with or gross violation of any provision of the Act, these rules and regulations and/ or permit conditions;
- b) Deliberate or negligent submission of false information in the application for permit that led to the issuance of the permit;
- c) Deliberate or negligent submission of false monitoring data or report required in the discharge permit.



- d) Refusal to allow lawful inspection conducted by the Department thru the Bureau of duly authorized personnel;
- e) Non-payment of the appropriate wastewater discharge fees within a 30-day cure period from the date such payment is due;
- f) Other grounds provided by law.

14.12 *Effect of Disapproval of Application or Suspension or Revocation of Wastewater Discharge Permit.* Disapproved applications or suspended or revoked wastewater discharge permits shall not grant any right or privilege to the applicant or former permit holder to discharge its wastewater into any water body(ies) and/or land. Any discharge shall be a ground for the immediate issuance of a cease and desist order.

14.13 *Posting of Permit.* The permittee shall display the permit on the facility or installation in such manner as to be clearly visible and accessible at all times. In the event that the permit cannot be so placed, it shall be mounted in an accessible and visible place near the installation covered by the permit. Any person who shall willfully deface, alter, forge, counterfeit, or falsify any permit shall be punished in accordance with law.

14.14 *Transfer of Permits.* In case of sale or legal transfer of a facility covered by a permit, the permittee shall notify the Department through the Bureau of such and the name and address of the transferee within thirty (30) days from the date of sale or transfer. In case of failure to do so, he shall be liable for any violation of these Rules and Regulations that the transferee may commit by reason of such transfer. It shall be the duty of the transferee to file an application for transfer of the permit in his name within ten (10) days from notification of the Department through the Bureau.

14.15 *Plant Operational Problems.*

14.15.1 In the event that the permittee is temporarily unable to comply with any of the conditions of the Wastewater Discharge Permit due to a breakdown of the any installation covered by the permit, for any cause, he or his pollution control officer shall immediately notify the Regional Office of such breakdown within 24 hours from occurrence of such breakdown. While the necessary installation is not operational, the facility shall temporarily cease to discharge if the breakdown will result in a discharge of more than 10% of the prescribed standard, or pose an imminent danger to the environment or public health. Failure to do so shall result in maximum penalty imposed by law and liability for damages.

14.15.2 Within seven (7) working days from such notification, the permittee shall submit a report to the Regional Office detailing the cause(s) of such breakdown, and the steps being taken to solve the problem and/or to prevent its recurrence. The report shall include the estimated duration of the breakdown, the intent



toward reconstruction or repair of such installation and such other relevant information or data as may be required by the Bureau.

14.15.3 Within five (5) working days of the receipt of the report, the Regional Office shall evaluate the proposed measures that will be undertaken by the permittee. The assessment shall determine if the proposed measures is sufficient to prevent significant harm to the environment. The assessment, including the circumstances surrounding the breakdown, shall serve as the basis of the imposition of additional requirements, corrective and/or rehabilitative measures as well as fines, penalties and other enforcement actions on the part of the Bureau.

14.15.4 Upon completion of the necessary repair or rehabilitation works, the Regional Office shall be notified within three (3) working days. Within seven (7) days of the receipt of such notification, the regional office concerned shall determine whether the facility would be allowed to discharge and assessed the fine, if applicable.

14.16 Self-Monitoring Reports. The Regional Offices shall require the permittee to submit a quarterly self-monitoring report on a prescribed form under oath signed by the Managing Head and the Pollution Control Officer or any registered chemical or sanitary engineer as designated/assigned by the Managing Head as PCO. Specifically, the report shall contain the quality and quantity of wastes discharged daily or periodically, as the case may be; the characterization and laboratory analyses conducted, preferably by a duly licensed and recognized/accredited laboratory by the Department; and such other material information the Regional Office may require from the permittee. The DENR Regional Offices shall validate information in the SMRs.

The self-monitoring report shall be submitted to the Regional Offices within fifteen (15) calendar days after the end of each quarter.

14.17 Procedures for Effluent Quota Allocation. The Bureau shall develop procedures to relate the current water quality guideline or the projected water quality guideline of the receiving water body/ies with total pollution loadings from various sources. Upon the formulation of these procedures, effluent quotas shall be properly allocated in the discharge permits.

14.18 Pollution sources connected to sewerage systems. Pollution sources currently discharging to existing sewerage systems with operational wastewater treatment facilities shall be exempt from the permit requirement. Provided that, in the absence of, or pending the establishment of a sewerage system, pollution sources shall be covered by the permit requirement.



- 14.19 Effluent Trading.** Effluent trading may be allowed among water pollution sources within a WQMA subject to regulations to be issued by the Department.

Article 3
Financial liability mechanism

SEC. 15. Financial Liability for Environmental Rehabilitation. - The Department shall require program and project proponents to put up environmental guarantee fund (EGF) as part of the environmental management plan attached to the environmental compliance certificate pursuant to Presidential Decree No. 1586 and its implementing rules and regulations. The EGF shall finance the maintenance of the health of the ecosystems and specially the conservation of watersheds and aquifers affected by the development, and the needs of emergency response, clean-up or rehabilitation of areas that may be damaged during the program's or project's actual implementation. Liability for damages shall continue even after the termination of a program or project and, until the lapse of a given period indicated in the environmental compliance certificate, as determined by the Department.

The EGF may be in the form of a trust fund, environmental insurance, surety bonds, letters of credit, self-insurance and any other instruments which may be identified by the Department. The choice of the guarantee instrument or combinations thereof shall depend, among others, on the assessment of the risks involved and financial test mechanisms devised by the Department. Proponents required to put up guarantee instruments shall furnish the Department with evidence of availment of such instruments from accredited financial instrument providers.

Rule 15. Financial Liability.

- 15.1 Environmental Guarantee Fund.** The Bureau shall set the amount that will constitute the Environmental Guarantee Fund that will be deposited by the proponent in a separate account to be audited and inspected together with compliance reviews conducted by government, the LGU or the Multi-Sectoral Monitoring teams as set up under rules and regulations on the Environmental Impact Assessment System or the Environmental Compliance Certificate. The MMT may set up guidelines in the use of the fund to ensure its use for purposes intended by the law. The proponent may choose to assign the fund to a trustee who may be chosen jointly by the Bureau and the Proponent. There shall only be one (1) EGF to be set up for each program or project as required in the ECC, covering all environmental concerns, as may be required by existing laws mandating an EGF.
- 15.2 Additional costs.** In the event that the fund is used up for emergency response, clean up or rehabilitation or the ECC requires monitoring at a specified time after the program's termination and additional remediation or monitoring is needed, the additional expense shall be for the account of the proponent.



- 15.3 *Risk Assessment.* The EIA shall include a risk assessment, where applicable, which shall be reviewed by the EIARC and made the basis of the amount of the EGF or other instruments as specified in the law.
- 15.4 *Precedent.* The Department may adopt the practice of precedent setting when it comes to EGF ruling

SEC. 16. Clean-Up Operations. - Notwithstanding the provisions of Sections 15 and 26 hereof, any person who causes pollution in or pollutes water bodies in excess of the applicable and prevailing standards shall be responsible to contain, remove and clean-up any pollution incident at his own expense to the extent that the same water bodies have been rendered unfit for utilization and beneficial use: Provided, That in the event emergency clean-up operations are necessary and the polluter fails to immediately undertake the same, the Department, in coordination with other government agencies concerned, shall conduct containment, removal and clean-up operations. Expenses incurred in said operations shall be reimbursed by the persons found to have caused such pollution upon proper administrative determination in accordance with this Act. Reimbursements of the cost incurred shall be made to the Water Quality Management Fund or to such other funds where said disbursements were sourced.

Rule 16. Clean-Up Operations. Whenever the Department discovers any act or omission that has caused pollution of a water body, the Department shall issue an order for the perpetrator of the act or omission to contain, remove or clean-up the pollution at his own expense. If the perpetrator fails to act within the period specified in the order, the Department may undertake the clean-up and deputize other government agencies as well as private volunteers to conduct containment and clean-up.

- 16.1 *Determination of liability for clean-up.* The administrative determination of the cause of the pollution and the parties responsible for it shall be incorporated in the proceedings in the PAB, if any. In the absence of a complainant and a PAB proceeding, the Secretary may authorize the EMB Director to make the determination with due notice and hearing and call necessary parties to provide evidence thereto.
- 16.2 *Use of EGF.* The EGF established in accordance with Sec. 15 of the CWA and Rule 15 above shall not constitute full remediation of damage or injury caused to the environment or public health by a program or project and shall not be a bar to any administrative, civil or criminal complaints for such damage or injury.
- 16.3 *Reimbursement for clean-up costs.* The costs of clean-up may be sourced from the perpetrator, the program or project's EGF, any insurance policies that may be applicable or from the Water Resources Management Fund in that order of priority. If sourced from the WRMF, reimbursement shall be made to the same fund after determination of causation and liability by the means established herein.

SEC. 17. Programmatic Environmental Impact Assessment. - The Department shall implement programmatic compliance with the environmental impact assessment system, as in the following types of development:



- (a) development consisting of a series of similar projects, or a project subdivided into several phases and/or stages whether situated in a contiguous area or geographically dispersed; and
- (b) development consisting of several components or a cluster of projects co-located in an area such as an industrial estate, an export processing zone, or a development zone identified in a local land use plan.

Programmatic compliance with the environmental impact assessment system shall be guided by carrying capacity assessments determined from ecological profiles. Ecological profiles shall identify environmental constraints and opportunities in programmatic areas. Programmatic assessment shall also take into account cumulative impacts and risks.

Consistent with the provisions of the Local Government Code, the Department may enter into agreement with LGUs to incorporate programmatic environmental impact assessment into the preparation, updating or revision of local land use plans and area development plans.

Rule 17. Programmatic Environmental Impact Assessment

17.1 Requirements. Developments that are subject of Programmatic EIA shall comply with the requirements of Presidential Decree No. 1586 and its implementing rules and regulations on programmatic compliance with the EIA system.

17.2 Programmatic EIA in Local Land Use Plans and Area Development Plans. The Bureau shall coordinate with and provide technical assistance to planning development officers of LGUs in incorporating Programmatic EIA in local land use plans and area development plans.

SEC. 18. Environmental Impact Assessment System Programmatic Compliance with Water Quality Standards. – The Department may allow each regional industrial center established pursuant to Republic Act No. 7916 (PEZA law) to allocate effluent quotas to pollution sources within its jurisdiction that qualify under an environmental impact assessment system programmatic compliance program in accordance with Presidential Decree No. 1586 and its implementing rules and regulations.

Rule 18. Allocation of Effluent Quotas within Special Economic Zones. Each Executive Committee of Special Economic Zone (ECOZONE) established pursuant to Republic Act No. 7916 may formulate effluent quota allocation system that shall be implemented within its jurisdiction subject to the approval of the Bureau. Provided, that allocation of effluent quotas to pollution sources shall apply only to developments that qualify under a Programmatic EIA in accordance with Rule 17 above.

**CHAPTER 3
INSTITUTIONAL MECHANISM**

SEC. 19. Lead Agency. - The Department shall be the primary government agency responsible for the implementation and enforcement of this Act unless otherwise provided herein. As such, it shall have the following functions, powers and responsibilities:



- a) Prepare a National Water Quality Status Report within twenty-four (24) months from the effectivity of this Act: Provided, That the Department shall thereafter review or revise and publish annually, or as the need arises, said report;
- b) Prepare an Integrated Water Quality Management Framework within twelve (12) months following the completion of the status report;
- c) Prepare a ten-year Water Quality Management Area Action Plan within twelve (12) months following the completion of the framework for each designated water management area. Such action plan shall be reviewed by the water quality management area governing board every five (5) years or as the need arises;
- d) Prepare and publish a national groundwater vulnerability map incorporating the prevailing standards and methodologies, within twenty four (24) months after the effectivity of this Act;
- e) Enforce, review and revise within twelve (12) months from the effectivity of this Act water quality guidelines after due consultation with the concerned stakeholder sectors: Provided, That the Department, in coordination with appropriate agencies shall review said guidelines every five (5) years or as need arises;
- f) Review and set effluent standards every five (5) years from the effectivity of this Act or sooner as determined by the Department: Provided, That in the interim, the provisions of DENR Administrative Order No. 35 of the Department shall apply: Provided, further, That when new and more stringent standards are set in accordance with this section, the Department may establish a grace period with a maximum of five (5) years: Provided, finally, That such grace period shall be limited to the moratorium on the issuance of cease and desist and/or closure order against the industry's operations except in the event such operation poses serious and grave threat to the environment, or the industry fails to institute retooling, upgrading or establishing an environmental management system (EMS).
- g) Establish within twelve (12) months from the effectivity of this Act, internationally-accepted procedures for sampling and analysis of pollutants and in coordination with other concerned agencies, formulate testing procedures and establish an accreditation system for laboratories;
- h) Within eighteen (18) months from the effectivity of this Act and every two (2) years thereafter, categorize point and non-point sources of water pollution;
- i) Classify groundwater sources within twelve (12) months from the effectivity of this Act;
- j) Classify or reclassify all water bodies according to their beneficial usages: Provided, That in the interim, the provisions of DENR Administrative Order No. 34 shall apply: Provided, further, That such classification or reclassification shall take into consideration the operation of businesses or facilities that are existing prior to the effectivity of the Act: Provided, furthermore, That the Department may authorize the use of the water for other purposes that are more restrictive in classification: Provided, finally, That discharges resulting from such use shall meet the effluent standards set by the Department;
- k) Exercise jurisdiction over all aspects of water pollution, determine its location, magnitude, extent, severity, causes, effects and other pertinent information on pollution, and to take measures, using available methods and technologies to prevent and abate such pollution;
- l) Exercise supervision and control over all aspects of water quality management;
- m) Establish a cooperative effort in partnership with the government, LGUs, academic institutions, civil society and the private sector to attain the objectives of this Act;



- n) Disseminate information and conduct educational awareness and value formation programs and campaigns on the effects of water pollution on health and environment, water quality management, and resource conservation and recovery to encourage an environmentally action-oriented society in coordination with government agencies identified in Section 22 (f);
- o) Promote and encourage private and business sectors especially manufacturing and processing plants the use of water quality management systems equipment, including but not limited to, industrial wastewater treatment collection and treatment facilities;
- p) Report, on an annual basis, to Congress the quality status of water bodies and other pertinent information and recommend possible legislation, policies and programs for environmental management and water pollution control;
- q) Issue rules and regulations for the effective implementation of the provisions of this Act;
- r) Issue orders against any person or entity and impose fines, penalties and other administrative sanctions to compel compliance with water quality regulations and the provisions of this Act;
- s) Undertake appropriate protocol with other concerned agencies for immediate coordinated responses to water related emergency incidents;
- t) Issue permits, clearances and similar instruments pursuant to this Act; and
- u) Exercise such powers and perform such other functions as may be necessary to carry out the objectives of this Act.

The Department shall gradually devolve to the LGUs, and to the governing boards the authority to administer some aspects of water quality management and regulation, including, but not to be limited to, permit issuance, monitoring and imposition of administrative penalties, when, upon the Department's determination, the LGU or the governing board has demonstrated readiness and technical capability to undertake such functions.

Rule 19. DENR as Lead Agency. The Department of Environment and Natural Resources shall take the lead in the preparation, implementation and enforcement of the following mandates under the Act:

19.1 National water quality status report. The national water quality status report shall identify (a) the location of water bodies, their water quality, taking into account seasonal, tidal and other variations, existing and potential uses and sources of pollution per specific pollutant and pollution load assessment; (b) water quality management areas pursuant to Section 9 of this Act; and (c) water classification. WQMA governing boards shall regularly submit to the Department a water quality status report of their area. Such local reports shall form the basis for the Department to issue updates or revisions of the national water quality status report. It shall be prepared in consultation with relevant sectors.

19.2 Integrated Water Quality Management Framework. An IWQMF shall be prepared by the Department in coordination with relevant agencies. Said IWQMF shall be evaluated at the end of every five (5) years or as the need arises. It may contain, but not be limited to, the following: a) assessment of policies and institutional arrangements and capacities relevant to water quality management including the strategy of



devolution to LGUs, b) management strategies, c) sustainable financing strategies, and d) performance monitoring.

19.3 *Water Quality Management Area Action Plan for each WQMA.* For each designated water quality management area established in accordance to the Act, the Department through its regional offices, in coordination with NWRB, members of local government units (LGUs) and other concerned sectors, shall, within twelve (12) months following the completion of the Framework, formulate a ten (10) year water quality management area action plan, herein referred to as the action plan, for the purpose of translating the framework into action plans at the local level. Such action plan shall be reviewed by the water quality management area governing board every five (5) years or as the need arises. The action plan shall include, but not be limited to, the following: a) goals and targets including sewerage or septage program; b) schedule of compliance to meet the applicable requirements of this Act; c) water pollution control strategies or techniques; d) water quality information and education program; e) resource requirement and possible sources; f) enforcement procedures of the plan; and g) rewards and incentives under Chapter 4 of this Act.

19.4 *Groundwater vulnerability mapping.* The Department, through the Mines and Geosciences Bureau, in coordination with the NWRB, shall publish a national baseline groundwater vulnerability map series on a scale of 1:250,000 which will reflect the different degrees of groundwater vulnerability based on a range of soil properties and hydrogeological criteria to serve as guide in the protection of the groundwater from contamination. Groundwater vulnerability map for highly urbanized cities (HUC) shall be prepared within the first twelve (12) months after synthesizing the following existing data: nature of confining soil and rock layer above the aquifer, aquifer permeability, recharge areas and topography. The MGB shall publish a standard guide/methodology to groundwater vulnerability mapping and ranking of relative vulnerability of groundwater to contamination together with the maps. Environmentally critical projects or activities within high vulnerability areas may be required a site specific and detailed groundwater vulnerability map on a minimum scale of 1:50,000, subject to the guidelines promulgated by the MGB and subject to Presidential Decree No. 1586 and its implementing rules and regulations. For this purpose, the MGB shall: (a) conduct an assessment and mitigation of water-related geo-hazards including groundwater contamination; (b) establish and maintain a water resource data bank; and (c) exercise such other duties and functions as may be necessary to carry out the provisions of this Section.

19.5 *Water quality guidelines.* Within twelve (12) months from the effectivity of this Act, the Department, in coordination with the DOH, DA and other government agencies, private sectors and academic research institutions, shall review and/or revise and publish water quality guidelines accurately reflecting the latest scientific knowledge on the following matters: a) effects of pollutants on public health, biological



diversity, aquatic life, productivity and stability, including information on the factors affecting rates of eutrophication and rates of organic and inorganic sedimentation for varying types of waterways, bio-accumulation of chemicals; b) concentration and dispersal of pollutants, including naturally occurring pollutants in highly mineralized areas, through physical, chemical and biological processes; pollution loading may also be used together with the concentration scheme; and, c) beneficial uses of the receiving water body. The Department, in coordination with concerned government agencies, and upon prior consultation with the private sector, shall review and/or revise every five (5) years or as the need arises the water quality guidelines set pursuant to the Act. In the interim, the guidelines set under DAO 34, as amended, shall remain valid.

19.6 *Effluent Standards.* The effluent standards shall take into consideration the protection of public health and welfare as well as protection and propagation of balanced ecosystem as well as best available and practicable technology for water pollution prevention and abatement. The Bureau shall evaluate whether DAO 35 standards need to be updated based on its performance of monitoring and enforcement functions in the past as well as the current data on water quality of receiving waters. In case it deems appropriate that the standards be updated, it shall formulate the general standards for effluent discharge applicable to all point sources except when industry specific standards are in effect in accordance with Rule 12.1 hereof. The grace period shall only be issued upon determination by the Department that the industry's operation would require significant retooling, upgrading or as may be necessary for the establishment of an EMS to include, but not be limited to, installation of water pollution device, shift to less pollutive materials, or modification or shift to cleaner production, and after a thorough and transparent evaluation. Covered industries are required to submit periodic reports to the Department on steps taken for the establishment of an EMS including compliance schedule within the prescribed grace period. In the interim, the standards set in DAO 35, as amended, shall remain valid.

19.7 *Procedures for sampling and analysis of pollutants.* The Department, in coordination with other government agencies and private sectors, shall, within two (2) years from the effectivity of this Act, adopt alternative internationally accepted test procedures for the sampling and analysis of pollutants: Provided, that continuous evaluation of emerging test procedures shall be conducted to broaden the list of available test procedures: Provided, further, that such procedures shall be prescribed as the acceptable system of sampling and analysis.

19.8 *Accreditation system of laboratories.* The Department, in coordination with DOST, DTI, DOH and other concerned agencies, academe, professional associations, and the private sector shall likewise, within one (1) year after the adoption of the test procedures, formulate, maintain and manage a system of accreditation for laboratories. The Department



shall encourage and assist state universities in setting up such accredited laboratories.

- 19.9 Categories of point and non-point sources.** The Department, in coordination with relevant agencies, shall issue and publish, within eighteen (18) months from the effectivity of this Act, guidelines on the (a) identification and evaluation of the nature and extent of non-point sources of pollution; and (b) processes, procedures and methods to control pollution resulting therefrom. In case of pollution coming from agricultural and aquacultural activities, the Department, in coordination with the DA, shall set guidelines for the prevention, control and abatement of said pollution. LGUs concerned with non-point agricultural sources may issue ordinances to regulate the sale, application and disposal of agricultural inputs, as well as establish programs and regulations for the prevention of soil erosion.
- 19.10 Classification of groundwater sources.** The Bureau shall coordinate with the NWRB and other relevant agencies in the classification of groundwater sources.
- 19.11 Classification and re-classification of water bodies.** For the purpose of these rules and regulations, all water bodies shall be classified according to their beneficial usage. Five (5) years after the effectivity of these rules and regulations and every ten (10) years thereafter, the Bureau, in coordination with NWRB and other appropriate government agencies, and upon prior public hearing, shall review and/or revise and publish classification or reclassification of Philippine waters according to their potential beneficial use, taking into account, among others, the following: (a) existing quality of the body of water; (b) size, depth, surface area covered, volume, direction, rate of flow and gradient of stream; (c) most beneficial existing and future use of said bodies of water and lands bordering them, such as for residential, agricultural, aquacultural, commercial, industrial, navigational, recreational, wildlife conservation and aesthetic purposes; and (d) vulnerability of surface and groundwater to contamination from pollutive and hazardous wastes, agricultural chemicals and underground storage tanks of petroleum products. All reclassifications of water shall be adopted upon affirmative findings by the Department's regional office concerned that:
- (a) The proposed reclassification will establish the present and future most beneficial use of the waters;
 - (b) Such reclassification is clearly in the public interest; and
 - (c) The proposed designated use is attainable, upon consideration of environmental, technological, social, economic, institutional and climate change factors.
- 19.12 Information and Dissemination Campaigns.** The Department shall coordinate with Department of Education (DepEd), Commission on Higher Education (CHED), Department of the Interior and Local Government (DILG) and Philippine Information Agency (PIA) in the preparation and implementation of a comprehensive and continuing



public education and information program pursuant to the objectives of the Act.

SEC. 20. Role of Local Government Units. - Local government units shall share the responsibility in the management and improvement of water quality within their territorial jurisdictions.

Each local government unit shall within six (6) months after the establishment of the water quality management area action plan prepare a compliance scheme in accordance thereof, subject to review and approval of the governing board.

Each local government unit shall, through its Environment and Natural Resources Office (ENRO) established in Republic Act No. 7160, have the following powers and functions:

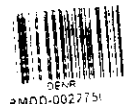
- a) **Monitoring of water quality;**
- b) **Emergency response;**
- c) **Compliance with the framework of the Water Quality Management Action Plan;**
- d) **To take active participation in all efforts concerning water quality protection and rehabilitation; and**
- e) **To coordinate with other government agencies and civil society and the concerned sectors in the implementation of measures to prevent and control water pollution: Provided, however, That in provinces/cities/municipalities where there are no environment and natural resources officers, the local executive concerned may, with the approval of the Secretary of the DENR designate any of his official and/or chief of office preferably the provincial, city or municipal agriculturist, or any of his employee: Provided, finally, That in case an employee is designated as such, he must have sufficient experience in environmental and natural resources management, conservation and utilization.**

Rule 20. Role of LGUs. The Department shall provide assistance to local government units in the performance of their obligations under the law:

20.1 Role in WQMA and WQMA Action Planning. The local government unit shall prepare, within 6 months from receipt of the WQMA Action Plan, a compliance scheme listing activities and timetables for achieving the objectives of the WQMA Action Plan in their territorial jurisdiction. The compliance scheme shall be presented and discussed by the governing board to ensure consistency with the WQMA Action Plan and complementation with compliance schemes of contiguous LGUs. The Department shall actively encourage LGUs to participate in the process of designation of WQMAs and in the Governing Board.

20.2 Role in Non-attainment areas. The Department, in coordination with other concerned agencies, shall assist LGUs prepare a contingency plan to protect the public from the adverse impacts of pollution in non-attainment areas.

20.3 Role in sewerage and septage management. The Department shall assist LGUs identify projects for inclusion in the sewerage and septage management program. Such project proposals shall include the counterpart commitments of the LGU for implementation and shall be submitted to DPWH for prioritization. The LGU shall ensure that such



projects are known to and included in the decisions made by the building, planning and environment departments of each LGU.

20.4 Role in programmatic compliance with EIA. The Department shall assist LGUs who express intention to implement programmatic compliance with EIA regulations in their jurisdictions.

20.5 Role in compliance monitoring and enforcement. Upon the request of a Sangguniang Bayan or Barangay, the DENR shall assist in the drafting or ordinances for more effective and efficient enforcement and compliance with the Clean Water Act and employ strategic measures that would maximize the impact of meager resources.

20.6 Capability Building for LGUs. The DENR shall assist LGUs in determining and prioritizing their capability requirements and in raising the required resources to undertake the capability building, including coordinating with the DILG and the DBM in determining possible sources and allowable disbursements that may be used for such capability building. Such capability building shall also take into consideration effective monitoring and strategic enforcement and ensure LGU and barangay training in water sampling and other measures that would indicate the need for intervention and enforcement of pollution laws.

20.7 Role in harmonizing jurisdictions. As the common member of many other integrated management units, LGU representatives to Regional Development Councils, Protected Area Management Boards, Watershed Management Councils, airsheds and the like shall ensure that these bodies are aware of actions taken in the WQMA and that conflict among jurisdictions and decisions are kept to a minimum. Whenever a conflict arises between a decision made in two or more of these bodies, it shall be the duty of the common LGU representatives to establish a process for harmonization.

SEC. 21. Business and Industry Role in Environmental Management. - The Department and the LGUs, in coordination with the appropriate government agencies, and in consultation with the business and industrial sectors including chambers of commerce, shall formulate appropriate incentives for the adoption of procedures that will preserve and protect our water bodies through the introduction of innovative equipment and processes that reduce if not totally eliminate the discharge of pollutants into our water bodies.

Rule 21. Formulation and adoption of appropriate incentives. The Department shall create a task force that will study and formulate appropriate incentives for the utilization of innovative equipment and processes that reduce if not totally eliminate the discharge of wastewater. Said task force shall be chaired by the Director of the Bureau and will have, as members, representatives of LGUs, other relevant government agencies and the private sector.

SEC. 22. Linkage Mechanism. - The Department and its concerned attached agencies including LLDA shall coordinate and enter into agreement with other government agencies,



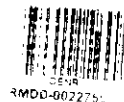
industrial sector and other concerned sectors in the furtherance of the objectives of this Act. The following agencies shall perform the functions specified hereunder:

- (a) Philippine Coast Guard in coordination with DA and the Department shall enforce water quality standards in marine waters, set pursuant to this Act, specifically from offshore sources;
- (b) DPWH through its attached agencies, such as the MWSS, LWUA, and including other urban water utilities for the provision of sewerage and sanitation facilities and the efficient and safe collection, treatment and disposal of sewage within their area of jurisdiction;
- (c) DA, shall coordinate with the Department, in the formulation of guidelines for the re-use of wastewater for irrigation and other agricultural uses and for the prevention, control and abatement of pollution from agricultural and aquaculture activities: Provided, That discharges coming from non-point sources be categorized and further defined pursuant to this Act: Provided, further, That the Bureau of Fisheries and Aquatic Resources (BFAR) of the DA shall be primarily responsible for the prevention and control of water pollution for the development, management and conservation of the fisheries and aquatic resources;
- (d) DOH shall be primarily responsible for the promulgation, revision and enforcement of drinking water quality standards;
- (e) DOST, in coordination with the Department and other concerned agencies, shall prepare a program for the evaluation, verification, development and public dissemination of pollution prevention and cleaner production technologies; and
- (f) Department of Education (DepEd), Commission on Higher Education (CHED), Department of the Interior and Local Government (DILG) and Philippine Information Agency (PIA) shall assist and coordinate with the Department in the preparation and implementation of a comprehensive and continuing public education and information program pursuant to the objectives of this Act.

Rule 22. Lead role of DENR. The Department shall monitor, remind in writing, assist where possible, other government agencies who are mandated to perform tasks to implement the CWA.

SEC. 23. Requirement of Record-keeping, Authority for Entry to Premises and Access to Documents. – The Department or its duly authorized representative shall, after proper consultation and notice, require any person who owns or operates any pollution source or who is subject to any requirement of this Act to submit reports and other written information as may be required by the Department.

Any record, report or information obtained under this section shall be made available to the public, except upon a satisfactory showing to the Department by the entity concerned that the record, report, or information or parts thereof, if made public, would divulge secret methods or processes entitled to protection as intellectual property. Such record, report or information shall likewise be incorporated in the Department's industrial rating system. Pursuant to this Act, the Department, through its authorized representatives, shall have the right to: (a) enter any premises or to have access to documents and relevant materials as referred to in the herein preceding paragraph; (b) inspect any pollution or waste source, control device, monitoring equipment or method required; and (c) test any discharge.



In cases of fish kill incidence, the Bureau of Fisheries of the DA, in the course of its investigation, may enter the premises of an establishment reported to have caused said incident.

Rule 23. Record Keeping, Inspection, Monitoring and Entry

23.1 Required Relevant Reports and Records. The Bureau or its duly accredited entity shall, after proper consultation and notice, require any person who owns or operates any pollution source or who is subject to any requirement of this Act to: (a) establish and maintain relevant records; (b) make relevant reports; (c) install, use and maintain monitoring equipment or methods; (d) sample effluent, in accordance with the methods, locations, intervals and manner prescribed by the Bureau; (e) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of discharge is impractical; and (f) provide such other information as the Bureau may reasonably require.

23.2 Right of Entry, Inspection and Testing. Pursuant to the Act, the Bureau, through its authorized representatives, shall have the right of:

- a) entry or access to any premises including documents and relevant materials as referred to in the herein proceeding paragraph;
- b) inspect any pollution or waste source, control device, monitoring equipment or method required; and
- c) test any discharge.

The Bureau may authorize the LGU as its representative for this purpose.

23.3 Records Available to the Public. Any record, report or information obtained under this Rule shall be made available to the public, except upon a satisfactory showing to the Bureau by the entity concerned that the record, report or information, or parts thereof, if made public, would divulge secret methods or processes entitled to protection as intellectual property. Such record, report or information shall likewise be incorporated in the Bureau's industrial rating system.

SEC. 24. Pollution Research and Development Programs. – The Department, in coordination with the DOST, other concerned agencies and academic research institutions, shall establish a national research and development program for the prevention and control of water pollution. As part of said program, the DOST shall conduct and promote the coordination and acceleration of research, investigation, experiments, training, surveys and studies relating to the causes, extent, prevention and control of pollution among concerned government agencies and research institutions.

Rule 24. Pollution Research and Development Program

24.1 National Research and Development Program for the Prevention and Control of Water Pollution. Within twelve (12) months following the effectivity of these Rules, the Department through the Bureau, in coordination with the Department of Science and Technology (DOST), other agencies, the private sector, the academe, NGOs and POs shall,



establish a National Research and Development Program for the Prevention and Control of Water Pollution.

- 24.2 *Close coordination with DOST.* The Department through the Bureau shall closely coordinate and facilitate the issuance of joint guidelines, where necessary, with DOST specifically with respect to research, investigation, experiments, trainings, surveys and studies relating to the causes, extent, prevention and control of pollution as part of the National Research and Development Program for the Prevention and Control of Water Pollution.

CHAPTER 4 INCENTIVES AND REWARDS

SEC. 25. Rewards. - Rewards, monetary or otherwise, shall be provided to individuals, private organization and entities, including civil society, that have undertaken outstanding and innovative projects, technologies, processes and techniques or activities in water quality management. Said rewards shall be sourced from the Water Quality Management Fund herein created.

Rule 25. Rewards. Based on fixed criteria, the Department shall establish indicators for water quality management success. It shall convene an interagency committee to assess and evaluate nominees for rewards as well as to grant incentives as provided in Sec. 26 and Rule 26. Whenever it is clearly determined that the actions of an identifiable entity, group or individual has achieved significant success or identified a demonstrable project, technology, process or technique that can cause such success, a nomination for such entity, group or individual may be made to the interagency group who shall endorse the nomination to the Secretary for approval. The committee should determine annually what resources are available for rewards and who is eligible for rewards.

SEC. 26. Incentives Scheme. - An incentive scheme is hereby provided for the purpose of encouraging LGUs, water districts (WDs), enterprises, or private entities, and individuals, to develop or undertake an effective water quality management, or actively participate in any program geared towards the promotion thereof as provided in this Act.

A. Non-fiscal Incentive

1. **Inclusion in the Investments Priority Plan (IPP).** – Subject to the rules and regulations of the BOI, industrial wastewater treatment and/or adoption of water pollution control technology, cleaner production and waste minimization technology shall be classified as preferred areas of investment under its annual priority plan and shall enjoy the applicable fiscal and non-fiscal incentives as may be provided for under the Omnibus Investment Code, as amended.

Fiscal Incentives

1. **Tax and Duty Exemption on Imported Capital Equipment -** Within ten (10) years upon the effectivity of this Act, LGUs, WDs, enterprises or private entities shall enjoy tax-and-duty-free importation of machinery, equipment and spare parts used for industrial wastewater treatment/collection and treatment facilities: Provided,



That the importation of such machinery, equipment and spare parts shall comply with the following conditions:

- a) They are not manufactured domestically in sufficient quantity, of comparable quality and at reasonable prices;
 - b) They are reasonably needed and will be used actually, directly and exclusively for the above mentioned activities; and
 - c) Written endorsement by the Department that the importation of such machinery, equipment and spare parts would be beneficial to environmental protection and management: Provided, further, That the sale, transfer or disposition of such machinery, equipment and spare parts without prior approval of the Board of Investments (BOIs) within five (5) years from the date of acquisition shall be prohibited, otherwise the LGU concerned, WD, enterprise or private entity and the concerned vendee, transferee or assignee shall be solidarily liable to pay twice the amount of tax and duty exemption given it.
2. **Tax Credit on Domestic Capital Equipment** - Within ten (10) years from the effectivity of this Act, a tax credit equivalent to one hundred percent (100%) of the value of the national internal revenue taxes and customs duties that would have been waived on the machinery, equipment, and spare parts, had these items been imported shall be given to enterprises or private entities and individuals, subject to the same conditions and prohibition cited in the preceding paragraph.
 3. **Tax and Duty Exemption of Donations, Legacies and Gifts** - All legacies, gifts and donations to LGUs, WDs, enterprises, or private entities and individuals, for the support and maintenance of the program for effective water quality management shall be exempt from donor's tax and shall be deductible from the gross income of the donor for income tax purposes.

Imported articles donated to, or for the account of any LGUs, WDs, local water utilities, enterprises, or private entities and individuals to be exclusively used for water quality management programs shall be exempted from the payment of customs duties and applicable internal revenue taxes.

Industrial wastewater treatment and/or installation of water pollution control devices shall be classified as pioneer and preferred areas of investment under the BOI's annual priority plan and shall enjoy the applicable fiscal and non-fiscal incentives as may be provided for under the Omnibus Investment Code, as amended.

B. Financial Assistance Program

Government financial institutions such as the Development Bank of the Philippines, Land Bank of the Philippines, Government Service Insurance System, and such other government institutions providing financial services shall, in accordance with and to the extent allowed by the enabling provisions of their respective charters or applicable laws, accord high priority to extend financial services to LGUs, WDs, enterprises, or private entities engaged in sewage collection and treatment facilities.

C. Extension of Grants to LGUs

Cities and municipalities which shall establish or operate sewerage facilities may be entitled to receive grants for the purpose of developing technical capabilities.



Rule 26. System Of Incentives

- 26.1 *Scope and Procedures.*** The incentives granted herein shall also be granted to other equipment associated with water pollution control and monitoring such as testing devices and kits, technology and domestic innovations such as gray and black water recycling systems and constructed wetlands. The Department in coordination with the DTI, DOF, NEDA and other concerned agencies shall develop the guidelines on tax incentives provided under the Act within twelve months after the effectivity of this Rules.
- 26.2 *Financial Assistance Programs.*** Within twelve months after the effectivity of these Rules, the Department shall coordinate with government financial institutions such as the Development Bank of the Philippines, Land Bank of the Philippines, Government Service Insurance System, and such other government institutions providing financial services concerning possible programs and projects for water pollution abatement and control and for financial services that these financial institutions may extend to LGUs, water districts, enterprises, or private entities engaged in sewage collection and treatment facilities.
- 26.3 *Philippine Environment Partnership Program and Industrial Ecowatch System.*** The Philippine Environment Partnership Program created pursuant to DENR Administrative Order No. 2003-14 and the Industrial Ecowatch System under DENR Administrative Order No. 2003-26 which support industry self-regulation and promote mandatory self-monitoring towards improved environmental performance through the provision of incentives and packages of assistance shall be applicable to establishments governed under the Act.

CHAPTER 5 CIVIL LIABILITY/PENAL PROVISIONS

SEC. 27. Prohibited Acts. - The following acts are hereby prohibited:

- a) Discharging, depositing or causing to be deposited material of any kind directly or indirectly into the water bodies or along the margins of any surface water, where, the same shall be liable to be washed into such surface water, either by tide action or by storm, floods or otherwise, which could cause water pollution or impede natural flow in the water body;**
- b) Discharging, injecting or allowing to seep into the soil or sub-soil any substance in any form that would pollute groundwater. In the case of geothermal projects, and subject to the approval of the Department, regulated discharge for short-term activities (e.g. well testing, flushing, commissioning, venting) and deep re-injection of geothermal liquids may be allowed: Provided, That safety measures are adopted to prevent the contamination of the groundwater;**
- c) Operating facilities that discharge regulated water pollutants without the valid required permits or after the permit was revoked for any violation of any condition therein;**



- d) Disposal of potentially infectious medical waste into sea water by vessels unless the health or safety of individuals on board the vessel is threatened by a great and imminent peril;
- e) Unauthorized transport or dumping into sea waters of sewage sludge or solid waste as defined under Republic Act No. 9003;
- f) Transport, dumping or discharge of prohibited chemicals, substances or pollutants listed under Republic Act No. 6969;
- g) Operate facilities that discharge or allow to seep, willfully or through gross negligence, prohibited chemicals, substances or pollutants listed under R. A. No. 6969, into water bodies or wherein the same shall be liable to be washed into such surface, ground, coastal, and marine water;
- h) Undertaking activities or development and expansion of projects, or operating wastewater/sewerage facilities in violation of P.D. No. 1586 and its implementing rules and regulations;
- i) Discharging regulated water pollutants without the valid required discharge permit pursuant to this Act or after the permit was revoked for any violation of any condition therein;
- j) Noncompliance of the LGU with the Water Quality Framework and Management Area Action Plan. In such a case, sanctions shall be imposed on the local government officials concerned;
- k) Refusal to allow entry, inspection and monitoring by the Department in accordance with this Act;
- l) Refusal to allow access by the Department to relevant reports and records in accordance with this Act;
- m) Refusal or failure to submit reports whenever required by the Department in accordance with this Act;
- n) Refusal or failure to designate pollution control officers whenever required by the Department in accordance with this Act; and
- o) Directly using booster pumps in the distribution system or tampering with the water supply in such a way as to alter or impair the water quality.

Rule 27. Prohibitions and Penalties.

27.1 Elements of the offenses. The following elements constitute the prohibited acts as provided in the CWA:

a) Pollution of Water body - Discharging, depositing or causing to be deposited material of any kind directly or indirectly into the water bodies or along the margins of any surface water, where, the same shall be liable to be washed into such surface water, either by tide action or by storm, floods or otherwise, which could cause water pollution or impede natural flow in the water body;

b) Groundwater pollution - Discharging, injecting or allowing to seep into the soil or sub-soil any substance in any form that would pollute groundwater. In the case of geothermal projects, and subject to the approval of the Department, regulated discharge for short-term activities (e.g. well testing, flushing, commissioning, venting) and deep re-injection of geothermal liquids may be allowed: Provided, That safety measures are adopted to prevent the contamination of the groundwater;



- c) **Facility discharge without permit** - Operating facilities that discharge regulated water pollutants without the valid required permits or after the permit was revoked for any violation of any condition therein;
 - d) **Disposal of infectious waste from vessel** - Disposal of potentially infectious medical waste into sea water by vessels (unless the health or safety of individuals on board the vessel is threatened by a great and imminent peril);
 - e) **Unauthorized transport** - Unauthorized transport or dumping into sea waters of sewage sludge or solid waste as defined under Republic Act No. 9003;
 - f) **Chemical dumping** - Transport, dumping or discharge of prohibited chemicals, substances or pollutants listed under Republic Act No. 6969;
 - g) **Illegal facility** - Operate facilities that discharge or allow to seep, willfully or through gross negligence, prohibited chemicals, substances or pollutants listed under R. A. No. 6969, into water bodies or wherein the same shall be liable to be washed into such surface, ground, coastal, and marine water;
 - h) **Sewerage Development/expansion against EIA** - Undertaking activities or development and expansion of/projects, in violation of P.D. No. 1586 and its implementing rules and regulations; or operating wastewater/sewerage facilities in violation of P.D. No. 1586 and its implementing rules and regulations;
 - i) **Illegal discharge** - Discharging regulated water pollutants without the valid required discharge permit pursuant to this Act or after the permit was revoked for any violation of any condition therein.
- 27.2 The LGUs may employ its power to issue ordinances if any other acts detrimental to water quality need to be prohibited. It may likewise use its powers under the Local Government Code to ensure compliance.
- 27.3 Upon a finding by the PAB of a violation of Sec. 27 of the Clean Water Act and the determination of its perpetrator, it shall determine the amount of fine to be imposed, accompanied by all the necessary records and any physical evidence. The Secretary shall issue the order for the payment of the fine within 10 days from the PAB recommendation and cause the order to be served to the perpetrator by personal service or registered mail.
- 27.4 The increases in fine shall be applied to the minimum and maximum amounts and shall automatically be computed to apply every three years on the date of the effectivity of the law.
- 27.5 The continuation of the violation for which a daily fine shall be imposed shall not be construed to be a continuation of the discharge or pollutive activity but the continuation of the existence of the pollution.



Environmental safeguards in Sec. 28 shall include clean-up operations as provided for in Sec. 16.

- 27.6 The Secretary upon the recommendation of the PAB (Pollution Adjudication Board) may issue an order to the Local Water District or private water supplier to disconnect the water service of the violator.
- 27.7 Upon verified complaint by any person, or on its own instance, the Department, shall institute administrative proceedings against any person who violates standards provided by this act or any order, rule or regulation issued by it with respect to such standard.
- 27.8 Official reports, undertaken by the person filing or from inspection teams shall be sufficient basis of the complaint. Other evidence on the violation may be presented to the Department. Failure of the party complained against to appear upon due notice shall not be a bar to the presentation of evidence in making a decision on the matter presented before it.
- 27.9 Such proceedings may be filed with the Pollution Adjudication Board, or the Environmental Management Bureau or any other agency with jurisdiction over aspects of the violation or which may revoke or suspend a given permit such as but not limited to Protected Area Management Boards, the local government or other local administrative bodies.

SEC. 28. Fines, Damages and Penalties. - Unless otherwise provided herein, any person who commits any of the prohibited acts provided in the immediately preceding section or violates any of the provision of this Act or its implementing rules and regulations, shall be fined by the Secretary, upon the recommendation of the PAB in the amount of not less than Ten thousand pesos (P10,000.00) nor more than Two hundred thousand pesos (P200,000.00) for every day of violation. The fines herein prescribed shall be increased by ten percent (10%) every two (2) years to compensate for inflation and to maintain the deterrent function of such fines: Provided, That the Secretary, upon recommendation of the PAB may order the closure, suspension of development or construction, or cessation of operations or, where appropriate disconnection of water supply, until such time that proper environmental safeguards are put in place and/or compliance with the Act or its rules and regulations are undertaken. This paragraph shall be without prejudice to the issuance of an ex parte order for such closure, suspension of development or construction, or cessation of operations during the pendency of the case.

Failure to undertake clean-up operations, willfully, or through gross negligence, shall be punished by imprisonment of not less than two (2) years and not more than four (4) years and a fine not less than Fifty thousand pesos (P50,000.00) and not more than One hundred thousand pesos (P100,000.00) per day for each day of violation. Such failure or refusal which results in serious injury or loss of life and/or irreversible water contamination of surface, ground, coastal and marine water shall be punished with imprisonment of not less than six (6) years and one (1) day and not more than twelve (12) years, and a fine of Five hundred thousand pesos (P500,000.00) per day for each day during which the omission and/or contamination continues.



In case of gross violation of this Act, the PAB shall issue a resolution recommending that the proper government agencies file criminal charges against the violators. Gross violation shall mean any of the following:

- (a) deliberate discharge of toxic pollutants identified pursuant to Republic Act No. 6969 in toxic amounts;
- (b) five (5) or more violations within a period of two (2) years; or
- (c) blatant disregard of the orders of the PAB, such as the non-payment of fines, breaking of seals or operating despite the existence of an order for closure, discontinuance or cessation of operation.

In which case, offenders shall be punished with a fine of not less than Five hundred thousand pesos (P500,000.00) but not more than Three million pesos (P3,000,000.00) per day for each day of violation or imprisonment of not less than six (6) years but not more than ten (10) years, or both, at the discretion of the court. If the offender is a juridical person, the president, manager and the pollution control officer or the official in charge of the operation shall suffer the penalty herein provided.

For violations falling under Section 4 of Presidential Decree No. 979 or any regulations prescribed in pursuance thereof, such person shall be liable for a fine of not less than Fifty thousand pesos (P50,000.00) nor more than One million pesos (P1,000,000.00) or by imprisonment of not less than one (1) year nor more than six (6) years or both, for each offense, without prejudice to the civil liability of the offender in accordance with existing laws. If the offender is a juridical entity, then its officers, directors, agents or any person primarily responsible shall be held liable: Provided, That any vessel from which oil or other harmful substances are discharged in violation of Section 4 of Presidential Decree No. 979 shall be liable for penalty of fine specified in the immediately preceding paragraph and clearance of such vessel from the port of the Philippines may be withheld until the fine is paid and such penalty shall constitute a lien on such vessel which may be recovered in proceedings by libel in rem in the proper court which the vessel may be. The owner or operator of a vessel or facility which discharged the oil or other harmful substances will be liable to pay for any clean-up costs.

Provided, finally, That water pollution cases involving acts or omissions committed within the Laguna Lake Region shall be dealt with in accordance with the procedure under R. A. No. 4850 as amended.

Rule 28. Graduated Penalty Schedule. The PAB shall formulate a graduated penalty schedule. Violations committed in non-attainment areas shall be meted the maximum penalty provided by law.

SEC. 29. Administrative Sanctions Against Non-compliance with the Water Quality Management Area Action Plan. - Local government officials concerned shall be subject to administrative sanctions in case of failure to comply with their action plan in accordance with the relevant provisions of R. A. No. 7160.

Rule 29. Administrative sanctions

29.1 Criminal liability for non-compliance. WQMA Boards or other entities may file administrative actions against any local government officials who fail to comply with their action plans in order to force compliance, or to apply other sanctions specified in the Local Government Code.



- 29.2 **Implementation problems.** In case the action plan is found to be impossible to implement given available resources, the officials responsible for it shall take necessary measures to revise it immediately to make it more realistic, using the same process originally taken.

CHAPTER 6 ACTIONS

SEC. 30. Administrative Action. - Without prejudice to the right of any affected person to file an administrative action, the Department shall, on its own instance or upon verified complaint by any person, institute administrative proceedings in the proper forum against any person who violates:

- a) Standards or limitations provided by this Act; or
- b) By any such order, rule or regulation issued by the Department with respect to such standard or limitation.

Rule 30. Filing of complaints. Any person may file a verified complaint with the Department against any person who violates standards or limitations or any order, rule or regulation issues under this Act. The proceedings shall follow the Administrative Code, the Local Government Code and any specific procedures within the agency to which the respondent is accountable.

CHAPTER 7 FINAL PROVISIONS

SEC. 31. Appropriations. - An amount of One hundred million pesos (P100,000,000.00) shall be appropriated from the savings of the National Government to the Department for the initial implementation of this Act. Thereafter, the amount necessary to effectively carry out the provisions of this Act shall be included in the General Appropriations Act of the year following its enactment into law and thereafter.

SEC. 32. Implementing Rules and Regulations. - The Department, in coordination with the Committees on Environment and Ecology of the Senate and the House of Representatives, respectively and other concerned agencies, shall promulgate the implementing rules and regulations for this Act, within one (1) year after the enactment of this Act: Provided, That rules and regulations issued by other government agencies and instrumentalities for the prevention and/or abatement of water pollution not inconsistent with this Act shall supplement the rules and regulations issued by the Department, pursuant to the provisions of this Act.

The draft of the implementing rules and regulations shall be published and be the subject of public consultations with affected sectors.



There shall be a mandatory review of the implementing rules and regulations and standards set pursuant to the provisions of this Act.

SEC. 33. Joint Congressional Oversight Committee. - There is hereby created a Joint Congressional Oversight Committee to monitor the implementation of the Act and to review the implementing rules and regulations promulgated by the Department. The Committee shall be composed of five (5) Senators and five (5) Representatives to be appointed by the Senate President and the Speaker of the House of Representatives, respectively. The Oversight Committee shall be co-chaired by the Chairpersons of the Committee on Environment of the Senate and the Committee on Ecology of the House of Representatives.

SEC. 34. Repealing Clause. - Presidential Decree No. 984 is hereby repealed. Republic Act Nos. 6969 and 4850 as amended, Presidential Decree Nos. 1586, 1152, 979 and 856 are hereby amended and modified accordingly. All other laws, orders, issuance, rules and regulations inconsistent herewith are hereby repealed or modified accordingly.

Rule 34. Repeal of existing rules. The standards set in DAO 34 and 35 shall remain in effect under the CWA or until such time that a new standard is established by the Department. DAO 2003-39 and 2004-25 are hereby repealed, the substance of these rules having been incorporated in this IRR. All other regulations inconsistent herewith are modified accordingly.


SEC. 35. Separability Clause. - If any provision of this Act or the application of such provision to any person or circumstances is declared unconstitutional, the remainder of the Act or the application of such provision to other person or circumstances shall not be affected by such declaration.

Rule 35. Separability. Should any provision in these implementing rules and regulations be subsequently declared unconstitutional, the same shall not affect the validity or the legality of the other provisions.

SEC. 36. Effectivity. - This Act shall take effect fifteen (15) days from the date of its publication in the Official Gazette or in at least two (2) newspapers of general circulation.

Rule 36. Effectivity of the rules. These implementing rules and regulations shall take effect immediately upon filing with the Office of the National Administrative Register and publication in two (2) national newspapers of general circulation.

Publication : The Manila Times
May 26, 2005
Manila Standard
May 26, 2005


MICHAEL T. DEFENSOR
Secretary



S. No. 1255
H. No. 6216

Republic of the Philippines
Congress of the Philippines
Metro Manila

Eleventh Congress

First Regular Session

Begun and held in Metro Manila, on Monday, the twenty-seventh day of July, nineteen hundred and ninety eight.

REPUBLIC ACT
No. 8749

**Subject: AN ACT PROVIDING FOR A COMPREHENSIVE AIR
POLLUTION CONTROL POLICY AND FOR OTHER
PURPOSES**

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

Chapter 1
General Provisions

Article 1
Basic Air Quality Policies

Section 1. Short Title - This Act shall be known as the "Philippine Clean Air Act of 1999."

Section 2. Declaration of Principles. - The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

The State shall promote and protect the global environment to attain sustainable development while recognizing the primary responsibility of local government units to deal with environmental problems.

The State recognizes that the responsibility of cleaning the habitat and environment is primarily area-based.

The State also recognizes the principle that "polluters must pay".

Finally, the State recognizes that a clean and healthy environment is for the good of all and should therefore be the concern of all.

Section 3. Declaration of Policies. - The State shall pursue a policy of balancing development and environmental protection. To achieve this end, the framework for sustainable development shall be pursued. It shall be the policy of the State to:

- a) Formulate a holistic national program of air pollution management that shall be implemented by the government through proper delegation and effective coordination of functions and activities;
- b) Encourage cooperation and self-regulation among citizens and industries through the application of market-based instruments;
- c) Focus primarily on pollution prevention rather than on control and provide for a comprehensive management program for air pollution;
- d) Promote public information and education to encourage the participation of an informed and active public in air quality planning and monitoring; and
- e) Formulate and enforce a system of accountability for short and long-term adverse environmental impact of a project, program or activity. This shall include the setting up of a funding or guarantee mechanism for clean-up and environmental rehabilitation and compensation for personal damages.

Section 4. Recognition of Rights. - Pursuant to the above-declared principles, the following rights of citizens are hereby sought to be recognized and the State shall seek to guarantee their enjoyment:

- a) The right to breathe clean air;
- b) The right to utilize and enjoy all natural resources according to the principle of sustainable development;
- c) The right to participate in the formulation, planning, implementation and monitoring of environmental policies and programs and in the decision-making process;
- d) The right to participate in the decision-making process concerning development policies, plans and programs projects or activities that may have adverse impact on the environment and public health;
- e) The right to be informed of the nature and extent of the potential hazard of any activity, undertaking or project and to be served timely notice of any significant rise in the level of pollution and the accidental or deliberate release into the atmosphere of harmful or hazardous substances;
- f) The right of access to public records which a citizen may need to exercise his or her rights effectively under this Act;
- g) The right to bring action in court or quasi-judicial bodies to enjoin all activities in violation of environmental laws and regulations, to compel the rehabilitation and cleanup of affected area, and to seek the imposition of penal sanctions against violators of environmental laws; and
- h) The right to bring action in court for compensation of personal damages resulting from the adverse environmental and public health impact of a project or activity.

Article 2
Definition Of Terms

Section 5. Definitions - As used in this Act:

- a) **"Air pollutant"** means any matter found in the atmosphere other than oxygen, nitrogen, water vapor, carbon dioxide, and the inert gases in their natural or normal concentrations, that is detrimental to health or the environment, which includes but not limited to smoke, dust, soot, cinders, fly ash, solid particles of any kind, gases, fumes, chemical mists, steam and radio-active substances;
- b) **"Air pollution"** means any alteration of the physical, chemical and biological properties of the atmospheric air, or any discharge thereto of any liquid, gaseous or solid substances that will or is likely to create or to render the air resources of the country harmful, detrimental, or injurious to public health, safety or welfare or which will adversely affect their utilization for domestic, commercial, industrial, agricultural, recreational, or other legitimate purposes;
- c) **"Ambient air quality guideline values"** mean the concentration of air over specified periods classified as short-term and long-term which are intended to serve as goals or objectives for the protection of health and/or public welfare. These values shall be used for air quality management purposes such as determining time trends, evaluating stages of deterioration or enhancement of the air quality, and in general, used as basis for taking positive action in preventing, controlling, or abating air pollution;
- d) **"Ambient air quality"** means the general amount of pollution present in a broad area; and refers to the atmosphere's average purity as distinguished from discharge measurements taken at the source of pollution;
- e) **"Certificate of Conformity"** means a certificate issued by the Department of Environment and Natural Resources to a vehicle manufacturer/assembler or importer certifying that a particular new vehicle or vehicle type meets the requirements provided under this Act and its rules and regulations;
- f) **"Department"** means the Department of Environment and Natural Resources;
- g) **"Eco-profile"** means the geographical-based instrument for planners and decision-makers which present an evaluation of the environmental quality and carrying capacity of an area. It is the result of the integration of primary and secondary data and information on natural resources and anthropogenic activities on the land which are evaluated by various environmental risk assessment and forecasting methodologies that enable the Department to anticipate the type of development control necessary in the planning area;
- h) **"Emission"** means any air contaminant, pollutant, gas stream or unwanted sound from a known source which is passed into the atmosphere;
- i) **"Greenhouse gases"** mean those gases that can potentially or can reasonably be expected to induce global warming, which include carbon dioxide, methane, oxides of nitrogen, chlorofluorocarbons, and the like;

- j) "**Hazardous substances**" mean those substances which present either: (1) short-term acute hazards such as acute toxicity by ingestion, inhalation, or skin absorption, corrosivity or other skin or eye contact hazard or the risk of fire explosion; or (2) long-term toxicity upon repeated exposure, carcinogenicity (which in some cases result in acute exposure but with a long latent period), resistance to detoxification process such as biodegradation, the potential to pollute underground or surface waters;
- k) "**Infectious waste**" means that portion of medical waste that could transmit an infectious disease;
- l) "**Medical waste**" means the materials generated as a result of patient diagnosis, treatment, or immunization of human beings or animals;
- m) "**Mobile source**" means any vehicle propelled by or through combustion of carbon-based or other fuel, constructed and operated principally for the conveyance of persons or the transportation of property or goods;
- n) "**Motor vehicle**" mean any vehicle propelled by a gasoline or diesel engine or by any other than human or animal power, constructed and operated principally for the conveyance of persons or the transportation of property or goods in a public highway or street open to public use;
- o) "**Municipal waste**" means the waste materials generated from communities within a specific locality;
- p) "**New vehicle**" means a vehicle constructed entirely from new parts that has never been sold or registered with the DOTC or with the appropriate agency or authority, and operated on the highways of the Philippines, any foreign state or country;
- q) "**Octane Rating or the Anti-Knock Index (AKI)**" means the rating of the anti-knock characteristics of a grade or type of automotive gasoline as determined by dividing by two (2) the sum of the Research Octane Number (RON), plus the Motor Octane Number (MON); the octane requirement, with respect to automotive gasoline for use in a motor vehicle or a class thereof, whether imported, manufactured, or assembled by a manufacturer, shall refer to the minimum octane rating of such automotive gasoline which such manufacturer recommends for the efficient operation of such motor vehicle, or a substantial portion of such class, without knocking;
- r) "**Ozone Depleting Substances (ODS)**" mean those substances that significantly deplete or otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment such as, but not limited to, chlorofluorocarbons, halons, and the like;
- s) "**Persistent Organic Pollutants (POPs)**" mean the organic compounds that persist in the environment, bioaccumulate through the food web, and pose a risk of causing adverse effects to human health and the environment. These compounds resist photolytic, chemical and biological degradation, which shall include but not be limited to dioxin, furan, Polychlorinated Biphenyls (PCBs), organochlorine pesticides, such as aldrin, dieldrin, DDT, hexachlorobenzene, lindane, toxaphere and chlordane;

- t) **"Poisonous and toxic fumes"** mean any emissions and fumes which are beyond internationally-accepted standards, including but not limited to World Health Organization (WHO) guideline values;
- u) **"Pollution control device"** means any device or apparatus used to prevent, control or abate the pollution of air caused by emissions from identified pollution sources at levels within the air pollution control standard established by the Department;
- v) **"Pollution control technology"** means the pollution control devices, production processes, fuel combustion processes or other means that effectively prevent or reduce emissions or effluent;
- w) **"Standard of performance"** means a standard for emissions of air pollutant which reflects the degree of emission limitation achievable through the application of the best system of emission reduction, taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirement which the Department determines, and adequately demonstrates; and
- x) **"Stationary source"** means any building or immobile structure, facility or installation which emits or may emit any air pollutant.

Chapter 2 **Air Quality Management System**

Article 1 **General Provisions**

Section 6. Air Quality Monitoring and Information Network. - The Department shall prepare an annual National Air Quality Status Report which shall be used as the basis in formulating the Integrated Air Quality Improvement Framework, as provided for in Section 7. The said report shall include, but shall not be limited to the following:

- a) Extent of pollution in the country, per type of pollutant and per type of source, based on reports of the Department's monitoring stations;
- b) Analysis and evaluation of the current state, trends and projections of air pollution at the various levels provided herein;
- c) Identification of critical areas, activities, or projects which will need closer monitoring or regulation;
- d) Recommendations for necessary executive and legislative action; and
- e) Other pertinent qualitative and quantitative information concerning the extent of air pollution and the air quality performance rating of industries in the country.

The Department, in cooperation with the National Statistical Coordination Board (NSCB), shall design and develop an information network for data storage, retrieval and exchange.

The Department shall serve as the central depository of all data and information related to air quality.

Section 7. *Integrated Air Quality Improvement Framework.* - The Department shall, within six (6) months after the effectivity of this Act, establish, with the participation of LGUs, NGOs, POs, the academe and other concerned entities from the private sector, formulate and implement the Integrated Air Quality Improvement Framework for a comprehensive air pollution management and control program. The framework shall, among others, prescribe the emission reduction goals using permissible standards, control strategies and control measures to be undertaken within a specified time period, including cost-effective use of economic incentives, management strategies, collective action, and environmental education and information.

The Integrated Air Quality Improvement Framework shall be adopted as the official blueprint with which all government agencies must comply with to attain and maintain ambient air quality standards.

Section 8. *Air Quality Control Action Plan.* - Within six (6) months after the formulation of the framework, the Department shall, with public participation, formulate and implement an air quality control action plan consistent with Section 7 of this Act. The action plan shall:

- a) Include enforceable emission limitations and other control measures, means or techniques, as well as schedules and time tables for compliance, as may be necessary or appropriate to meet the applicable requirements of this Act;
- b) Provide for the establishment and operation of appropriate devices, methods, systems and procedures necessary to monitor, compile and analyze data on ambient air quality;
- c) Include a program to provide for the following: (1) enforcement of the measures described in the subparagraph (a); (2) regulation of the modification and construction of any stationary source within the areas covered by the plan, in accordance with land use policy to ensure that ambient air quality standards are achieved;
- d) Contain adequate provisions, consistent with the provisions of this Act, prohibiting any source or other types of emissions activity within the country from emitting any air pollutant in amounts which will significantly contribute to the non-attainment or will interfere with the maintenance by the Department of any such ambient air quality standard required to be included in the implementation plan to prevent significant deterioration of air quality or to protect visibility;
- e) Include control strategies and control measures to be undertaken within a specified time period, including cost-effective use of economic incentives, management strategies, collection action, and environmental education and information;
- f) Designate airsheds; and
- g) All other measures necessary for the effective control and abatement of air pollution.

The adoption of the plan shall clarify the legal effects on the financial, manpower and budgetary resources of the affected government agencies, and on the alignment of their programs with the plans.

In addition to direct regulations, the plan shall be characterized by a participatory approach to the pollution problem. The involvement of private entities in the monitoring and testing of emissions from mobile and/or stationary sources shall be considered.

Likewise, the LGUs, with the assistance from the Department, shall prepare and develop an action plan consistent with the Integrated Air Quality Improvement Framework to attain and maintain the ambient air quality standards within their respective airsheds as provided in Section 9 hereof.

The local government units shall develop and submit to the Department a procedure for carrying out the action plan for their jurisdiction. The Department, however, shall maintain its authority to independently inspect the enforcement procedure adopted. The Department shall have the power to closely supervise all or parts of the air quality action plan until such time the local government unit concerned can assume the function to enforce the standards set by the Department.

A multi-sectoral monitoring team with broad public representation shall be convened by the Department for each LGU to conduct periodic inspections of air pollution sources to assess compliance with the emission limitations contained in their permits.

Section 9. Airsheds. - Pursuant to Section 8 of this Act, the designation of airsheds shall be on the basis of, but not limited to, areas with similar climate, meteorology and topology which affect the interchange and diffusion of pollutants in the atmosphere, or areas which share common interest or face similar development programs, prospects or problems.

For a more effective air quality management, a system of planning and coordination shall be established and a common action plan shall be formulated for each airshed.

To effectively carry out the formulated action plans, a Governing Board is hereby created, hereinafter referred to as the Board.

The Board shall be headed by the Secretary of the Department of Environment and Natural Resources as chairman. The members shall be as follows:

- a) Provincial Governors from areas belonging to the airshed;
- b) City/Municipal Mayors from areas belonging to the airshed;
- c) A representative from each concerned government agency;
- d) Representatives from people's organizations;
- e) Representatives from nongovernment organizations; and
- f) Representatives from the private sector.

The Board shall perform the following functions:

- a) Formulation of policies;
- b) Preparation of a common action plan;
- c) Coordination of functions among its members; and
- d) Submission and publication of an annual Air Quality Status Report for each airshed.

Upon consultation with appropriate local government authorities, the Department shall, from time to time, revise the designation of airsheds utilizing eco-profiling techniques and undertaking scientific studies.

Emissions trading may be allowed among pollution sources within an airshed.

Section 10. Management of Nonattainment Areas. - The Department shall designate areas where specific pollutants have already exceeded ambient standards as nonattainment areas. The Department shall prepare and implement a program that will prohibit new sources of exceeded air pollutant without a corresponding reduction in existing sources.

In coordination with other appropriate government agencies, the LGUs shall prepare and implement a program and other measures including relocation, whenever necessary, to protect the health and welfare of residents in the area.

For those designated as nonattainment areas, the Department after consultation with local government authorities, nongovernment organizations (NGOs), people's organizations (POs) and concerned sectors may revise the designation of such areas and expand its coverage to cover larger areas depending on the condition of the areas.

Section 11. Air Quality Control Techniques - Simultaneous with the issuance of the guideline values and standards, the Department, through the research and development program contained in this Act and upon consultation with the appropriate advisory committees, government agencies and LGUs, shall issue, and from time to time, revise information on air pollution control techniques. Such information shall include:

- a) Best available technology and alternative methods of prevention, management and control of air pollution
- b) Best available technology economically achievable which shall refer to the technological basis/standards for emission limits applicable to existing, direct industrial emitters of non-conventional and toxic pollutants; and
- c) Alternative fuels, processes and operating methods which will result in the elimination or significant reduction of emissions.

Such information may also include data relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact or the emission control technology.

The issuance of air quality guideline values, standards and information on air quality control techniques shall be made available to the general public: *Provided*, That the issuance of information on air quality control techniques shall not be construed as requiring the purchase of certain pollution control devices by the public.

Section 12. Ambient Air Quality Guideline Values and Standards. - The Department, in coordination with other concerned agencies, shall review and/or revise and publish annually a list of hazardous air pollutants with corresponding ambient guideline values and/or standard necessary to protect public health and safety, and general welfare. The initial list and values of the hazardous air pollutants shall be as follows:

a) For National Ambient Air Quality Guideline for Criteria Pollutants:

Pollutants	Short Term ^a		Long Term ^b			
	μg/NCM	ppm	Averaging	μg/NCM	ppm	
Averaging			Time	Time		
Suspended Particulate						
Matter ^c - TSP	230 ^d		24 hours	90	--	1 year ^c
- PM-10	150 ^f		24 hours	60	--	1 year ^e
Sulfur Dioxide ^c	180	0.07	24 hours	80	0.03	1 year
Nitrogen Dioxide	150	0.08	24 hours	--	--	--
Photochemical Oxidants	140	0.07	1 hour	--	--	--
As Ozone	60	0.03	8 hours	--	--	--
Carbon Monoxide	35 mg/NCM	30	1 hour	--	--	--
	10 mg/NCM	9	8 hours	--	--	--

- a** Maximum limits represented by ninety-eight percentile (98%) values not to be exceeded more than once a year.
- b** Arithmetic mean.
- c** SO₂ and Suspended Particulate Matter are sampled once every six days when using the manual methods. A minimum of twelve sampling days per quarter or forty-eight sampling days each year is required for these methods. Daily sampling may be done in the future once continuous analyzers are procured and become available.
- d** Limits for Total Suspended Particulate Matter with mass median diameter less than 25-50 µm.
- e** Annual Geometric Mean.
- f** Provisional limits for Suspended Particulate Matter with mass median diameter less than 10 microns and below until sufficient monitoring data are gathered to base a proper guideline.
- g** Evaluation of this guideline is carried out for 24-hour averaging time and averaged over three moving calendar months. The monitored average value for any three months shall not exceed the guideline value.

b) For National Ambient Air Quality Standards for Source Specific Air Pollutants from Industrial Sources/Operations:

Pollutants ¹	Concentration ²		Averaging time (min.)	Methods of Analysis/ Measurement ³
	µg/NCM	ppm		
1. Ammonia	200	0.28	30	Nesslerization/Indo Phenol
2. Carbon Disulfide	30	0.01	30	Tischer Method
3. Chlorine and Chlorine compounds expressed as Cl ₂	100	0.03	5	Methyl Orange
4. Formaldehyde	50	0.04	30	Chromotropic acid Method or MBTH Colorimetric Method
5. Hydrogen Chloride	200	0.13	30	Volhard Titration with Iodine Solution
6. Hydrogen Sulfide	100	0.07	30	Methylene Blue
7. Lead	20		30	AAS ^c
8. Nitrogen Dioxide	375 260	0.20 0.14	30 60	Greiss-Saltzman
9. Phenol	100	0.03	30	4-Aminoantipyrine
10. Sulfur Dioxide	470 340	0.18 0.13	30 60	Colorimetric-Pararosaniline
11. Suspended Particulate	300	--	60	Gravimetric

Matter - TSP 200 -- 60 - do -
- PM10

- 1 Pertinent ambient standards for Antimony, Arsenic, Cadmium, Asbestos, Nitric Acid and Sulfuric Acid Mists in the 1978 NPCC Rules and Regulations may be considered as guides in determining compliance.
- 2 Ninety-eighth percentile (98%) values of 30-minute sampling measured at 25°C and one atmosphere pressure.
- 3 Other equivalent methods approved by the Department may be used.

The basis in setting up the ambient air quality guideline values and standards shall reflect, among others, the latest scientific knowledge including information on:

- a) Variable factors, including atmospheric conditions, which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;
- b) The other types of air pollutants which may interact with such pollutant to produce an adverse effect on public health or welfare; and
- c) The kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities.

The Department shall base such ambient air quality standards on World Health Organization (WHO) standards, but shall not be limited to nor be less stringent than such standards.

Section 13. Emission Charge System. - The Department, in case of industrial dischargers, and the Department of Transportation and Communications (DOTC), in case of motor vehicle dischargers, shall, based on environmental techniques, design, impose on and collect regular emission fees from said dischargers as part of the emission permitting system or vehicle registration renewal system, as the case may be. The system shall encourage the industries, and motor vehicles to abate, reduce, or prevent pollution. The basis of the fees include, but is not limited to, the volume and toxicity of any emitted pollutant. Industries, which shall install pollution control devices or retrofit their existing facilities with mechanisms that reduce pollution shall be entitled to tax incentives such as but not limited to tax credits and/or accelerated depreciation deductions.

Section 14. Air Quality Management Fund. - An Air Quality Management Fund to be administered by the Department as a special account in the National Treasury is hereby established to finance containment, removal, and clean-up operations of the Government in air pollution cases, guarantee restoration of ecosystems and rehabilitate areas affected by the acts of violators of this Act, to support research, enforcement and monitoring activities and capabilities of the relevant agencies, as well as to provide technical assistance to the relevant agencies. Such fund may likewise be allocated per airshed for the undertakings herein stated.

The Fund shall be sourced from the fines imposed and damages awarded to the Republic of the Philippines by the Pollution Adjudication Board (PAB), proceeds of licenses and permits issued by the Department under this Act, emission fees and from donations, endowments and grants in the forms of contributions. Contributions to the Fund shall be exempted from donor taxes and all other taxes, charges or fees imposed by the Government.

Section 15. *Air Pollution Research and Development Program.* - The Department, in coordination with the Department of Science and Technology (DOST), other agencies, the private sector, the academe, NGOs and POs, shall establish a National Research and Development Program for the prevention and control of air pollution. The Department shall give special emphasis to research on and the development of improved methods having industry-wide application for the prevention and control of air pollution.

Such a research and development program shall develop air quality guideline values and standards in addition to internationally-accepted standards. It shall also consider the socio-cultural, political and economic implications of air quality management and pollution control.

Article 2

Air Pollution Clearances And Permits For Stationary Sources

Section 16. *Permits.* - Consistent with the provisions of this Act, the Department shall have the authority to issue permits as it may determine necessary for the prevention and abatement of air pollution.

Said permits shall cover emission limitations for the regulated air pollutants to help attain and maintain the ambient air quality standards. These permits shall serve as management tools for the LGUs in the development of their action plan.

Section 17. *Emission Quotas.* - The Department may allow each regional industrial center that is designated as special airshed to allocate emission quotas to pollution sources within its jurisdiction that qualify under an environmental impact assessment system programmatic compliance program pursuant to the implementing rules and regulations of Presidential Decree No. 1586.

Section 18. *Financial Liability for Environmental Rehabilitation.* - As part of the environmental management plan attached to the environmental compliance certificate pursuant to Presidential Decree No. 1586 and rules and regulations set therefor, the Department shall require program and project proponents to put up financial guarantee mechanisms to finance the needs for emergency response, clean-up or rehabilitation of areas that may be damaged during the program or project's actual implementation. Liability for damages shall continue even after the termination of a program or project, where such damages are clearly attributable to that program or project and for a definite period to be determined by the Department and incorporated into the environmental compliance certificate.

Financial liability instruments may be in the form of a trust fund, environmental insurance, surety bonds, letters of credit, as well as self-insurance. The choice of the guarantee instrument or combinations thereof shall depend, among others, on the assessment of the risks involved. Proponents required to put up guarantee instruments shall furnish the Department with evidence of availment of such instruments.

Article 3

Pollution From Stationary Sources

Section 19. *Pollution From Stationary Sources.* - The Department shall, within two (2) years from the effectivity of this Act, and every two (2) years thereafter, review, or as the need therefor arises, revise and publish emission standards, to further improve the

emission standards for stationary sources of air pollution. Such emission standards shall be based on mass rate of emission for all stationary sources of air pollution based on internationally-accepted standards, but not be limited to, nor be less stringent than such standards and with the standards set forth in this section. The standards, whichever is applicable, shall be the limit on the acceptable level of pollutants emitted from a stationary source for the protection of the public's health and welfare.

With respect to any trade, industry, process and fuel-burning equipment or industrial plant emitting air pollutants, the concentration at the point of emission shall not exceed the following limits:

Pollutants	Standard Applicable to Source	Maximum Permissible Limits (mg/NCM)	Methods of Analysis^a
1. Antimony and its compounds	Any source	10 as Sb	AAS ^b
2. Arsenic and its compounds	Any source	10 as As	AAS ^b
3. Cadmium and its compound	Any source	10 as Cd	AAS ^b
4. Carbon Monoxide	Any industrial source	500 as CO	Orsat Analysis
5. Copper and its compounds	Any industrial source	100 as Cu	AAS ^b
6. Hydrofluoric Acid and Fluoride compounds	Any source other than the manufacture of Aluminum from Alumina	50 as HF	Titration with Ammonium Thiocyanate
7. Hydrogen Sulfide	i) Geothermal power plants ii) Geothermal exploration and well-testing iii) Any source other than (i) and (ii)	^{c, d} ^e 7 as H ₂ S	Cadmium Sulfide Method Cadmium Sulfide Method
8. Lead	Any trade, industry or process	10 as Pb	AAS ^b
9. Mercury	Any source	5 as elemental Hg	AAS ^b /Cold-Vapor Technique or Hg Analyzer
10. Nickel and its compounds, except Nickel	Any source	20 as Ni	AAS ^b

11. Carbonyl ^f			
12. NO _x	i) Manufacture of Nitric Acid ii) Fuel burning steam generators Existing Source New Source <ul style="list-style-type: none"> • Coal-fired • Oil-fired iii) Any source other than (i) and (ii) Existing Source New Source	2,000 as acid and NO _x and calculated as NO ₂ 1,500 as NO ₂ 1,000 as NO ₂ 500 as NO ₂ 1,000 as NO ₂ 500 as NO ₂	Phenol-disulfonic acid Method Phenol-disulfonic acid Method Phenol-disulfonic acid Method
13. Phosphorus Pentoxide ^g	Any source	200 as P ₂ O ₅	Spectrophotometry
14. Zinc and its compounds	Any source	100 as Zn	AAS ^b

^a Other equivalent methods approved by the Department may be used.

^b Atomic Absorption Spectrophotometry

^c All new geothermal power plants starting construction by 01 January 1995 shall control H₂S emissions to not more than 150 g/GMW-Hr.

^d All existing geothermal power plants shall control H₂S emissions to not more than 200 g/GMW-Hr within 5 years from the date of effectivity of these revised regulations.

^e Best practicable control technology for air emissions and liquid discharges. Compliance with air and water quality standards is required.

^f Emission limit of Nickel Carbonyl shall not exceed 0.5 mg/NCM.

^g Provisional Guideline

Provided, That the maximum limits in mg/NCM particulates in said sources shall be:

1. Fuel Burning Equipment

a) Urban or Industrial Area 150 mg/NCM

b) Other Area 200 mg/NCM

2. Cement Plants (Kilns, etc.) 150 mg/NCM

3. Smelting Furnaces 150 mg/NCM

4. Other Stationary Sources^a 200 mg/NCM

^a Other Stationary Sources means a trade, process, industrial plant, or fuel burning equipment other than thermal power plants, industrial boilers, cement plants, incinerators and smelting furnaces

Provided, further, That the maximum limits for sulfur oxides in said sources shall be:

(1) Existing Sources

- (i) Manufacture of Sulfuric Acid and Sulf(on)ation Process 2.0 gm/NCM as SO₃
- (ii) Fuel Burning Equipment 1.5 gm/NCM as SO₂
- (iii) Other Stationary Sources ^a 1.0 gm/NCM as SO₃

(2) New Sources

- (i) Manufacture of Sulfuric Acid and Sulf(on)ation Process 1.5 gm/NCM as SO₃
- (ii) Fuel Burning Equipment 0.7 gm/NCM as SO₂
- (iii) Other Stationary Sources ^a 0.2 gm/NCM as SO₃

^a Other Stationary Sources refer to existing and new stationary sources other than those caused by the manufacture of sulfuric acid and sulfonation process, fuel burning equipment and incineration.

For stationary sources of pollution not specifically included in the immediately preceding paragraph, the following emission standards shall not be exceeded in the exhaust gas:

I. Daily And Half Hourly Average Values

	Daily Average Values	Half Hourly Average Values
Total dust	10 mg/m ³	30 mg/m ³
Gaseous and vaporous organic substances, expressed as total organic carbon	10 mg/m ³	20 mg/m ³
Hydrogen chloride (HCl)	10 mg/m ³	60 mg/m ³
Hydrogen fluoride (HF)	1 mg/m ³	4 mg/m ³
Sulphur dioxide (SO ₂)	50 mg/m ³	200 mg/m ³
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as nitrogen dioxide for incineration plants with a capacity exceeding 3 tonnes per hour	200 mg/m ³	400 mg/m ³
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as nitrogen dioxide for incineration plants with a capacity of 3 tonnes per hour or less	300 mg/m ³	
Ammonia	10 mg/m ³	20 mg/m ³

II. All Average Values over the Sample Period of a Minimum of 4 and Maximum of 8 Hours

Cadmium and its compounds, expressed as cadmium (Cd)	Total 0.05
Thallium and its compounds, expressed as thallium (Tl)	mg/m ³
Mercury and its compounds, expressed as mercury (Hg)	0.05 mg/m ³
Antimony and its compounds, expressed as antimony (Sb)	
Arsenic and its compounds, expressed as arsenic (As)	
Lead and its compounds, expressed as lead (Pb)	
Chromium and its compounds, expressed as chromium (Cr)	
Cobalt and its compounds, expressed as cobalt (Co)	Total 0.5
Copper and its compounds, expressed as copper (Cu)	mg/m ³
Manganese and its compounds, expressed as manganese (Mn)	
Nickel and its compounds, expressed as nickel (Ni)	
Vanadium and its compounds, expressed as vanadium (V)	
Tin and its compounds, expressed as tin (Sn)	

These average values cover also gaseous and the vapor forms of the relevant heavy metal emissions as well as their compounds: *Provided*, That the emission of dioxins and furans into the air shall be reduced by the most progressive techniques: *Provided, further*, That all average values of dioxin and furans measured over the sample period of a minimum of 6 hours and a maximum of 8 hours must not exceed the limit value of 0.1 nanogram/m³.

Pursuant to Section 8 of this Act, the Department shall prepare a detailed action plan setting the emission standards or standards of performance for any stationary source, the procedure for testing emissions for each type of pollutant, and the procedure for enforcement of said standards.

Existing industries, which are proven to exceed emission rates established by the Department, in consultation with stakeholders, after a thorough, credible and transparent measurement process shall be allowed a grace period of eighteen (18) months for the establishment of an environmental management system and the installation of an appropriate air pollution control device: *Provided*, That an extension of not more than twelve (12) months may be allowed by the Department on meritorious grounds.

Section 20. Ban on Incineration. - Incineration, hereby defined as the burning of municipal, bio-medical and hazardous wastes, which process emits poisonous and toxic fumes, is hereby prohibited: *Provided, however*, That the prohibition shall not apply to traditional small-scale method of community/neighborhood sanitation "siga", traditional, agricultural, cultural, health, and food preparation and crematoria: *Provided, further*, That

existing incinerators dealing with bio-medical wastes shall be phased out within three (3) years after the effectivity of this Act: *Provided, finally*, That in the interim, such units shall be limited to the burning of pathological and infectious wastes, and subject to close monitoring by the Department.

Local government units are hereby mandated to promote, encourage and implement in their respective jurisdiction a comprehensive ecological waste management that includes waste segregation, recycling and composting.

With due concern on the effects of climate change, the Department shall promote the use of state-of-the-art, environmentally-sound and safe non-burn technologies for the handling, treatment, thermal destruction, utilization, and disposal of sorted, unrecycled, uncomposted municipal, bio-medical and hazardous wastes.

Article 4
Pollution From Motor Vehicles

Section 21. Pollution from Motor Vehicles. - a) The DOTC shall implement the emission standards for motor vehicles set pursuant to and as provided in this Act. To further improve the emission standards, the Department shall review, revise and publish the standards every two (2) years, or as the need arises. It shall consider the maximum limits for all major pollutants to ensure substantial improvement in air quality for the health, safety and welfare of the general public.

The following emission standards for type approval of motor vehicles shall be effective by the year 2003:

- a) For light duty vehicles, the exhaust emission limits for gaseous pollutants shall be:

Emission Limits for Light Duty Vehicles
Type Approval
(Directive 91/441/EEC)

CO (g/km)	HC + NO _x (g/km)	PM ^a (g/km)
2.72	0.97	0.14

^a for compression-ignition engines only

- b) For light commercial vehicles, the exhaust emission limit of gaseous pollutants as a function of the given reference mass shall be:

Emission Limits for Light Commercial Vehicles
Type Approval
(Directive 93/59/EEC)

	Reference Weight (RW) (kg)	CO (g/km)	HC + NO _x (g/km)	PM ^a (g/km)
Category 1	1250 < RW	2.72	0.97	0.14
Category 2	1250 < RW < 1700	5.17	1.4	0.19
Category 3	RW > 1700	6.9	1.7	0.25

^a for compression-ignition engines only

- c) For heavy duty vehicles, the exhaust emission limits of gaseous pollutants shall be:

**Emission Limits for Heavy Duty Vehicles
Type Approval
(Directive 91/542/EEC)**

CO (g/kWh)	HC (g/kWh)	NO_x (g/kWh)	PM (g/kWh)
4.5	1.1	8.0	0.36 ^a

^a In the case of engines of 85kW or less, the limit value for particular emissions is increased by multiplying the quoted limit by a coefficient of 1.7

Fuel evaporative emission for spark-ignition engines shall not exceed 2.0 grams hydrocarbons per test. Likewise, it shall not allow any emission of gases from crankcase ventilation system into the atmosphere.

- b) The Department, in collaboration with the DOTC, DTI and LGUs, shall develop an action plan for the control and management of air pollution from motor vehicles consistent with the Integrated Air Quality Framework. The DOTC shall enforce compliance with the emission standards for motor vehicles set by the Department. The DOTC may deputize other law enforcement agencies and LGUs for this purpose. To this end, the DOTC shall have the power to:
 - (1) Inspect and monitor the emissions of motor vehicles;
 - (2) Prohibit or enjoin the use of motor vehicles or a class of motor vehicles in any area or street at specified times; and
 - (3) Authorize private emission testing centers duly accredited by the DTI.
- c) The DOTC, together with the DTI and the Department, shall establish the procedures for the inspection of motor vehicles and the testing of their emissions for the purpose of determining the concentration and/or rate of emission of pollutants discharged by said sources.
- d) In order to ensure the substantial reduction of emissions from motor vehicles, the Department of Trade and Industry (DTI), together with the DOTC and the Department, shall formulate and implement national motor vehicle inspection and maintenance program that will promote efficient and safe operation of all motor vehicles. In this regard, the DTI shall develop and implement standards and procedures for the certification of training institutions, instructors and facilities and the licensing of qualified private service centers and their technicians as prerequisite for performing the testing, servicing, repair and the required adjustment to the vehicle emission system. The DTI shall likewise prescribe regulations requiring the disclosure of odometer readings and the use of tamper-resistant odometers for all motor vehicles including tamper-resistant fuel management systems for the effective implementation of the inspection and maintenance program.

Section 22. Regulation of All Motor Vehicles and Engines. - Any imported new or locally-assembled new motor vehicle shall not be registered unless it complies with the emission standards set pursuant to this Act, as evidenced by a Certificate of Conformity (COC) issued by the Department.

Any imported new motor vehicle engine shall not be introduced into commerce, sold or used unless it complies with emission standards set pursuant to this Act.

Any imported used motor vehicle or rebuilt motor vehicle using new or used engines, major parts or components shall not be registered unless it complies with the emission standards set pursuant to this Act.

In case of non-compliance, the importer or consignee may be allowed to modify or rebuild the vehicle or engine so that it will be in compliance with applicable emission standards.

No motor vehicle registration (MVR) shall be issued unless such motor vehicle passes the emission testing requirement promulgated in accordance with this Act. Such testing shall be conducted by the DOTC or its authorized inspection centers within sixty (60) days prior to date of registration.

The DTI shall promulgate the necessary regulations prescribing the useful life of vehicles and engines including devices in order to ensure that such vehicles will conform to the emissions which they were certified to meet. These regulations shall include provisions for ensuring the durability of emission devices.

Section 23. *Second-Hand Motor Vehicle Engines.* - Any imported second-hand motor vehicle engine shall not be introduced into commerce, sold or used unless it complies with emission standards set pursuant to this Act.

Article 5

Pollution From Other Sources

Section 24. *Pollution from Smoking.* - Smoking inside a public building or an enclosed public place including public vehicles and other means of transport or in any enclosed area outside of one's private residence, private place of work or any duly designated smoking area is hereby prohibited under this Act. This provision shall be implemented by the LGUs.

Section 25. *Pollution from Other Mobile Sources:* - The Department, in coordination with appropriate agencies, shall formulate and establish the necessary standards for all mobile sources other than those referred to in Section 21 of this Act. The imposition of the appropriate fines and penalties from these sources for any violation of emission standards shall be under the jurisdiction of the DOTC.

Chapter 3
Fuels, Additives, Substances And Pollutants

Article 1
Fuels, Additives And Substances

Section 26. Fuels and Additives. - Pursuant to the Air Quality Framework to be established under Section 7 of this Act, this Department of Energy (DOE), co-chaired by the Department of Environment and Natural Resources (DENR), in consultation with the Bureau of Product Standards (BPS) of the DTI, the DOST, the representatives of the fuel and automotive industries, academe and the consumers shall set specifications for all types of fuel and fuel-related products, to improve fuel composition for increased efficiency and reduced emissions: *Provided, however,* That the specifications for all types of fuel and fuel-related products set-forth pursuant to this section shall be adopted by the BPS as Philippine National Standards (PNS).

The DOE, shall also specify the allowable content of additives in all types of fuels and fuel-related products. Such standards shall be based primarily on threshold levels of health and research studies. On the basis of such specifications, the DOE shall likewise limit the content or begin the phase-out of additives in all types of fuels and fuel-related products as it may deem necessary. Other agencies involved in the performance of this function shall be required to coordinate with the DOE and transfer all documents and information necessary for the implementation of this provision.

Consistent with the provisions of the preceding paragraphs under this section, it is declared that:

- a) not later than eighteen (18) months after the effectivity of this Act, no person shall manufacture, import, sell, supply, offer for sale, dispense, transport or introduce into commerce unleaded premium gasoline fuel which has an anti-knock index (AKI) of not less than 87.5 and Reid vapor pressure of not more than 9 psi. Within six (6) months after the effectivity of this Act, unleaded gasoline fuel shall contain aromatics not to exceed forty-five percent (45%) by volume and benzene not to exceed four percent (4%) by volume: *Provided,* That by year 2003, unleaded gasoline fuel should contain aromatics not to exceed thirty-five percent (35%) by volume and benzene not to exceed two percent (2%) by volume;
- b) not later than eighteen (18) months after the effectivity of this Act, no person shall manufacture, import, sell, supply, offer for sale, dispense, transport or introduce into commerce automotive diesel fuel which contains a concentration of sulfur in excess of 0.20% by weight with a cetane number or index of not less than forty-eight (48): *Provided,* That by year 2004, content of said sulfur shall be 0.05% by weight, and
- c) not later than eighteen (18) months after the effectivity of this Act, no person shall manufacture, import, sell, supply, offer for sale, dispense, transport or introduce into commerce industrial diesel fuel which contains a concentration of sulfur in excess of 0.30% (by weight).

Every two (2) years thereafter or as the need arises, the specifications of unleaded gasoline and of automotive and industrial diesel fuels shall be reviewed and revised for further improvement in formulation and in accordance with the provisions of this Act.

The fuels characterized above shall be commercially available. Likewise, the same shall be the reference fuels for emission and testing procedures to be established in accordance with the provisions of this Act.

Any proposed additive shall not in any way increase emissions of any of the regulated gases which shall include, but not limited to carbon monoxide, hydrocarbons, and oxides of nitrogen and particulate matter, in order to be approved and certified by the Department.

Section 27. Regulation of Fuels and Fuel Additives. - The DOE, in coordination with the Department and the BPS, shall regulate the use of any fuel or fuel additive. No manufacturer, processor or trader of any fuel or additive may import, sell, offer for sale, or introduce into commerce such fuel or additive unless the same has been registered with the DOE. Prior to registration, the manufacturer, processor or trader shall provide the DOE with the following relevant information:

- a) Product identity and composition to determine the potential health effects of such fuels and additives;
- b) Description of the analytical technique that can be used to detect and measure the additive in any fuel;
- c) Recommended range of concentration; and
- d) Purpose in the use of the fuel and additive.

Section 28. Misfuelling. - In order to prevent the disabling of any emission control device by lead contamination, no person shall introduce or cause or allow the introduction of leaded gasoline into any motor vehicle equipped with a gasoline tank filler inlet and labeled "unleaded gasoline only". This prohibition shall also apply to any person who knows or should know that such vehicle is designed solely for the use of unleaded gasoline.

Section 29. Prohibition on Manufacture, Import and Sale of Leaded Gasoline and of Engines and/or Components Requiring Leaded Gasoline. - Effective not later than eighteen (18) months after the enactment of this Act, no person shall manufacture, import, sell, offer for sale, introduce into commerce, convey or otherwise dispose of, in any manner leaded gasoline and engines and components requiring the use of leaded gasoline.

For existing vehicles, the DTI shall formulate standards and procedures that will allow non-conforming engines to comply with the use of unleaded fuel within five (5) years after the effectivity of this Act.

Article 2 **Other Pollutants**

Section 30. Ozone-Depleting Substances. - Consistent with the terms and conditions of the Montreal Protocol on Substances that Deplete the Ozone Layer and other international agreements and protocols to which the Philippine is a signatory, the Department shall phase out ozone-depleting substances.

Within sixty (60) days after the enactment of this Act, the Department shall publish a list of substances which are known to cause harmful effects on the stratospheric ozone layer.

Section 31. Greenhouse Gases. - The Philippine Atmospheric, Geophysical and Astronomical Service Administration (PAGASA) shall regularly monitor meteorological factors affecting environmental conditions including ozone depletion and greenhouse gases and coordinate with the Department in order to effectively guide air pollution monitoring and standard-setting activities.

The Department, together with concerned agencies and local government units, shall prepare and fully implement a national plan consistent with the United Nations Framework Convention on Climate Change and other international agreements, conventions and protocols on the reduction of greenhouse gas emissions in the country.

Section 32. Persistent Organic Pollutants. - The Department shall, within a period of two (2) years after the enactment of this Act, establish an inventory list of all sources of Persistent Organic Pollutants (POPs) in the country. The Department shall develop short-term and long-term national government programs on the reduction and elimination of POPs such as dioxins and furans. Such programs shall be formulated within a year after the establishment of the inventory list.

Section 33. Radioactive Emissions. - All projects which will involve the use of atomic and/or nuclear energy, and will entail release and emission of radioactive substances into the environment, incident to the establishment or possession of nuclear energy facilities and radioactive materials, handling, transport, production, storage, and use of radioactive materials, shall be regulated in the interest of public health and welfare by the Philippine Nuclear Research Institute (PNRI), in coordination with the Department and other appropriate government agencies.

Chapter 4 **Institutional Mechanism**

Section 34. Lead Agency. - The Department, unless otherwise provided herein, shall be the primary government agency responsible for the implementation and enforcement of this Act. To be more effective in this regard, the Department's Environmental Management Bureau (EMB) shall be converted from a staff bureau to a line bureau for a period of no more than two (2) years, unless a separate, comprehensive environmental management agency is created.

Section 35. Linkage Mechanism. - The Department shall consult, participate, cooperate and enter into agreement with other government agencies, or with affected non-governmental organizations (NGOs) or people's organizations (POs), or private enterprises in the furtherance of the objectives of this Act.

Section 36. Role of Local Government Units. - Local government units (LGUs) shall share the responsibility in the management and maintenance of air quality within their territorial jurisdiction. Consistent with Sections 7, 8 and 9 of this Act, LGUs shall implement air quality standards set by the Board in areas within their jurisdiction; *Provided, however,* That in case where the Board has not been duly constituted and has not promulgated its standards, the standards set forth in this Act shall apply.

The Department shall provide the LGUs with technical assistance, trainings and a continuing capability-building program to prepare them to undertake full administration of the air quality management and regulation within their territorial jurisdiction.

Section 37. Environment and Natural Resources Office. - There may be established an Environment and Natural Resources Office in every province, city, or municipality which shall be headed by the environment and natural resources officer and shall be appointed by the Chief Executive of every province, city or municipality in accordance with the provisions of Section 484 of Republic Act No. 7160. Its powers and duties, among others, are:

- a) To prepare comprehensive air quality management programs, plans and strategies within the limits set forth in Republic Act No. 7160 and this Act which shall be implemented within its territorial jurisdiction upon the approval of the *sanggunian*;
- b) To provide technical assistance and support to the governor or mayor, as the case may be, in carrying out measures to ensure the delivery of basic services and the provision of adequate facilities relative to air quality;
- c) To take the lead in all efforts concerning air quality protection and rehabilitation;
- d) To recommend to the Board air quality standards which shall not exceed the maximum permissible standards set by national laws;
- e) To coordinate with other government agencies and non-governmental organizations in the implementation of measures to prevent and control air pollution; and
- f) Exercise such other powers and perform such duties and functions as may be prescribed by law or ordinance; *Provided, however,* That in provinces/cities/municipalities where there are no environment and natural resources officers, the local executive concerned may designate any of his official and/or chief of office preferably the provincial, city or municipal agriculturist, or any of his employee; *Provided, finally,* That in case an employee is designated as such, he must have a sufficient experience in environmental and natural resources management, conservation and utilization.

Section 38. Record-keeping, Inspection, Monitoring and Entry by the Department. - The Department or its duly accredited entity shall, after proper consultation and notice, require any person who owns or operates any emission source or who is subject to any requirement of this Act to: (a) establish and maintain relevant records; (b) make relevant reports; (c) install, use and maintain monitoring equipment or methods; (d) sample emission, in accordance with the methods, locations, intervals, and manner prescribed by the Department; (e) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical; and (f) provide such other information as the Department may reasonably require.

Pursuant to this Act, the Department, through its authorized representatives, shall have the right of: a) entry or access to any premises including documents and relevant materials as referred to in the herein preceding paragraphs; b) inspect any pollution or waste source, control device, monitoring equipment or method required; and c) test any emission.

Any record, report or information obtained under this section shall be made available to the public, except upon a satisfactory showing to the Department by the entity concerned that the record, report, or information, or parts thereof, if made public, would divulge secret

methods or processes entitled to protection as intellectual property. Such record, report or information shall likewise be incorporated in the Department's industrial rating system.

Section 39. Public Education and Information Campaign. - A continuing air quality information and education campaign shall be promoted by the Department, the Department of Education, Culture and Sports (DECS), the Department of the Interior and Local Government (DILG), the Department of Agriculture (DA) and the Philippine Information Agency (PIA). Consistent with Section 7 of this Act, such campaign shall encourage the participation of other government agencies and the private sector including NGOs, POs, the academe, environmental groups and other private entities in a multi-sectoral information campaign.

Chapter 5 **Actions**

Section 40. Administrative Action. - Without prejudice to the right of any affected person to file an administrative action, the Department shall, on its own instance or upon verified complaint by any person, institute administrative proceedings against any person who violates:

- a) Standards or limitation provided under this Act; or
- b) Any order, rule or regulation issued by the Department with respect to such standard or limitation.

Section 41. Citizen Suits. - For purposes of enforcing the provisions of this Act or its implementing rules and regulations, any citizen may file an appropriate civil, criminal or administrative action in the proper courts against:

- a) Any person who violates or fails to comply with the provisions of this Act or its implementing rules and regulations; or
- b) The Department or other implementing agencies with respect to orders, rules and regulations issued inconsistent with this Act, and/or
- c) Any public officer who willfully or grossly neglects the performance of an act specifically enjoined as a duty by this Act or its implementing rules and regulations; or abuses his authority in the performance of his duty; or, in any manner, improperly performs his duties under this Act or its implementing rules and regulations: *Provided, however,* That no suit can be filed until after thirty-day (30) notice has been given to the public officer and the alleged violator concerned and no appropriate action has been taken thereon.

The court shall exempt such action from the payment of filing fees, except fees for actions not capable of pecuniary estimations, and shall, likewise, upon *prima facie* showing of the non-enforcement or violation complained of, exempt the plaintiff from the filing of an injunction bond for the issuance of a preliminary injunction.

Within thirty (30) days, the court shall make a determination if the complaint herein is malicious and/or baseless and shall accordingly dismiss the action and award attorney's fees and damages.

Section 42. Independence of Action. - The filing of an administrative suit against such person/entity does not preclude the right of any other person to file any criminal or civil action. Such civil action shall proceed independently.

Section 43. Suits and Strategic Legal Actions Against Public Participation and the Enforcement of this Act. - Where a suit is brought against a person who filed an action as provided in Section 41 of this Act, or against any person, institution or government agency that implements this Act, it shall be the duty of the investigating prosecutor or the court, as the case may be, to immediately make a determination not exceeding thirty (30) days whether said legal action has been filed to harass, vex, exert undue pressure or stifle such legal recourses of the person complaining of or enforcing the provisions of this Act. Upon determination thereof, evidence warranting the same, the court shall dismiss the case and award attorney's fees and double damages.

This provision shall also apply and benefit public officers who are sued for acts committed in their official capacity, there being no grave abuse of authority, and done in the course of enforcing this Act.

Section 44. Lien Upon Personal and Immovable Properties of Violators. - Fines and penalties imposed pursuant to this Act shall be liens upon personal and immovable properties of the violator. Such lien shall, in case of insolvency of the respondent violator, enjoy preference subsequent to laborer's wages under Articles 2241 and 2242 of Republic Act No. 386, otherwise known as the New Civil Code of the Philippines.

Chapter 6 **Fines And Penalties**

Section 45. Violation of Standards for Stationary Sources. - For actual exceedance of any pollution or air quality standards under this Act or its rules and regulations, the Department, through the Pollution Adjudication Board (PAB), shall impose a fine of not more than One hundred thousand pesos (Php100,000.00) for every day of violation against the owner or operator of a stationary source until such time that the standards have been complied with.

For purposes of the application of the fines, the PAB shall prepare a fine rating system to adjust the maximum fine based on the violator's ability to pay, degree of willfulness, degree of negligence, history of noncompliance and degree of recalcitrance: *Provided*, That in case of negligence, the first time offender's ability to pay may likewise be considered by the Pollution Adjudication Board: *Provided, further*, That in the absence of any extenuating or aggravating circumstances, the amount of fine for negligence shall be equivalent to one-half of the fine for willful violation.

The fines herein prescribed shall be increased by at least ten percent (10%) every three (3) years to compensate for inflation and to maintain the deterrent function of such fines.

In addition to the fines, the PAB shall order the closure, suspension of development, construction, or operations of the stationary sources until such time that proper environmental safeguards are put in place: *Provided*, That an establishment found liable for a third offense shall suffer permanent closure immediately. This paragraph shall be without prejudice to the immediate issuance of an *ex parte* order for such closure, suspension of development or construction, or cessation of operations during the pendency of the case upon *prima facie* evidence that there is imminent threat to life, public health, safety or

general welfare, or to plant or animal life, or whenever there is an exceedance of the emission standards set by the Department and/or the Board and/or the appropriate LGU.

Section 46. Violation of Standards for Motor Vehicles. - No motor vehicle shall be registered with the DOTC unless it meets the emission standards set by the Department as provided in Section 21 hereof.

Any vehicle suspected of violation of emission standards through visual signs, such as, but not limited to smoke-belching, shall be subjected to an emission test by a duly authorized testing center for this purpose, the DOTC or its authorized testing center shall establish a roadside inspection system. Should it be shown that there was no violation of emission standards, the vehicle shall be immediately released. Otherwise, a testing result indicating an exceedance of the emission standards would warrant the continuing custody of the impounded vehicle unless the appropriate penalties are fully paid, and the license plate is surrendered to the DOTC pending the fulfillment of the undertaking by the owner/operator of the motor vehicle to make the necessary repairs so as to comply with the standards. A pass shall herein be issued by the DOTC to authorize the use of the motor vehicle within a specified period that shall not exceed seven (7) days for the sole purpose of making the necessary repairs on the said vehicle. The owner/operator of the vehicle shall be required to correct its defects and show proof of compliance to the appropriate pollution control office before the vehicle can be allowed to be driven on any public or subdivision roads.

In addition, the driver and operator of the apprehended vehicle shall undergo a seminar on pollution control and management conducted by the DOTC and shall also suffer the following penalties:

- a) **First offense** - a fine not to exceed Two thousand pesos (Php2,000.00);
- b) **Second offense** - a fine not less than Two thousand pesos (Php2,000.0) and not to exceed Four thousand pesos (Php4,000.00); and
- c) **Third offense** - one (1) year suspension of the Motor Vehicle Registration (MVR) and a fine of not less than Four thousand pesos (Php4,000.00) and not more than Six thousand pesos (Php6,000.00).

Any violation of the provisions of Section 21 paragraph (d) with regard to national inspection and maintenance program, including technicians and facility compliance shall be penalized with a fine of not less than Thirty thousand pesos (Php30,000.00) or cancellation of license of both the technician and the center, or both, as determined by the DTI.

All law enforcement officials and deputized agents accredited to conduct vehicle emissions testing and apprehensions shall undergo a mandatory training on emission standards and regulations. For this purpose, the Department, together with the DOTC, DTI, DOST, Philippine National Police (PNP) and other concerned agencies and private entities shall design a training program.

Section 47. Fines and Penalties for Violations of Other Provisions in the Act.
- For violations of all other provisions provided in this Act and of the rules and regulations thereof, a fine of not less than Ten thousand pesos (Php10,000.00) but not more than One hundred thousand pesos (Php100,000.00) or six (6) months to six (6) years imprisonment or both shall be imposed. If the offender is a juridical person, the president, manager, directors, trustees, the pollution control officer or the officials directly in charge of the operations shall suffer the penalty herein provided.

Section 48. Gross Violations. - In case of gross violation of this Act or its implementing rules and regulations, the PAB shall recommend to the proper government agencies to file the appropriate criminal charges against the violators. The PAB shall assist the public prosecutor in the litigation of the case. Gross violation shall mean (a) three (3) or more specific offenses within a period of (1) year, (b) three (3) or more specific offenses within three (3) consecutive years; (c) blatant disregard of the orders of the PAB, such as but not limited to the breaking of seal, padlocks and other similar devices, or operating despite the existence of an order for closure, discontinuance or cessation of operation; and (d) irreparable or grave damage to the environment as a consequence of any violation or omission of the provisions of this Act.

Offenders shall be punished with imprisonment of not less than six (6) years but not more than ten (10) years at the discretion of the court. If the offender is a juridical person, the president, manager, directors, trustees, the pollution control officer or the officials directly in charge of the operations shall suffer the penalty herein provided.

Chapter 7

Final Provisions

Section 49. Potential Loss or Shifts of Employment. - The Secretary of Labor is hereby authorized to establish a compensation, retraining and relocation program to assist workers laid off due to a company's compliance with the provisions of this Act.

Section 50. Appropriations. - An amount of Seven hundred fifty million pesos (Php750,000,000.00) shall be appropriated for the initial implementation of this Act, of which, the amount of Three hundred million pesos (Php300,000,000.00) shall be appropriated to the Department; Two hundred million pesos (Php200,000,000.00) to the DTI; One hundred fifty million pesos (Php150,000,000.00) to the DOTC; and, One hundred million pesos (Php100,000,000.00) to the DOE.

Thereafter, the amount necessary to effectively carry out the provisions of this Act shall be included in the General Appropriations Act.

Section 51. Implementing Rules and Regulations. - The Department in coordination with the Committees on Environment and Ecology of the Senate and House of Representatives, respectively and other concerned agencies, shall promulgate the implementing rules and regulations for this Act, within one (1) year after the enactment of this Act. *Provided*, That rules and regulations issued by other government agencies and instrumentalities for the prevention and/or abatement of pollution not inconsistent with this Act shall supplement the rules and regulations issued by the Department, pursuant to the provisions of this Act.

The draft of the implementing rules and regulations shall be published and be the subject of public consultations with affected sectors.

There shall be a mandatory review of the implementing rules and regulations and standards set pursuant to the provisions of this Act.

Section 52. Report to Congress. - The Department shall report to Congress, not later than March 30 of every year following the approval of this Act, the progress of the pollution control efforts and make the necessary recommendations in areas where there is need for legislative action.

Section 53. Joint Congressional Oversight Committee. - There is hereby created a joint congressional oversight committee to monitor the implementation of this Act. The committee shall be composed of five (5) senators and five (5) representatives to be appointed by the Senate President and the Speaker of the House of Representatives, respectively. The oversight committee shall be co-chaired by a senator and a representative designated by the Senate President and the Speaker of the House of Representatives, respectively.

The mandate given to the joint congressional oversight committee under this Act shall be without prejudice to the performance of the duties and functions by the respective existing oversight committees of the Senate and the House of Representatives.

Section 54. Separability of Provisions. - If any provision of this Act or the application of such provision to any person or circumstances is declared unconstitutional, the remainder of the Act or the application of such provision to other persons or circumstances shall not be affected by such declaration.

Section 55. Repealing Clause. - Presidential Decree No. 1181 is hereby repealed Presidential Decree Nos. 1152, 1586, Presidential Decree No. 984 are partly modified. All other laws, orders, issuance, rules and regulations inconsistent herewith are hereby repealed or modified accordingly.

Section 56. Effectivity. - This Act shall take effect fifteen (15) days from the date of its publication in the *Official Gazette* or in at least two (2) newspapers of general circulation.

Approved,

(Sgd) **MANUEL B. VILLAR, JR.**
Speaker of the House
of Representatives

(Sgd) **MARCELO B. FERNAN**
President of the Senate

This Act, which is a consolidation of Senate Bill No. 1255 and House Bill No. 6216 was finally passed by the Senate and the House of Representatives on May 13, 1999 and May 10, 1999, respectively.

(Sgd) **ROBERTO P. NAZARENO**
Secretary General
House of Representatives

(Sgd) **HEZEL P. GACUTAN**
Secretary of the Senate

Approved: 23 June 1999

(Sgd) **JOSEPH EJERCITO ESTRADA**
President of the Philippines

**DENR Administrative Order
No. 2000 - 81
November 07, 2000**

**SUBJECT : IMPLEMENTING RULES AND
REGULATIONS FOR RA 8749**

Pursuant to the provisions of Section 51 of Republic Act No. 8749, otherwise known as the "Philippine Clean Air Act of 1999," and by virtue of Executive Order No. 192, Series of 1987, the Department of Environment and Natural Resources hereby adopts and promulgates the following rules and regulations:

PART I GENERAL PROVISIONS

RULE I PRELIMINARY PROVISIONS

Section 1. Title

These Rules shall be known and cited as the "Implementing Rules and Regulations of the Philippine Clean Air Act of 1999."

Section 2. Purpose

The purpose of these Rules is to provide guidelines on the operationalization of the Philippine Clean Air Act of 1999.

Section 3. Scope

These Rules shall lay down the powers and functions of the Department of Environment and Natural Resources, the Department of Transportation and Communication, the Department of Trade and Industry, the Department of Energy and all other concerned agencies, the rights and obligations of stakeholders and the rights and duties of the people with respect to the Air Quality Management and Control Program.

Section 4. Construction

These Implementing Rules and Regulations shall be liberally construed to carry out the national policy of balancing development and environmental protection through the pursuance of the framework of sustainable development. Sustainable development shall refer to development that meets

the needs of the present without compromising the ability of future generations to meet their own needs.

RULE II DECLARATION OF STATE POLICY

Section 1. Declaration of Policy

It is the policy of the State to protect and advance the right of people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

It is also the policy of the State to attain and maintain a balance between development and environmental protection.

Finally, it is the policy of the State to maintain a quality of air that protects human health and welfare.

RULE III AIR QUALITY PRINCIPLES

Section 1. Air Quality Principles

- a) The State shall promote and protect the global environment to attain sustainable development while recognizing the primary responsibility of local government units to deal with environmental problems.
- b) The State recognizes that the responsibility of cleaning the habitat and environment is primarily area-based and that air quality management and control is most effective at the level of airsheds.
- c) The State recognizes the principle that “polluters must pay” and the important role of economic instruments in air quality management and control.
- d) The State recognizes that a clean and healthy environment is for the good of all and should therefore be a concern of all.

RULE IV AIR QUALITY POLICIES

Section 1. Air Quality Policies

It is the policy of the State to:

- a) Formulate a comprehensive national program of air pollution management that shall be implemented by the government through proper delegation and effective coordination of functions and activities;
- b) Encourage cooperation and self-regulation among citizens and industries through the application of market-based instruments;

- c) Focus primarily on pollution prevention rather than on control and provide for a comprehensive management program for air pollution, such as the promotion of non-motorized transport, emphasis on public transport, and travel demand measures;
- d) Promote public information and education and to encourage the participation of an informed and active public in air quality planning and monitoring; and
- e) Formulate and enforce a system of accountability for short and long-term adverse environmental impact of a project, program or activity. This shall include the setting up of a funding or guarantee mechanism for clean-up and environmental rehabilitation and compensation for personal damages.

RULE V RIGHTS

Section 1. Recognition of Rights

Pursuant to the above-declared principles, the following rights of citizens are hereby sought to be recognized and the State shall seek to guarantee their enjoyment:

- a) The right to breathe clean air;
- b) The right to utilize and enjoy all natural resources according to the principles of sustainable development;
- c) The right to participate in the formulation, planning, implementation and monitoring of environmental policies and programs and in the decisionmaking process;
- d) The right to participate in the decision-making process concerning development policies, plans and programs projects or activities that may have adverse impact on the environment and public health;
- e) The right to be informed of the nature and extent of the potential hazard of any activity, undertaking or project and to be served timely notice of any significant rise in the level of pollution and the accidental or deliberate release into the atmosphere of harmful or hazardous substances;
- f) The right of access to public records which a citizen may need to exercise his or her rights effectively under this Act;
- g) The right to bring action in court or quasi-judicial bodies to enjoin all activities in violation of environmental laws and regulations, to compel the rehabilitation and clean-up of affected area, and to seek the imposition of penal sanctions against violators of environmental laws; and
- h) The right to bring action in court for compensation of personal damages resulting from the adverse environmental and public health impact of a project or activity.

RULE VI DEFINITION OF TERMS

Section 1. Definitions

The following terms as used in these Implementing Rules and Regulations shall be defined as follows:

“Act” refers to Republic Act No. 8749, otherwise known as the “Philippine Clean Air Act of 1999”;

“Air pollutant” means any matter found in the atmosphere other than oxygen, nitrogen, water vapor, carbon dioxide, and the inert gases all in their natural or normal concentrations, that is detrimental to health or the environment, which includes but not limited to smoke, dust, soot, cinder, fly ash, solid particles of any kind, gases, fumes, chemical mists, contaminated steam and radioactive substances;

“Air pollution” means any alteration of the physical, chemical and biological properties of the atmosphere, or any discharge thereto of any liquid, gaseous or solid substances that will or is likely to create or to render the air resources of the country harmful, detrimental, or injurious to public health, safety or welfare or which will adversely affect their utilization for domestic, commercial, industrial, agricultural, recreational, or other legitimate purposes;

“Air quality performance rating” refers to a rating system to be developed by the Department through the Bureau. The air quality performance ratings will be grouped by industry, and will compare emissions data for industrial sources to the relevant National Ambient Air Quality Standards and the relevant National Emissions Standards for Source Specific Air Pollutants;

“Airshed” refers to areas with common weather or meteorological conditions and sources of air pollution which affect the interchange and diffusion of pollution in the surrounding atmosphere.

“Ambient air quality” refers to the atmosphere’s average purity in a broad area as distinguished from discharge measurements taken at the source of pollution or the present characteristic or nature of the surrounding atmosphere;

“Ambient air quality guideline values” refers to the concentration of air over specified periods classified as short-term and/or long-term which are intended to serve as goals or objectives for the protection of health and/or public welfare. These values shall be used for air quality management purposes such as determining time trends, evaluating stages of deterioration or enhancement of the air quality. In general, used as a basis for taking positive action in preventing, controlling, or abating health impacts from air pollution;

“Ambient air quality standard” means the concentration of an air pollutant which, in order to protect public health and/or public welfare, shall not be exceeded in the breathing zone, at any time. Standards are enforceable and must be complied with by the owner or person in-charge of an industrial operation, process or trade;

“Authority to Construct” refers to the legal authorization granted by the Bureau to install a new source or modify an existing source.

“Best Available Control Technology” refers to approaches, techniques or equipment which when used, result in lower air emissions but in a cost-effective manner. BACT results in lower emission rates than those specified in the National Emission Standards for Source Specific Air Pollutants

“Bio-medical waste” refers to pathological wastes, pharmaceutical wastes, chemical wastes and sharps defined as follows:

“Pathological wastes” include all human tissue (whether infected or not) such as limbs, organs, fetuses and body fluid; animal carcasses and tissue, together with all related swabs and dressings;

“Pharmaceutical wastes” include pharmaceutical products; drugs and chemicals that have been returned from wards; have been spilled or soiled; are expired or contaminated; or are to be discarded for any reason;

“Chemical wastes” include discarded solid, liquid or gaseous chemicals from laboratories or other sources such as diagnostic work, environmental work, cleaning, housekeeping and disinfecting procedures;

“Sharps” include needles, syringes, scalpels, blades and any other items that could cut or puncture;

“Bureau” refers to the Central Office of the Environmental Management Bureau and its Regional Offices under the Department;

“Cease and Desist Order” refers to the ex parte Order directing the discontinuance of the operation resulting in the emission or discharge of pollutants exceeding the emission standards or whenever such emission or discharge constitutes imminent threat to human, animal or plant life, public health or public safety. Non-compliance with an undertaking or agreement submitted to the Department shall likewise be a ground for issuance of a CDO;

“Certificate of Compliance to Emission Standard” refers to a certificate issued by DOTC to a rebuilt vehicle(s) or second hand vehicle(s) imported into the country based on an inspection by the DOTC MVIS in accordance with the emission standards of these Implementing Rules and Regulations, and as a requirement for initial registration of the subject vehicle(s).

“Certificate of Conformity” refers to the certificate issued by the Department to a vehicle manufacturer/assembler or importer certifying that a particular new vehicle or vehicle type meets the requirements provided under this Act and its Implementing Rules and Regulations;

“Certificate of Emission Compliance” refers to a certificate issued by the DOTC or its authorized emission testing center(s) for a vehicle apprehended during roadside inspection, certifying that the particular vehicle meets the emission requirements of these Implementing Rules and Regulations, and which shall have no validity period.

“Completely Built-up Unit (CBU)” refers to vehicles imported into the country either brand new or used and ready for operation;

“Compliance Plan” refers to a plan submitted to the Bureau for approval which details how an existing stationary air emissions source will be brought into compliance. The owner of the facility must submit the plan within two months of notification of non-compliance by the Bureau. The plan must include a schedule that will be enforceable.

“Compression Ignition Engine” means an internal combustion engine in which atomized fuel temperature is raised through compression, resulting in ignition, e.g. diesel engines;

“Completely Knocked-Down” (CKD) refers to new parts and components and/or engines that are imported in disassembled condition for purposes of assembly. It may include not only parts and components but also subassemblies and assemblies, e.g. engines, transmissions, axle assemblies, chassis and body assemblies;

“Conformity of Production” refers to the verification of the production units’ conformity with the requirements of the Clean Air Act and these Implementing Rules and Regulations.

“Continuous Emission Monitoring System” means the total equipment, required under these Implementing Rules and Regulations or as directed by the Bureau, used to sample and condition (if applicable), analyze, and provide a permanent record of emissions or process parameters. Such record shall be the basis of the firm’s compliance with the emission standards. Further, it may be an approved monitoring system for continuously measuring the emission of a pollutant from an affected source or facility and as such, may be used in computing annual emission fees;

“Criteria Pollutants” are air pollutants for which National Ambient Air Quality Guideline Values have been established;

“Department” refers to the Department of Environment and Natural Resources;

“Detoxification process” refers to the process of diminishing or removing the poisonous quality of any substance using chelating agents to prevent or reverse toxicity particularly for those substances (e.g., heavy metals) that are cumulative or persistent in the body;

“Director” means the Director of the Bureau;

“Eco-profile” shall refer to the geographic-based instrument for planners and decision-makers which presents an evaluation of the environmental quality and carrying capacity of an area. It is the result of the integration of various primary and secondary data and information on natural resources and

anthropogenic activities on the land which are evaluated by various environmental risk assessment and forecasting methodologies. This will enable the Department to anticipate the type of development control that is necessary in the planning area;

“Emission” means any measurable air contaminant, pollutant, gas stream or unwanted sound from a known source which is passed into the atmosphere;

“Emission averaging” is a technique whereby a facility having more than one source of a given pollutant may, under certain circumstances and with Bureau approval, reduce emissions from one or more sources sufficiently so that the average of all the facility's source emissions is equal to or below the applicable standard for a particular pollutant. Emission averaging is computed on an annual potential ton per year basis.

“Emission Charge” refers to a fee corresponding to the quality, quantity, volume and toxicity of emissions from an industrial or mobile source;

“Emission Credits” are generated by sources that reduce their annual mass emissions below the equivalent minimum regulatory level by either installing and operating pollution control devices or by using other Bureau approved methods. The equivalent minimum regulatory level is based upon the lowest annual emissions in tons that results when the source operates at its permitted emission rate for its typical annual operating hours. Sources that are subject to different allowable emission rates, such as National Emission Standards and Ambient Air Quality Standards, must estimate the minimum regulatory level on the standard that provides the lowest annual allowable tonnage. An emission credit is equal to one ton of an air pollutant;

“Emission factor” refers to a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. Emission factors may be used to calculate emission fees, as indicated in Rule XVI, Section 5. These factors are usually expressed as the weight of pollutant divided by a unit weight, volume, distance, or duration of the activity emitting the pollutant (e. g., kilograms of particulate emitted per megagram of coal burned). Such factors facilitate estimation of emissions from various sources of air pollution. In most cases, these factors are simply averages of all

available data of acceptable quality. The general equation for emission estimation is: $E = A \times EF \times (1 - ER/100)$ where: E = emissions; A = activity rate; EF = emission factor; and ER= overall emission reduction efficiency. %ER is further defined as the product of the control device destruction or removal efficiency and the capture efficiency of the control system. When estimating emissions for a long time period (e. g., one year), both the device and the capture efficiency terms should account for upset periods as well as routine operations;

“Emission offset” refers to an emission reduction credit that compensates for an emission increase of an affected pollutant from a new or modified source.

“Emissions Trading” refers to a market-based approach to air pollution control which allows for transferring emission credits between different facilities for use as a form of regulatory compliance;

“Environmental Management Systems” that part of the overall, management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

“Environmental Management Plan/Program” this is the plan or program for achieving the environmental objectives and targets of a project or undertaking. It includes the designation of responsibility for achieving objectives and targets and the means and time-frame by which they are to be achieved. It details the prevention, mitigation, compensation, contingency and monitoring measures to enhance positive impacts and minimize negative impacts of a project or undertaking.

“Environmental Management Systems Audit” a systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organization’s EMS conforms to the EMS audit criteria set by the organization and for communication of the results of this process to management.

“Episode” means a series of short-term air pollution events that significantly alter the ambient air quality of an affected area;

“Equivalent Method” refers to any technique or procedure for sampling and/or analyzing an air pollutant which has been approved by the Bureau and demonstrated to have a consistent and quantitatively known relationship with the designated standard method.;

“Existing Source” means any source already erected, installed, and in operation; or any source for which construction has been offered for bidding or actual construction has commenced prior to the date of effectivity of these Implementing Rules and Regulations. Any existing source which in the opinion of the Department has undergone a modification after the date of adoption of an applicable rule and regulation, shall be reclassified and considered a new source;

“Governing Board” refers to a multi-sectoral body created under Section 9 of the Act to effectively carry out and implement the air quality action plan of an airshed;

“Greenhouse gases” refers to those gases such as carbon dioxide, methane, and oxides of nitrogen, chlorofluorocarbons, and the others that can potentially or can reasonably be expected to induce global warming;

“Gross Vehicle Mass or Weight” means the sum of the vehicle mass or weight and the allowable maximum payload as declared by the vehicle manufacturer;

“Guideline” means an official recommendation or guidance on the protection of human beings or receptors in the environment from the adverse effects of air pollutants;

“Hazardous substances” refers to those substances which present either: (1) short-term acute hazards such as acute toxicity by ingestion, inhalation, or skin absorption, corrosivity or other skin or eye contact hazard or the risk of fire explosion; or (2) long-term toxicity upon repeated exposure, including carcinogenicity (which in some cases may result in acute exposure but with a long latent period), resistance to the detoxification process, or the potential to pollute underground or surface waters, whether shipped into the country or generated locally;

“Hazardous wastes” are hazardous substances that are without any safe commercial, industrial, agricultural or economic usage and are shipped, transported or brought from the

country of origin for dumping or disposal into or in transit through any part of the territory of the Philippines. Hazardous wastes shall also refer to hazardous substances that are byproducts, side-products, process residues, spent reaction media, contaminated plant or equipment or other substances from manufacturing operations, and as consumer discards of manufactured products.

“Imported Used/Second-Hand Vehicle” means any used or second-hand motor vehicle imported and registered in the country of origin;

“Incineration” means the burning of municipal, bio-medical and hazardous wastes which process emits toxic and poisonous fumes;

“Infectious waste” refers to soiled surgical dressings, swabs and other contaminated waste from treatment areas; materials which have been in contact with persons or animals suffering from infectious diseases; cultures and stocks of infectious agents from laboratory work; dialysis equipment; apparatus and disposable gowns, aprons, gloves, towels, etc; waste from dialysis treatment area; waste from patients in isolation wards; all materials which may contain pathogens in sufficient concentration or quality that exposure to could result in disease;

“Installation” means any structure, equipment, facility or appurtenances thereto, operation of which may be a source of pollution or a means to control the same;

“In-Use Vehicle” means a motor vehicle duly registered with the LTO;

“Light Duty Vehicles” are motor vehicles whose gross vehicle weight is equal to or less than 3,500 kgs, in accordance with the definition contained in Philippine National Standards (PNS) 1891. This also refers to “Light Commercial Vehicles;”

“Lowest Achievable Emission Rate” refers to any technology or combination of technologies and process controls that result in the lowest possible emissions of a given air pollutant. Cost is not a consideration in determining applicable LAER for a given source; however, technical feasibility is. The technology must be reasonably

demonstrated to be appropriate and reliable for each application;

“Mandatory Inspection” refers to the interval between testing and the tests performed, as partial pre-condition for the renewal of registration of in-use motor vehicles;

“Manufacturer or Assembler” means any entity or person who manufactures or assembles motor vehicles, for eventual use in the Philippines;

“Medical waste” means any solid waste that is generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals;

“Medium/Heavy Duty Vehicles” refers to motor vehicles whose gross vehicle weight is greater than 3,500 kgs, in accordance with the definition contained in PNS 1891;

“Mobile source” means any vehicle/machine propelled by or through oxidation or reduction reactions, including combustion of carbon-based or other fuel, constructed and operated principally for the conveyance of persons or the transportation of property or goods, that emit air pollutants as a reaction product;

“Modification” means any physical change or alteration in the method of operation of an existing source which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that source, or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously permitted. The following are exempted from the said definition:

Routine maintenance, repair and replacement shall not be considered physical changes if not intended to extend the useful life beyond the equipment manufacturer’s design;

An increase in the production rate provided the facility is permitted to operate at the increased level and such increase does not exceed the designed capacity of the existing source;
and

An increase in hours of operation provided that the facility is permitted to operate for the increase in hours.

“Motorcycle” refers to any two-wheeled motor vehicle with at least one headlight, taillight and stoplight, and one or more saddle seats. For purposes of these rules, motorcycles shall include motorcycles with attached cars also known as “tricycles”.

“Motor Vehicle” means any vehicle propelled by a gasoline or diesel engine or by any means other than human or animal power constructed and operated principally for the conveyance of persons or the transportation of goods;

“Motor Vehicle Registration” refers to the official recording of a motor vehicle by the Land Transportation Office (LTO) subject to the conformance of the vehicle to the safety and emission standards provided under Section 21 of the Act, including the pre-evaluation of the documents/requirements pursuant to Section 5 of Republic Act 4136, as amended, otherwise known as the Land Transportation Code;

“Municipal waste” refers to the waste materials generated from communities within a specific locality;

“National Ambient Air Quality Guideline Values” are limits on criteria air pollutant concentrations published by the Department, intended for the protection of public health, safety, and general welfare;

“National Motor Vehicle Inspection and Maintenance Program” refers to the set of projects and other activities and efforts all designed to reduce the damaging impact of air pollution and unsafe vehicles on health and safety of the people, through adoption of standards for emission and vehicle safety, and a series of measures to ensure compliance with them;

“New Motor Vehicle” means a vehicle constructed entirely from new parts that has never been sold or registered with the DOTC or with the appropriate agency or authority, and operated on the highways of the Philippines, any foreign state or country;

“New Source” means any plant, equipment, or installation in any trade, business or establishment which generates, emits or disposes air emissions into the atmosphere and constructed after the date of effectivity of these Implementing Rules and Regulations. This includes any existing stationary source

transferred or moved to a different location or site for the purpose of installation, operation or use after such date;

“Normal Cubic Meter” (Ncm) means the volume of dry gas which occupies a cubic meter measured at twenty five degrees Celsius (25°) at an absolute pressure equivalent to seven hundred sixty (760) mm Hg;

“Octane Rating” or the “Anti-Knock Index” (AKI) means the rating of the antiknock characteristics of a grade or type of automotive gasoline as determined by dividing by two (2) the sum of the Research Octane Number (RON), plus the Motor Octane Number (MON). The octane requirement, with respect to automotive gasoline for use in a motor vehicle or a class thereof, whether imported, manufactured, or assembled by a manufacturer, refers to the minimum octane rating or such automotive gasoline which such manufacturer recommends for the efficient operation of such motor vehicle, or substantial portion of such class, without knocking;

“Opacity” means the amount of light obscured by particle pollution in the atmosphere;

“Operator” means a person or entity that manages a transport business but not necessarily a vehicle owner;

“Owner” means the person or entity identified as the motor vehicle owner in the motor vehicle registration or by a valid deed of sale;

“Ozone Depleting Substances” (ODS) refers to those substances that significantly deplete or otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment such as, but not limited to, chlorofluorocarbons, halons, and the like;

“Particulate Matter” or “Suspended Particulates” means any material, other than uncombined water, which exists in a finely divided form as a liquid or solid;

“Passenger Car” refers to a four-wheeled motor vehicle used for the carriage of not more than six passengers including the driver and having a gross vehicle mass not exceeding 2,500 kg in accordance with the definition contained in PNS 1891.

“Permit” refers to the legal authorization to engage in or conduct any construction, operation, modification or expansion of any installation, operation or activity which will be reasonably expected to be a source of pollution;

“Permittee” refers to the owner, operator or entity who owns, leases, operates, controls or supervises any source, facility, machine or equipment;

“Permit to Operate” refers to the legal authorization granted by the Bureau to operate or maintain any installation for a specified period of time;

“Permit Condition” refers to a statement or stipulation issued with a permit, compliance with which is necessary for continued validity of the permit;

“Persistent Organic Pollutants” (POPs) means organic compounds that persist in the environment, bio-accumulate through the food web, and pose a risk of causing adverse effects to human health and the environment. These compounds resist photolytic, chemical and biological degradation, and include but are not limited to dioxin, furan, Polychlorinated Biphenyls (PCBs), organochlorine pesticides, such as aldrin, dieldrin, DDT, hexachlorobenzene, lindane, toxaphene and chlordane;

“Poisonous and toxic fumes” means any emission and fumes which do not conform to internationally-accepted standards, including but not limited to, World Health Organization (WHO) guideline values;

“Pollution control device” refers to any device or apparatus that is used to prevent, control, or abate the pollution of air caused by emissions from identified sources at levels within the air pollution standards established by the Department;

“Pollution control technology” refers to pollution control devices, production processes, fuel combustion processes or other means that effectively prevent or reduce emissions or effluents;

“Potential to emit” refers to the annual mass emissions that would result from a source when operating 8,760 hours per year. Actual emissions are based on the actual hours of operation per year;

“Rebuilt Motor Vehicle” means a locally assembled vehicle using new or used engine, major parts or components;

“Reference Mass or Weight” means the mass or weight of the vehicle in running order with a full fuel tank and including the set of tools and spare wheel, plus 100 kilograms but does not include the mass or weight of the passengers and driver;

“Regional Director” means the Regional Director of any Regional Office;

“Regional Office” means one of the Regional Offices of the Bureau; **“Ringelmann Chart”** means the chart described in the U.S. Bureau of Mines, Information Circular No. 8333 and No. 7718, and used for measuring smoke opacity;

“Siga” means the traditional small scale method of burning of wastes resulting from cleaning the backyard such as fallen leaves, twigs, stems, and other similar matter from plants and trees in the backyard where the burning is done;

“Smoke Opacity Meter (or Opacimeter)” means an instrument which determines the smoke opacity in exhaust gases emitted by the engine system.

“Spark-Ignition Engine” means an internal combustion engine in which the air/fuel mixture is ignited by a spark plug, e.g., a gasoline engine;

“Standard of performance” means a standard for emission of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction, taking into account the cost of achieving such reduction and any non-air quality health and environment impact and energy requirement as determined by the Department through the Bureau;

“Stationary source” refers to any building or fixed structure, facility or installation that emits or may emit any air pollutant;

“Type Approval” refers to the official ratification of the compliance of a vehicle type with applicable national or international regulations;

“Useful Life of Vehicles and Engines” refers to the period of time a vehicle and/or engine can be used, and meet standards of road worthiness and engine emissions;

“**Vehicle Type**” means a category of power-driven vehicles which do not differ in such essentials as reference mass or weight, engine type, number of cylinders, body configuration, manner of transmission, fuel used and similar characteristics;

PART II NATIONAL AMBIENT AIR QUALITY GUIDELINES

RULE VII National air quality

Section 1. National Ambient Air Quality Guideline Values

(a) Pursuant to Section 12 of Republic Act 8749, the initial set of National Ambient Air Quality Guideline Values necessary to protect public health and safety and general welfare shall be as follows:

Table 1 National Ambient Air Quality Guideline Values

Pollutants	Short Term ^a			Long Term ^b		
	µg/Ncm	ppm	Averaging Time	µg/Ncm	ppm	Averaging Time
Suspended Particulate Matter ^c – TSP PM-10	230 ^d 150 ^f		24 hours 24 hours	90 60		1 year ^e 1 year ^e
Sulfur Dioxide ^c	180	0.07	24 hours	80	0.03	1 year
Nitrogen Dioxide	150	0.08	24 hours			
Photochemical Oxidants as Ozone	140 60	0.07 0.03	1 hour 8 hours			
Carbon Monoxide	35 mg/Ncm 10 mg/Ncm	30 9	1 hour 8 hours			
Lead ^g	1.5		3 months ^g	1.0		1 year

^a Maximum limits represented by ninety-eight percentile (98%) values not to exceed more than once a year. ^b Arithmetic mean.

^c SO₂ and Suspended Particulate matter are sampled once every six days when using the manual methods. A minimum of twelve sampling days per quarter or forty-eight sampling days

each year is required for these methods. Daily sampling may be done in the future once continuous analyzers are procured and become available. ^d Limits for Total Suspended Particulate Matter with mass median diameter less than 25-50 μm . ^e Annual Geometric Mean.

^f Provisional limits for Suspended Particulate Matter with mass median diameter less than 10 μm and below until sufficient monitoring data are gathered to base a proper guideline.

^g Evaluation of this guideline is carried out for 24-hour averaging time and averaged over three moving calendar months. The monitored average value for any three months shall not exceed the guideline value.

(b) The applicable methods for sampling and measurement of the above pollutants are as follows:

TSP - High Volume – Gravimetric, USEPA 40 CFR, Part 50, Appendix B
PM-10 - High Volume with 10 micron particle-size inlet; Gravimetric, USEPA

40 CFR, Part 50, Appendix J

Sulfur Dioxide- Gas Bubbler and Pararosaniline Method (West and Gaeke

Method), or Flame Photometric Detector, USEPA 40 CFR, Part 50, Appendix A

Nitrogen Dioxide - Gas Bubbler Griess-Saltzman, or Chemiluminescence Method, USEPA 40 CFR, Part 50, Appendix F

Ozone- Neutral Buffer Potassium Iodide (NBKI), or Chemiluminescence

Method, USEPA 40 CFR, Part 50, Appendix D

Carbon Monoxide - Non-dispersive Infra-red Spectrophotometry (NDIR), USEPA

40 CFR, Part 50, Appendix C

Lead- High Volume and Atomic Absorption Spectrophotometry, USEPA 40

CFR, Part 50, Appendix G

(c) An analyzer based on the principles and methods cited above will be considered a reference method only if it has been designated as a reference method in accordance with 40 CFR, Part 53.

(d) Other equivalent methods approved by the Bureau may be adopted.

Section 2. Review of Air Quality Guideline Values

The Department through the Bureau shall, on a routine basis, in coordination with other concerned agencies and programs such as the National Research and Development Program for the Prevention and Control of Air Pollution, review the list of Hazardous Air Pollutants and Guideline Values and recommend to the Secretary of the Department the revision thereof whenever necessary to protect public health and safety, and general welfare, consistent with the requirements of Rule XVII, Section 3.

Section 3. Publication of Revised Values

Upon approval by the Secretary, the revised Ambient Air Quality Guideline Values shall be published in one (1) newspaper of general circulation and shall be posted on a public Internet website.

Section 4. Air Quality Indices

The Department through the Bureau, and in conjunction with the Department of Health (DOH) may formulate a pollution standard index of air quality to protect public health, safety and general welfare. Implementation and enforcement of corrective actions contained in the index will be at the local government unit (LGU) level. Annex A contains the air quality indices and recommended actions that each LGU may opt to follow.

PART III MAINTENANCE OF ATTAINMENT AREAS

RULE VIII ATTAINMENT AREAS - GENERAL

Section 1. Designation of Attainment Areas

The Bureau shall delineate areas where the existing ambient air quality is at or below (that is, complies with) National Ambient Air Quality Guideline Values given in Part II, and shall designate such areas as “attainment areas.” Designation of attainment areas will be based on monitoring data collected using the reference methods in Part II and/or other relevant information, including meteorological data, and data covering existing nearby sources. The Department through the Bureau will designate attainment and non-attainment areas, and will review and revise these designations from time to time as relevant data become available.

Section 2. Review of Area Designation

The Bureau shall revise area designations as additional data, whether monitoring, source or general knowledge, become available. Results from reviews of area designations will be made available for public comment.

RULE IX EXISTING SOURCES IN ATTAINMENT AREAS

Section 1. Standards

Existing sources must comply with National Emission Standards for Source Specific Air Pollution and Ambient Air Quality Standards pertaining to the source.

Section 2. Non-compliance

Sources not in compliance with Section 1 above must submit a Compliance Plan to the Bureau for approval, which details how the source will be brought into compliance. The owner of the facility must submit the plan within two (2) months of notification of non-compliance by the Bureau. The plan must include a schedule that will be enforceable and may provide for as long as eighteen (18) months to meet the applicable standards after notice of noncompliance by the Bureau. The Bureau may grant an extension of up to twelve (12) months for good-faith actions from the source

owner. Section 3. Emission Averaging and Emission Trading

Compliance plans submitted under Section 2 above may include use of emission averaging and emission trading as approved by the Bureau and described in Rules XXI and XXII respectively.

Section 4. Modification of Sources

Any existing source in an attainment area making a change or modification to its process or production which results in an increase of POTENTIAL emissions equal to or greater than the following shall be considered significant and subject to Rule X for the affected pollutant(s).

Carbon Monoxide 100 tons per year

Nitrogen Oxides	40 tons per year	Sulfur
Dioxide	40 tons per year	
TSP	25 tons per year	
PM10	15 tons per year	
Volatile Organic Compounds	40 tons per	
year Hydrogen Sulfide	10 tons per year	

RULE X NEW/MODIFIED SOURCES IN ATTAINMENT AREAS

Section 1. Standards

New or modified sources must comply with National Emission Standards for Source Specific Air Pollution and Ambient Air Quality Standards pertaining to the source.

Section 2. Best Available Control Technology

Sources subject to this Rule shall, in addition to meeting the requirements of Section 1 of this Rule, install and operate Best Available Control Technology for each regulated pollutant with the potential to be emitted in quantities equal to or greater than 100 tons per year. Selection of the appropriate control technology will be made in consultation and with the approval of the Bureau but in no case shall it result in non-compliance with requirements of Section 1. Installation of the control equipment will be at the time of source construction or modification.

Section 3. Increment Consumption

No new source may be constructed or existing source modified if emissions from the proposed source or modification will, based on computer dispersion modeling, result in;

Exceedance of the National Ambient Air Quality Guideline Values; or An increase in existing ambient air levels above the levels shown below

PM-10, annual arithmetic mean	17 micrograms per cubic meter
PM-10, 24-hr maximum	30 micrograms per cubic meter
Sulfur Dioxide, annual arithmetic mean	20 micrograms per cubic meter

Sulfur Dioxide, 24-hr maximum	91 micrograms per cubic meter
Nitrogen Dioxide, annual arithmetic mean	25 micrograms per cubic meter

In the case of multiple point sources at a single facility, the net emissions from all affected sources shall be included in a single increment analysis.

Section 4. Emission Averaging and Emission Trading

Sources subject to provision of this Rule shall not be eligible for emission averaging however they may generate emission credits for purposes of an acceptable emission trading program.

Section 5. Continuous Emission Monitoring

New and modified sources shall install and operate, according to manufacturer specifications, continuous emission monitoring systems (CEMS) for each applicable pollutant listed in Section 4, Rule IX that the source has the POTENTIAL to emit in quantities equal to or greater than 100 tons per year. TSP and PM-10 fractions are not differentiated for purposes of this section; therefore, applicability will be determined by the total particulate matter expected to be emitted for new sources, or as collected by 40 CFR Part 60, Appendix A, Method 5 for modified sources. CEMS shall be applied as follows:

All sources subject to this section: Sources shall install and operate a CEMS for carbon dioxide and oxygen that meets criteria provided in USEPA 40 CFR Part 60 Appendix B, Performance Specification 3. Additionally, each source shall, as appropriate meet the following requirements;

- a) Particulate matter: Sources shall install and operate a CEMS for opacity that meets criteria provided in USEPA 40 CFR Part 60 Appendix B, Performance Specification 1. The owner shall have the additional requirement of establishing a calibration curve showing the relationship between opacity as measured by the CEMS and mass particulate emission rate as determined by Method 5. The calibration curve shall cover the full range of reasonably expected operating conditions and/or process rates of the source and shall consist of at least three data points, one at maximum permitted operations, one

at maximum design capacity, and one at 80% of the maximum permitted rate. The Bureau may waive one test point if the permitted rate and maximum design capacity rate are the same.

- b) Sulfur Dioxide and Nitrogen Oxides: Sources shall install and operate a CEMS for these parameters that meet criteria provided in USEPA 40 CFR Part 60 Appendix B, Performance Specification 2.
- c) Carbon Monoxide: Sources shall install and operate a CEMS for this parameter that meets criteria provided in USEPA 40 CFR Part 60 Appendix B, Performance Specification 4 or 4A.
- d) Hydrogen Sulfide: Sources shall install and operate a CEMS for this parameter that meets criteria provided in USEPA 40 CFR Part 60 Appendix B, Performance Specification 7.

The CEMS requirements under this Section shall not apply to refinery flares, as well as to volatile organic compounds, unless a specific provision requires CEMS for volatile organic compounds is included in the facility's permit to operate.

PART IV MANAGEMENT OF NON-ATTAINMENT AREAS

RULE XI NON-ATTAINMENT AREAS - GENERAL

Section 1. Designation of Non-Attainment Areas

The Bureau shall designate and delineate areas where the existing ambient air quality is not in conformance with National Ambient Air Quality Guideline values given in Part II as "non-attainment areas." Designation of nonattainment areas will be based on monitoring data collected using the reference methods in Part II or as may be reasonably expected from existing nearby sources and meteorological conditions. Special consideration will be given to populated areas where greater numbers of people may be exposed to unhealthy air. The Department through the Bureau will designate attainment and non-attainment areas, and will review and revise these designations from time to time as relevant data becomes available.

An area may be designated as non-attainment for one or more criteria pollutants, and may be an attainment area for the remaining criteria pollutants.

Section 2. Review of Area Designation

The Bureau shall revise and/or confirm area designations as additional data, whether monitoring, sampling, source specific or general knowledge, becomes available. Results from reviews of area designations will be made available for public comment/review.

RULE XII EXISTING SOURCES IN NONATTAINMENT AREAS

Section 1. Standards

Existing sources must comply with all National Emission Standards for Source Specific Air Pollution and Ambient Air Quality Standards pertaining to the source.

Section 2. Non-compliance

Sources not in compliance with Section 1 above must submit a Compliance Plan to the Bureau for approval which details how the source will be brought into compliance. The owner of the facility must submit the plan within two (2) months of notification of non-compliance by the Bureau. The plan must include a schedule that will be enforceable and may provide for as long as eighteen (18) months to meet the applicable standards after notice of noncompliance by the Bureau. Extensions or grace periods will not be allowed in non-attainment areas.

Should the source failed to comply with its commitment within the specified period in the compliance plan, the Bureau shall impose penalties and fines to be computed retroactive from the time the notification of non-compliance was served.

Section 3. Emission Averaging and Emission Trading

Existing sources located in non-attainment areas will be allowed to use emission averaging for compliance purposes however, they will not be allowed to participate in emission trading for the pollutant or pollutants for which the area is designated as a non-attainment area, except as a generator (not user) of emission reduction credits.

Section 4. Modification of Sources

Any existing source located in a non-attainment area and making a change in process or production which increases POTENTIAL emissions from the source of the pollutant for which the area is designated non-attainment, shall be classified as modified and subject to Rule XIII. Equipment overhaul, refurbishment, or upgrade to extend the life of the equipment beyond its normal useful life is considered to be a modification if it result in the increase of POTENTIAL emissions for purposes of this Section.

Section 5. Emission Fee Surcharge

Sources subject to the non-attainment provisions will be assessed a 50% surcharge (i.e., 150% of base) on the annual emission fees for the pollutant(s) for which the area is designated non-attainment.

Section 6. Penalty and Fine Surcharge

Sources subject to the non-attainment provisions will be subject to a 100% surcharge (i.e., 200% of base) for any penalties or fines relating to a violation of the non-attainment provisions.

RULE XIII NEW/MODIFIED SOURCES IN NONATTAINMENT AREAS

Section 1. Standards

New or modified sources must comply with all National Emission Standards for Source Specific Air Pollution and Ambient Air Quality Standards pertaining to the source.

Section 2. Lowest Achievable Emission Rate

New and modified sources (as defined in Section 4 of Rule XII) shall install and operate air pollution control technology which will provide the lowest achievable emission rate (LAER) of the pollutant for which the area is designated non-attainment. The affected firm will propose technologies it believes will meet the intent of this regulation. The Bureau will approve the use of lowest achievable emission rate control technologies on a case-by-case basis.

Section 3. Emission Offsets

New and modified sources must provide offsets in existing actual emission within the non-attainment area in a ratio of 1:1.2 to the POTENTIAL emission level of the proposed new or modified source. The offsets may be made from any existing source in the non-attainment area but must be actual, demonstrable, enforceable and permanent. The proposed offsets are subject to approval by the Bureau.

Section 4. Emission Averaging and Emission Trading

New and modified sources subject to the non-attainment provisions may not use emission trading or emission averaging for compliance purposes.

Section 5. Continuous Emission Monitoring

New and modified sources must install and operate, according to manufacturer specifications, continuous emission monitoring devices for each pollutant for which the area is in non-attainment and which the source emits. Application, installation and operation of the CEMS shall meet criteria provided in Rule X Section 5.

Section 6. Emission Fee, Penalty and Fine Surcharge

Sections 5 and 6 of Rule XII above shall apply to new and modified sources in non-attainment areas.

PART V AIR QUALITY MANAGEMENT SYSTEM

RULE XIV AIR QUALITY MANAGEMENT INFORMATION SYSTEM

Section 1. Ambient Air Monitoring Network

The Bureau shall, within two (2) years from the effectivity of these Rules, design and establish an Ambient Air Monitoring Network for the assessment of ambient air quality. The Ambient Air Monitoring Network shall be expanded gradually to cover the entire country.

Section 2. Emissions Inventory

The Bureau shall, within three (3) years from the date of effectivity of these Rules, and every three (3) years thereafter,

make an inventory of emissions from stationary, mobile and area sources. Where possible, the Bureau shall coordinate with the Governing Boards.

Section 3. Air Quality Database

The Bureau and the National Statistical Coordination Board shall design the Air Quality Database which shall be computerized and stored in a manner accessible to the public and shall contain data collected from the Ambient Air Monitoring Network and the Emissions Inventory. The Bureau shall maintain and update the Air Quality Database.

Section 4. National Air Quality Status Report

The Bureau, shall prepare the Annual National Air Quality Status Report which shall contain:

- (a) A summary of the extent of air pollution in the country, per type of pollutant and per type of source;
- (b) An analysis and evaluation of the current state, trends and projections of air pollution;
- (c) An identification of critical areas, activities, or projects which will need closer monitoring or regulation;
- (d) Recommendations for necessary executive and legislative action; and
- (e) Other pertinent qualitative and quantitative information concerning the extent of air pollution and the air quality performance rating of industries in the country.

Upon approval by the Secretary of the Department, the National Air Quality Status Report shall be submitted to the Office of the President and to Congress on or before March 31 of every year and shall cover the preceding calendar year. The National Air Quality Status Report and other related reports shall be made available to the public.

RULE XV AIRSHEDS

Section 1. Authority

The Secretary of the Department, upon the recommendation of the Bureau, shall divide the geo-political regions of the country into airsheds.

Section 2. Designation of Airsheds

Designation of airsheds shall be on the basis of, but not limited to, areas with similar climate, weather, meteorology and topology which affect the interchange and diffusion of pollutants in the atmosphere, or areas which share common interest or face similar development programs, prospects or problems. Designation of airsheds shall be revised as additional data, needs or situations arise.

For a more effective air quality management, a system of planning and coordination shall be established and a common action plan shall be formulated for each airshed.

Section 3. Initial Designation of Airsheds

The Department through the Bureau will designate the airshed, determine the attainment and non-attainment areas, and will review and revise these designations from time to time as relevant data becomes available.

Section 4. Governing Board

Pursuant to Section 9 of the Act, a Governing Board will be created for each airshed, to effectively carry out the formulated action plans.

Section 5. Composition and Organizational Set-up of the Board

Each Governing Board shall be headed by the Secretary of the Department as Chairman. The members shall be as follows:

- (a) Provincial Governors from areas belonging to the airshed;
- (b) City/Municipal Mayors from areas belonging to the airshed or the MMDA Chairman in the case of Metro Manila;
- (c) A representative from each concerned government agency;
- (d) Representatives from people's organizations;
- (e) Representatives from non-government organizations; and
- (f) Representatives from the private sector.

There shall be two Deputy Chairpersons, namely, the Department's Regional Executive Director and the Bureau's Regional Director in the region where the airshed is located. The ratio of Board representatives from government agencies to

those from the private sector and from civil society shall be on the order of 5:2:2.

Within six (6) months from the designation of a particular airshed, concerned POs, NGOs and private business sector in the airshed or with recognized interests in the airshed shall choose their representatives by and among themselves through sectoral assemblies convened for the purpose.

Members of the governing board shall serve for a term of three (3) years (or such lesser time as may be permitted by the term of office if publicly elected officials) without compensation, except for actual and necessary expenses (i.e. traveling) incurred in the performance of their duty. When a vacancy occurs during the term of a member from a PO, NGO or the private business sector, a new member shall be appointed by the Governing Board for the remainder of the unfinished term.

Section 6. Functions of the Board

Each Governing Board shall perform the following functions within its jurisdiction (airshed):

- (a) Formulation of policies and standard-setting subject to laws of national application;
- (b) Preparation of a common action plan;
- (c) Coordination of functions among its members; and
- (d) Submission and publication of an annual Air Quality Status Report for each airshed.

Section 7. Executive Committee

An Executive Committee will be formed, for the purpose of carrying out the day-to-day functions of the Governing Board, consisting of nine (9) persons: the Chairperson, two (2) Deputy Chairpersons and six (6) members while respecting the ratio of government representatives to representatives from the private sector and civil society of 5:2:2. The members of the Committee shall be elected by the governing board at large for a term of two (2) years. Where possible, members of the Committee will be selected for their expertise in the subject area. Representatives will be selected from the appropriate region.

Section 8. Technical Working Groups

Technical working groups will be formed to ensure broad-based participation in the work of the Governing Boards.

Section 9. Technical-Administrative Secretariat

The Bureau shall serve as the technical-administrative secretariat for each Governing Board.

Section 10. Meetings

The Department shall provide basic funding from the Air Quality Management Fund for the conduct of regular meetings of the Governing Boards, the Executive Committee, Technical Working Groups and other activities to be conducted in the implementation of the Act. Additional funding shall be made available to support civil society activities aligned with the implementation of the Act provided these activities are included in the common action plan of the concerned airshed.

Section 11. Governing Rules

Governing rules shall be formulated by and for the individual Governing Boards. These governing rules shall be submitted for review and comments by the Department to advise the Governing Boards of conflict in policies and laws of national application.

Section 12. Re-designation of Airshed Boundaries

Upon consultation with appropriate local government authorities, the Secretary of the Department, upon recommendation of the Bureau shall, from time to time, revise the designation of airsheds utilizing eco-profiling techniques and undertaking scientific studies.

RULE XVI AIR QUALITY MANAGEMENT FUND

Section 1. Air Quality Management Fund

An Air Quality Management Fund (AQMF) to be administered by the Department through the Bureau as a special account in the National Treasury is hereby established to finance containment, removal, and clean-up operations of the Government in air pollution cases, guarantee restoration of ecosystems and rehabilitate areas affected by the acts of

violators of this Act, to support research, enforcement and monitoring activities and capabilities of the relevant agencies, as well as to provide technical assistance to the relevant agencies. Such fund may likewise be allocated per airshed for the undertakings herein stated.

Section 2. Uses of Fund

The AQMF will be used for activities that are in direct support of objectives outlined in the Air Quality Action Plan of the airsheds. The AQMF will be reserved for national purposes and will be allocated among the airsheds. This can mean support, grant, finance or otherwise assist activities such as, but not limited to:

- (a) purchase of equipment related to air quality monitoring, reporting or management;
- (b) running costs for special campaigns, monitoring, enforcement or public awareness raising;
- (c) costs for special events related to air quality monitoring, enforcement etc.
- (d) funding of temporary staff positions in accredited organizations, of persons who have a TOR directly related to implementation of AQAP;
- (e) research on air related issues; and
- (f) running costs of Governing Boards and their Technical Secretariats

Section 3. Sources for the Air Quality Management Fund

Sources for the AQMF shall include:

- (a) air emission charges from industrial facilities;
- (b) air emission charges from motor vehicles;
- (c) fines and penalties for non-compliance with environmental standards. This relates to both vehicular and industrial related air pollution;
- (d) grants from both private sector and donor organizations.; and
- (e) a limited percentage (5-10%) of the proceeds of the Program Loan for the Metro Manila Air Quality Improvement Sector Development Program.

Section 4. Decision Making on the Use of the Air Quality Management Fund (AQMF)

The Department through the Bureau shall formulate a detailed set of criteria (project design, project management, project reporting and project accounting) of qualified or eligible projects and activities to be supported by the AQMF. Individual Governing Boards shall follow these criteria in allocating those funds that are put at their disposal by the Department. Individual Governing Boards shall set up special committees for this purpose with members drawn from both the government, private sector and civil society members of each Governing Board.

In order to promote transparency and accountability, the Department will formulate business standards, which will describe the scrutiny mechanisms of proposals as well as maximum response times. The Department will ensure the publication of an Annual Report which specifies income and expenditure of the AQMF, together with a summary of initiatives supported and refused. This Annual Report will be available within two (2) months after the end of the fiscal year.

Section 5. Air Emission Fees For Stationary Sources and For Mobile Sources

Air emission fees will initially be determined based on the amount of revenue necessary to assure the successful implementation of the Act as described in these Implementing Rules and Regulations. The air emission fees shall then be apportioned to stationary and mobile sources based on estimated annual mass emissions.

The Bureau shall use data contained in a facility's operating permit to estimate annual mass emissions. Other data sources such as annual fuel consumption and/or production rates may also be used as well as appropriate emission factors. Facility owners may, at their option, install CEMS to determine actual emission rates for purposes of calculating annual emission fees. CEMS used for this purpose must be installed and operated as per criteria provided in Rule X Section 5.

The base air emission fee may be adjusted in later years as new data becomes available regarding the success of individual components of the Act.

RULE XVII AIR POLLUTION RESEARCH AND DEVELOPMENT PROGRAM

Section 1. National Research and Development Program for the Prevention and Control of Air Pollution

The Department through the Bureau, in coordination with the Department of Science and Technology (DOST), other agencies, the private sector, the academe, NGOs and POs shall, establish a National Research and Development Program for the Prevention and Control of Air Pollution.

Section 2. Development of Industry-Wide Applicable Methods

The Bureau shall give special emphasis to research on and the development of improved methods having industry-wide application for the prevention and control of air pollution.

Section 3. Development of Air Quality Guidelines

The National Research and Development Program for the Prevention and Control of Air Pollution shall develop air quality guidelines values in addition to internationally-accepted standards. It shall consider the sociocultural, political and economic implications of air quality management and pollution control.

RULE XVIII EMISSION QUOTAS

Section 1. Emission Quotas

Subject to approval of the Department through the Bureau, each regional industrial center designated as a special airshed can allocate emission quotas to pollution sources within its jurisdiction that qualify under an environmental impact assessment system programmatic compliance program pursuant to the implementing rules and regulations of Presidential Decree No. 1586. However, such sources shall remain subject to the requirements of these Implementing Rules and Regulations.

Prior to implementation thereof, the Department through the Bureau shall consider, among others, the emission inventory and the mass rate emission standards.

PART VI AIR POLLUTION CLEARANCES AND PERMITS FOR STATIONARY SOURCES

RULE XIX PERMIT REGULATIONS

Section 1. Permits Required

All sources of air pollution subject to these Implementing Rules and Regulations must have a valid Permit to Operate issued by the Director. New or modified sources must first obtain an Authority to Construct issued by the Director.

Section 2. Filing Fees for Applications

A fee to be determined by the Department through the Bureau shall be paid upon the filing of any of the following applications:

- (a) Authority to Construct;
- (b) Permit to Operate;
- (c) Transfer of an existing and valid Permit to Operate by reason of transfer of location of the installation or change of permittee or both;
- (d) Revision of any existing and valid Authority to Construct or Permit to Operate involving alteration or replacement of the installation;
- (f) Renewal of an expired Authority to Construct or Permit to Operate;
- (g) Any other application for a permit not otherwise enumerated above.

Filing fees for applications which have been denied shall not be refunded nor applied to subsequent applications.

Section 3. Authority to Construct

All proposed or planned construction or modification of sources that has the potential to emit 100 tons per year or more of any of the regulated pollutants are hereby required an Authority to Construct approved by the Bureau before construction or modification activities can take place.

Applications shall be filed in four (4) copies and supported by the official receipt of the filing fees and by such documents,

information and data as may be required by the Bureau, including the following:

An engineering report covering the plant description and operations, the estimated types, concentrations and quantities of all emissions to the atmosphere, the proposed control facilities, the emission rate and annual mass emission objectives, the design criteria for air pollution control equipment to be used, and other relevant information. The design criteria, if warranted, shall be based on the results of laboratory and pilot plant scale studies. The design efficiencies of the proposed air control equipment and the quantities and types of pollutants in the final emissions shall be indicated. Where confidential records are involved, the Bureau may limit the full disclosure of the same after discussions with the applicant;

- (a) The plans and specifications of the installation and its control facilities (in standard size of 50 cm by 90 cm) duly certified by a registered professional mechanical engineer, sanitary engineer or chemical engineer or a combination of any two or all of them as may be required by the Bureau depending upon the nature of the construction, operation or activity sought to be covered by the Authority to Construct. The plans shall clearly show in adequate detail the proposed arrangement, location and size of the pollution control equipment or facilities, including their accessories, cross-sections and construction details. The specifications shall be in sufficient detail so that, when read in conjunction with the plans, they clearly reveal the proposed means and methods for the control of pollution and their expected performance efficiency.
- (b) The project proponent shall conduct an air quality impact analysis using Bureau-approved computer dispersion models and techniques. The impact analysis shall estimate the resulting ambient air concentrations for all significant pollutants from the facility, and shall include the existing ambient air concentrations as a baseline. The impact analysis will be used by the Bureau, together with other relevant information, to determine if the proposed construction or modification will result in a violation of an applicable air quality standard.
- (c) A vicinity map adequately identifying the street address, if any, of the location or premises of the installation.

The Bureau shall, within a reasonable time, act on the application for Authority to Construct either by issuing the corresponding Authority to Construct or by denying the application in writing stating the reason or reasons thereof.

The Authority to Construct shall be issued subject to such conditions as the Department through the Bureau may deem reasonable to impose and upon payment of the fees in accordance with the schedule to be prepared by the Bureau.

In case the application is denied, the applicant may, within ten (10) days from notice of such denial, file only one written petition for reconsideration. The decision on said petition shall become final after ten (10) days from receipt thereof.

Section 4. Conversion of Authority to Construct to Permit to Operate

Once new source construction or modification is completed the source owner shall, within sixty (60) days of startup, request the authorizing agency (generally the Department through the Bureau) to convert the Authority to Construct to a Permit to Operate. A valid Permit to Operate will be issued once the owner has demonstrated to the satisfaction of the authorizing agency that all permit conditions have been or will be met and that no air quality standards or guidelines will be exceeded. The owner shall conduct source testing using methods and techniques approved by the Bureau as part of the demonstration.

Section 5. Application for Permit to Operate

An application for a Permit to Operate shall be filed for each source emitting regulated air pollutants. Facilities having more than one source may group the sources under a single permit application, provided the requirements below are met for each individual source. Applications shall be made in a format prescribed by the Department through the Bureau, filed in triplicate copies, together with a copy of the official receipt of the filing fees and including the following:

- (a) The information listed in Section 3 of this Rule;
- (b) A statement of compliance or non-compliance with Rule XXV (or, in the case of incinerators, a statement of compliance or non-compliance with Rule XXVIII). The statement of

compliance shall be supported with actual test data (such as stack sampling test data), or data gathering techniques acceptable to the Bureau.

- (c) A statement of compliance or non-compliance with Rule XXVI, Ambient Air Quality Standards. The statement of compliance shall be supported by dispersion modeling data using modeling techniques and sampling approved by the Bureau. For cases in which source sampling and analysis is not practical, the Bureau may approve the use of actual ambient air test data to demonstrate compliance with the Ambient Air Quality Standards, so long as the location and conditions of the testing conform to a “worst case” scenario as demonstrated by air dispersion modeling.
- (d) A compliance action plan for sources not meeting regulatory requirements. The Compliance Plan may include provision for use of emission averaging and/or trading as allowed under Parts III and IV.
- (e) A certification signed by the applicant attesting to the accuracy and completeness of the application.
- (f) A signed copy of the appointment or designation of the pollution control officer of the applicant; and
- (g) Other documents, information and data as may be required by the Department through the Bureau.

Requirements in the Permit to Operate will be based on operating conditions at the time of the test. For example, if the facility passes the stack sampling test at 50% operating capacity, then the Permit to Operate will require the facility to operate at or below 50% operating capacity.

Section 6. Action on the Application for Permit to Operate

Within thirty (30) days from submission of the complete requirements, the Department through the Bureau shall act on the application for Permit to Operate by approving or denying the same in writing. The Department through the Bureau may deny an application having incomplete requirements when the applicant fails or refuses to complete the same despite being given reasonable time to do so.

The Permit to Operate shall be issued or renewed every year subject to such conditions as the Department through the Bureau may deem reasonable to impose, and upon payment of the permit fees for air pollution source and control facilities.

In case the application is denied, the applicant may, within ten (10) days from notice of such denial file only one written petition for reconsideration. The decision on said petition shall become final after ten (10) days from receipt thereof.

Applications for a Permit to Operate shall be available for public review at the Department Regional Office for the Region in which the applicant's facility is located. Any interested person may oppose the application for a Permit to Operate in writing before its approval. In such a case, the Bureau may conduct a public hearing on the application.

Section 7. Temporary Permit to Operate

For purposes of sampling, planning, research and other similar purposes, the Department through the Bureau, upon submission of satisfactory proof, may issue a Temporary Permit to Operate not to exceed ninety (90) days, provided that the applicant has a pending application for a Permit to Operate under Section 5.

Section 8. Life and General Conditions of Permit

A permit duly issued by the Department through the Bureau shall be valid for the period specified therein but not beyond one (1) year from the date of issuance unless sooner suspended or revoked. It may be renewed by filing an application for renewal at least thirty (30) days before its expiration date and upon payment of the required fees and compliance with requirements.

Issuance of the permit shall not relieve the permittee from complying with the requirements of the Act and these Rules and that commencement of the work or operation under such permit shall be deemed acceptance of all the conditions therein specified.

Section 9. Grounds for Modification of Permit Conditions

After due notice and public hearing, the Department through the Bureau may modify any existing and valid permit by imposing new or additional conditions, provided that the permittee is given reasonable time to comply with such new or additional conditions, upon showing:

That an improvement in emission quality or quantity can be accomplished because of technological advance without unreasonable hardship;

- (a) That a higher degree of treatment is necessary to effect the intents and purposes of the applicable provisions of these Rules and Regulations;
- (b) That a change in the environment or surrounding conditions requires a modification of the installation covered by a permit to conform to applicable air quality standards, as the case may be;
- (c) That the area in which the permitted facility is located has been changed from an undesignated area or an attainment area to a non-attainment area for one or more criteria pollutants, or;
- (d) That the Act or these Rules and Regulations requires the modification of the permit conditions.

Section 10. Grounds for Suspension or Revocation of Permits

After due notice and hearing, the Department through the Bureau may suspend or revoke any existing and valid permit on any of the following grounds:

Non-compliance with, or violation of any provision of Act, these Rules and Regulations, and/or permit conditions;

- (a) False or inaccurate information in the application for permit that led to the issuance of the permit;
- (b) False or inaccurate information in the monitoring data or in reports required by the Permit to Operate;
- (c) Refusal to allow lawful inspection conducted by the Department through the Bureau of duly authorized personnel;
- (d) Non-payment of the appropriate fees; (e) Other valid purposes.

Section 11. Posting of Permit

The permittee shall display the permit upon the installation itself in such manner as to be clearly visible and accessible at all times. In the event that the permit cannot be so placed, it shall be mounted in an accessible and visible place near the installation covered by the permit.

No person shall willfully deface, alter, forge, counterfeit, or falsify any permit.

Section 12. Transfer of Permits

In case of sale or legal transfer of a facility covered by a permit, the permittee shall notify the Department through the Bureau of such and the name and address of the transferee within thirty (30) days from the date of sale or transfer. In case of failure to do so, he shall be liable for any violation of these Rules and Regulations that the transferee may commit by reason of such transfer. It shall be the duty of the transferee to file an application for transfer of the permit in his name within ten (10) days from notification of the Department through the Bureau.

Section 13. Plant Operational Problems

In the event that the permittee is temporarily unable to comply with any of the conditions of the Permit to Operate due to a breakdown of the installation covered by the permit for any cause, he or his pollution control officer shall immediately notify within 24 hours from occurrence of such breakdown the Department through the Bureau of such cause(s), and the steps being taken to solve the problem and prevent its recurrence, including the estimated duration of the breakdown, the intent toward reconstruction or repair of such installation and such other relevant information or data as may be required by the Department through the Bureau. The Department through the Bureau shall be immediately notified when the condition causing the failure or breakdown has been corrected and such source equipment or facility is again in operation

In such a case, the permittee may be subject to the payment of fines or penalties as provided under Part XIII of these Implementing Rules and Regulations.

Section 14. Monitoring and Reporting

The owner or the pollution control officer in charge of the installation subject to the provisions of these Implementing Rules and Regulations shall keep a record of its operational data and control test indicating its operational efficiency, and shall furnish a copy of the same to the Department through the Bureau quarterly in accordance with the procedures and/or programs approved by the Department through the Bureau for this purpose.

A permit issued by the Department through the Bureau will generally contain source-specific monitoring and reporting requirements for air pollutant concentrations at the point of emission, for determination of compliance with the requirements

of Rule XXV. These requirements may include, where applicable, a provision that sample results for particulate matter shall be corrected to standard operating (or combustion) conditions such as 12% carbon dioxide.

RULE XX FINANCIAL LIABILITY FOR ENVIRONMENTAL REHABILITATION

Section 1. Financial Guarantee Mechanisms

As part of the environmental management plan attached to the environmental compliance certificate (ECC) pursuant to Presidential Decree No. 1586 and its rules and regulations, the Bureau shall require program and project proponents to put up financial guarantee mechanisms to finance the needs for emergency response, clean-up or rehabilitation of areas that may be damaged during the program or actual project implementation. Liability for damages shall continue even after the termination of a program or project, where such damages are clearly attributable to that program or project and for a definite period to be determined by the Bureau and incorporated into the ECC.

The Bureau may promulgate guidelines for the effective implementation of said financial guarantee mechanisms.

Section 2. Financial Liability Instruments

Financial liability instruments may be in the form of a trust fund, environmental insurance, surety bonds, letters of credit, as well as self-insurance. The choice of the guarantee instrument or combinations thereof shall depend, among others, on the assessment of risks involved. Proponents required to put up guarantee instruments shall furnish the Bureau with evidence of availment of such instruments.

RULE XXI EMISSION AVERAGING

Section 1. Applicability

Facilities having multiple sources within a contiguous property and owned by the same entity may use emission averaging for compliance purposes if provided for in either Part III or Part IV.

Section 2. Approach

Facility owners wishing to use emission averaging for compliance purposes must do so through an enforceable Compliance Plan submitted as a part of the operating permit application. The Bureau must approve the Compliance Plan and application of emission averaging for it to be effective.

Section 3. Requirements

Facilities must install a CEMS approved by the Bureau for the pollutant(s) to which emission averaging is being applied. The continuous emission monitoring system must be installed on each source subject to emission averaging. Application, installation and operation of the CEMS shall meet criteria provided in Rule X Section 5.

RULE XXII EMISSIONS TRADING

Section 1. Applicability

Emissions trading may be allowed among pollution sources within an airshed as provided in Parts III and IV. Facilities located in different airsheds may use trading as approved by the Bureau.

Section 2. Approach

Facility owners wishing to use emission trading for compliance purposes must do so through an enforceable Compliance Plan submitted as a part of the operating permit application of each facility. The Bureau must approve the Compliance Plan and application of emission trading for it to be effective.

Section 3. Requirements

Facilities must install a CEMS approved by the Bureau for the pollutant(s) to which emission trading is being applied. The continuous emission monitoring system must be installed on each source that is being used to generate the emission reduction credits. Application, installation and operation of the CEMS shall meet criteria provided in Rule X Section 5.

RULE XXIII SYSTEM OF INCENTIVES

Section 1. Tax Incentives

Industries, which shall install pollution control devices or retrofit their existing facilities with mechanisms that reduce pollution, shall be entitled to tax incentives such as but not limited to tax credits and/or accelerated depreciation deductions. The Department in coordination with the DTI, DOF, NEDA and other concerned agencies shall develop the guidelines on tax incentives.

RULE XXIV RECORD-KEEPING, INSPECTION, MONITORING AND ENTRY

Section 1. Required Relevant Reports and Records

The Bureau or its duly accredited entity shall, after proper consultation and notice, require any person who owns or operates any emissions source or who is subject to any requirement of this Act to : (a) establish and maintain relevant records; (b) make relevant reports; (c) install, use and maintain monitoring equipment or methods; (d) sample emission, in accordance with the methods, locations, intervals and manner prescribed by the Environmental Management Bureau; (e) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical; and (f) provide such other information as the Environmental Management Bureau may reasonably require.

Section 2. Right of Entry, Inspection and Testing

Pursuant to the Act, the Bureau, through its authorized representatives, shall have the right of:

- (a) entry or access to any premises including documents and relevant materials as referred to in the herein preceding paragraph;
- (b) inspect any pollution or waste source, control device, monitoring equipment or method required; and (c) test any emission.

Section 3. Records Available to the Public

Any record, report or information obtained under this section shall be made available to the public, except upon a satisfactory showing to the Bureau by the entity concerned that the record, report or information, or parts thereof, if made public,

would divulge secret methods or processes entitled to protection as intellectual property. Such record, report or information shall likewise be incorporated in the Bureau's industrial rating system.

PART VII POLLUTION FROM STATIONARY SOURCES

RULE XXV STATIONARY SOURCES - GENERAL

Section 1. National Emission Standards for Source Specific Air Pollutants

For any trade, industry, process, fuel-burning equipment or industrial plant emitting air pollutants, the concentration at the point of emission shall not exceed the limits set in Table 2.

**Table 2
National Emission Standards for Source Specific Air Pollutants (NESSAP)**

POLLUTANT	STANDARD APPLICABLE TO SOURCE	MAXIMUM PERMISSIBLE LIMITS (mg/Ncm)	METHOD OF SAMPLING^a	METHOD OF ANALYSIS^a
Antimony and its Cmpds.	Any source	10 as Sb	USEPA Methods 1 through 5 or 29	AAS ^b or per sampling method
Arsenic and its Cmpds.	Any source	10 as As	USEPA Methods 1 through 5 or 29	AAS ^b or per sampling method
Cadmium and its Cmpds.	Any source	10 as Cd	USEPA Methods 1 through 5 or 29	AAS ^b or per sampling method
Carbon Monoxide	Any industrial source	500 as CO	USEPA Method 3 or 10	Orsat Analysis or NDIR
Copper and its Cmpds.	Any industrial source	100 as Cu	USEPA Methods 1 through 5 or 29	AAS ^b or per sampling method

Hydrofluoric Acid and Fluoride Compounds	Any source other than manufacture of Aluminum from Alumina	50 as HF	USEPA Method 13 or 14 as appropriate	As per sampling method
Hydrogen Sulfide	i) Geothermal power plants ii) Geothermal Exploration And Well Testing iii) Any source other than (i) and (ii)	c, d e 7 as H ₂ S	USEPA Method 11, 15 or 16 as appropriate	Cadmium Sulfide Method or per sampling method
Lead	Any trade, industry or process	10 as Pb	USEPA Methods 1 through 5 or 12 or 29	AAS ^b or per sampling method

POLLUTANT	STANDARD APPLICABLE TO SOURCE	MAXIMUM PERMISSIBLE LIMITS (mg/Ncm)	METHOD OF SAMPLING^a	METHOD OF ANALYSIS^a
Mercury	Any source	5 as elemental Hg	USEPA Methods 1 through 5 or 29 or 101	AAS ^b / Cold-Vapor Technique or Analyzer
Nickel and its Cmpds. Except Nickel Carbonyl ^f	Any source	20 as Ni	USEPA Methods 1 through 5 or 29	AAS ^b or sampling Method

NOx	1) Manufacture of Nitric Acid	2,000	as acid	USEPA Methods 1 through 4 and Method 7	Phenoldisulphonic acid Method or per sampling method
	2) Fuel burning steam generators a) Existing Source		calculated as NO2		
	b) New Source				
	i) Coal-fired ii) Oil-fired	1,500	as NO2		
3) Diesel-powered electricity generators	1,000	as NO2			
		500	as NO2		
		2,000	as NO2		
	4) Any source other than (1), (2) and (3)				
	a) Existing Source	1,000	as NO2		
	b) New Source	500	as NO2		

POLLUTANT	STANDARD APPLICABLE TO SOURCE	MAXIMUM PERMISSIBLE LIMITS (mg/Ncm)	METHOD OF SAMPLING ^a	METHOD OF ANALYSIS ^a
Particulates	1) Fuel Burning Equipment		USEPA Methods 1 through 5	Gravimetric per sampling method
	a) Urban ^g and Industrial Area ^h	150		
	b) Other Area ⁱ	200		
	2) Cement Plants (kilns, etc.)	150		
	3) Smelting Furnaces	200		
4) Other				

	Stationary Sources ^j			
Phosphorus Pentoxide ^k	Any source	200 P2O5 as	USEPA Methods 1 through 5 or 29	Spectrophotometry or per sampling method
Sulfur Oxides	1) Existing Sources a) Manufacture of Sulfuric Acid and Sulf(on)ation Process b) Fuel Burning Equipment c) Other Stationary Sources ^l	2,000 SO3 as 1,500 SO2 as 1,000 SO3 as	USEPA Methods 1 through 4 and 6 or 8 as appropriate	As per sampling method
POLLUTANT	STANDARD APPLICABLE TO SOURCE	MAXIMUM PERMISSIBLE LIMITS (mg/Ncm)	METHOD OF SAMPLING^a	METHOD OF ANALYSIS^a

	2) New Sources a) Manufacture of Sulfuric Acid and Sulf(on)ation Process b) Fuel Burning Equipment c) Other Stationary Sources ^l	1,500 SO ₃ as 700 SO ₂ as 200 SO ₃ as		
Zinc and its Compounds	Any source	100 as Zn	USEPA Methods 1 through 5 or 29	AAS ^b or per sampling method

^a Other equivalent methods approved by the Department may be used. ^b Atomic Absorption Spectrophotometry.

^c All new geothermal power plants starting construction by 01 January 1995 shall control H₂S emissions to not more than 150 g/GMW-Hr. ^d All existing geothermal power plants shall control H₂S emissions to not more than 200 g/GMWHr.

^e Best available control technology for air emissions and liquid discharges. Compliance with air and water quality standards is required. ^f Emission limit of Nickel Carbonyl shall not exceed 0.5 mg/Ncm.

^g Urban Area means a poblacion or central district of cities or municipalities having at least 50,000 population, or twin political subdivisions with contiguous boundary which essentially form one community whose population is more than 50,000 inhabitants. Inside these centers or population are some scattered industrial establishments.

^h Industrial Area means a well-defined, exclusive land use area in various stages of development that are primarily established for industrial subdivisions, manufacturing and other industry mixes with provisions for common support infrastructures, facilities and services such as roads, water supply, power supply, communication systems, housing, storm drainage, sanitary sewerage systems, industrial wastewater treatment facilities, etc. These areas which are usually from 200 to 500 hectares in size as registered with the (Housing and Land Use Regulatory Board (HLURB)) or any other duly authorized government

entities as industrial estates, parks or area. Export processing zones also fall under this category of land use.

ⁱ Other Areas means all areas other than an urban or industrial area.

^j Other Stationary Sources (particulates) means a trade, process, industrial plant, or fuel burning equipment other than thermal power plant, industrial boilers, cement plants, incinerators, smelting furnaces. ^k Provisional guideline.

^l Other Stationary Sources (sulfur oxides) refers to existing and new stationary sources other than those caused by the manufacture of sulfuric acid and sulfonation process, fuel burning equipment and incineration.

Section 2. Visible Emission Standards for Smoke and Opacity

Visible opacity standards for smoke are as follows:

- a) The opacity of light or dark smoke emitted from any emission point in all stationary sources shall be such that, when compared in the appropriate manner with the Ringelmann Chart method, or using USEPA Method 9 (40 CFR, Part 60, Appendix A), or an equivalent method approved by the Department through the Bureau, visible emissions shall not appear darker than shade 1 on the Ringelmann Chart, nor exceed 20% opacity using USEPA Method 9.
- b) Exceptions to the requirements stated herein may be allowed under the following circumstances: The opacity limit hereinbefore prescribed shall not apply to the emission of dark smoke for less than five (5) minutes in a period of one (1) hour provided that the total period of such emission shall not exceed an aggregate of fifteen (15) minutes in any twenty-four (24) hours; provided further, that at no time should the opacity be darker than shade 3 of the chart; and provided finally, that this provisions shall not apply to cases of dark emissions resulting from cold-start and up-set conditions. Measurements of opacity shall be made in the manner specified by the approved method employed for this purpose.

Section 3. Absence of Emission Standard for Other Air Pollutants

- (a) Where no emission or ambient standard is prescribed hereof for a specific air pollutant that is potentially harmful to public

health and/or public welfare, the owner or operator of an industrial plant or stationary source shall conduct its operation or process by the best practicable means as may be necessary to prevent or minimize air pollution through the employment of cleaner production technology and sound environmental management practices.

- (b) The absence of the ambient air or emission standard for a specific air pollutant shall not preclude the Department through the Bureau to take appropriate action to control such pollutants to assure the health, welfare and comfort of the general population.

Section 4. Sampling Methods

Sampling for compliance purposes shall be conducted using the methods prescribed above or other equivalent method as approved by the Department through the Bureau. Sampling shall be conducted under routine operating conditions at the facility. Operating conditions at the facility during compliance testing will be used by the Bureau to establish permit conditions under which the facility may operate.

Section 5. Miscellaneous Provisions and Equipment

(a) Stationary Fuel-Burning Equipment

- (1) The owner or operator of a stationary fuel-burning equipment shall, if so required by the Department through the Bureau, provide a means to the satisfaction of Secretary whereby a person in charge of such a plant or equipment may at all times ascertain without leaving the boiler room, furnace room, or control room, whether or not dark smoke is discharging from any stack or such installation, such mean may include one or more of the following:
 - a) Window or opening through which an unobstructed view of the top of the stack may be obtained from the boiler room, furnace room or control room;
 - b) A mirror so placed as to reflect the top of the stack, which reflection shall be visible from the boiler room, furnace room, or control room;
 - c) A smoke density indicator and alarm installed so as to indicate adequately in the boiler room, furnace room and control room the density of smoke being discharged;

- d) A closed circuit television installation with the receiver located in the boiler room, furnace room, or control room;
 - e) Any similar device which may be approved by the Secretary.
- (2) All oil-burning equipment shall have heaters capable of heating oil to a temperature appropriate for the oil and burner.
 - (3) The following major industries are required to install continuous emission monitoring systems (CEMS) for particulates and sulfur oxide emissions:
 - a) Fossil fuel-fired power plant over 10 MW rating (including NO_x);
 - b) Petroleum refinery, petrochemical industries (including NO_x);
 - c) Primary copper smelter (including NO_x);
 - d) Steel plant, ferro-alloy production facility (particulates only); and
 - e) Cement Plant (particulates only).
 - (4) New and existing sources falling under paragraph (3) a), b), c) and d) and new sources falling under paragraph (3) e) shall comply with the requirements of installing CEMS upon the effectivity of these Implementing Rules and Regulations.
 - (5) All existing sources falling under paragraph (3) e) shall comply with the requirements of installing CEMS within twenty-four (24) months from the effectivity of these Implementing Rules and Regulations. Application, installation and operation of the CEMS shall meet criteria provided in Rule X Section 5.

(b) Miscellaneous Equipment.

Re-heating furnaces, smoke ovens, bake ovens, coffee heaters, varnish kettles, paint booths and similar equivalent shall be so designed that when operating, there is no free flow of objectionable gases into the atmosphere. To minimize the escape of smoke, odors, fly ash or fumes, appropriate air pollution control facilities shall be installed.

Section 6. Review and Revision of Emission Standards

The Bureau shall provide industries, non-government organizations (NGOs) and other stakeholders the opportunity to participate in the formulation and revision of standards, determination of the technical feasibility of the revised standards, setting the schedule of implementation of the revised standards,

and other related concerns. Pursuant to Section 19 of the Act, the Department through the Bureau shall review, or as the need arises, revise and publish emissions standards to further improve the emission standards for stationary sources of air pollution. Such emission standards shall be based on mass rate of emission for all stationary sources of air pollution based on internationally accepted standards, but not be limited to, nor be less stringent than such standards and with the standards set forth in this Rule. The standards, whichever is applicable, shall be the limit on the acceptable level of pollutants emitted from a stationary source for the protection of the public's health and welfare.

Section 7. Harmonization with International Standards

In the review and revision of emission standards, the Bureau shall, as appropriate, endeavor to achieve the harmonization of national emissions standards with those set by regional bodies such as the Association of South East Asian Nations (ASEAN).

Section 8. Self-Monitoring Reports

Each existing stationary source shall submit to the Bureau Regional Office where the facility is located, a self-monitoring report of its emission rates, indicating the status of compliance with current standards. The self-monitoring report shall be submitted to the Bureau within six (6) months of the effectivity of these Implementing Rules & Regulations, and within six (6) months of each official revision of emission standards applicable to the source. The party or person responsible for the source shall assume responsibility for demonstrating proof of compliance, which the Bureau may subject to independent verification if it deems necessary.

Section 9. Consent Agreement

The Department, through the Pollution Adjudication Board (PAB) may reduce penalties or fines to be imposed upon stationary sources proven to exceed the emission rate requirements of its Permit to Operate or of these Implementing Rules and Regulations, provided that the person or party responsible for the source enters into a consent agreement with the Bureau, subject to confirmation by the PAB, in which the responsible party shall:

- (a) Implement an Environmental Management System (EMS) within eighteen (18) months of entering into said agreement using scope and procedures specified in Philippine National Standard 1701 on establishing an EMS;
- (b) Submit an Environmental Management Plan (EMP) derived from the EMS process within six (6) months of entering into a consent agreement. The EMP shall specify a timetable for attaining compliance with all environmental regulations as well as the means with which to accomplish compliance, with emphasis on pollution prevention methods and not limited to installation of pollution control devices;
- (c) Post a performance bond acceptable to the PAB, not to exceed P500,000 but not less than P50,000 depending on the size of the facility, which shall be forfeited upon failure to submit proof of an approved EMS within eighteen (18) months, and provided that an extension of not more than twelve (12) months may be allowed by the Bureau on meritorious grounds.

The consent agreement shall incorporate requirements for environmental performance through timetables and reporting of performance, in addition to commitments and procedures adopted in the EMP. The consent agreement shall be without prejudice to possible payment/liability for damages to third parties (e.g. private persons).

Section 10. Compliance Timetable Beyond Eighteen (18) Months

Sources proposing timetables longer than eighteen (18) months for reaching compliance shall be required to first conduct a public consultation before the consent agreement be finalized.

Section 11. Proof of an Environmental Management System

Proof of an approved EMS shall be in the form of an EMS audit report prepared internally by the person or party responsible for the facility, or one prepared by a third party EMS auditor. The audit report shall be prepared by a person or company certified under an international EMS standard such as ISO 14001 or an equivalent approved by the Bureau. This report, including a determination of the EMS's conformity to PNS 1701, shall be submitted for review and acceptance by the Bureau

Regional Director within eighteen (18) months from the signing of a consent agreement.

Section 12. Failure to Comply with Consent Agreement

Failure of the stationary source to comply with the timetable specified in the consent agreement shall be sufficient ground for closure through a Cease and Desist Order (CDO) issued by the PAB. Further, the facility owner shall be subject to the reimposition of the original penalty (subject of the reduction) as well as additional appropriate penalties computed on a daily basis pursuant to Section 45 of the Act. **Section 13. Prohibited Acts**

(a) Fugitive Particulates.

No person shall cause, let, permit, suffer or allow the emission of particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alternation, demolition or wrecking or industry related activities such as loading, storing or "handling," without taking reasonable precautions to prevent such emission. Such reasonable precaution shall include, but not be limited to, the following:

- (1) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structure, construction, operations, the grinding of rock, quarry or clearing of lands.
- (2) Application of asphalt, oil water, or suitable chemicals on roads, materials stockpiles, and other surface which create airborne dust problem; and
- (3) Installation and use of hoods fans and fabric filters or other suitable control devices to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) Volatile Organic Compounds or Organic Solvent Emissions

No person shall store, pump, handle, process, unload or use in any process or installation, volatile compound or organic solvents without applying known existing vapor emission control devices or systems deemed necessary and approved by the Department through the Bureau.

(c) Nuisance

No person shall discharge from any source whatsoever such quantities of air contaminants or other material which constitute nuisance as defined under Articles 694 to 707 of Republic Act No. 385, otherwise known as the Civil Code of the Philippines.

(d) Open Burning

No person shall be allowed to burn any materials in any quantities which shall cause the emission of toxic and poisonous fumes. Such materials include but are not limited to plastic, polyvinyl chloride, paints, ink, wastes containing heavy metals, organic chemicals, petroleum related compound, industrial wastes, ozone depleting substances and other similar toxic and hazardous substances.

Further, no establishment, firm, company, government or private entity or organizations shall be allowed to burn or cause open burning of waste materials in their premises, area of jurisdiction, including recognized or unrecognized dumpsites in any quality or quantity. Violators, upon determination by the Department through the Bureau, shall be penalized in accordance with the provisions of Part XIII of these Implementing Rules and Regulations.

(e) General Restrictions

- (1) No plant or source shall operate at capacities which exceed the limits of operation or capability of a control device to maintain the air emission within the standard limitations imposed by the Act or by relevant permit conditions issued by the Department through the Bureau.
- (2) No person shall build, erect, construct, install, or implant any new source, or operate, modify, or rebuild an existing source, or by any other means release or take action which would result in, together with the concentrations of existing air pollutants, ambient air concentration greater than the ambient air quality standards specified in Section 12 (b) of the Act
- (3) No person shall build, erect install or use any article, machine, equipment or other contrivance, the use of which will conceal an emission which would otherwise constitute a violation of any of the provisions of these Implementing Rules and Regulations.
- (4) No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted,

conceals or dilutes any emission of air contaminant which would otherwise violate the provisions of permit regulations of Rule XIX.

- (5) All pollution control devices and systems shall be properly and consistently maintained and correctly operated in order to maintain emission in compliance with the provisions and standards of Section 19 of the Act. No facilities shall be operated without the control equipment in proper operation, except with the permission of the Department through the Bureau when special circumstances arise.

RULE XXVI SOURCE SPECIFIC AMBIENT AIR QUALITY STANDARDS

Section 1. National Ambient Air Quality Standards

For any industrial establishment or operation, the discharge of air pollutants that result in airborne concentrations in excess of the National Ambient Air Quality Standards shown in Table 3 shall not be permitted. Sampling shall be done at the location of highest expected concentration. Location shall be determined using dispersion modeling. Bureau-approved techniques shall be followed in developing sampling plans. For example, the Bureau’s Air Quality Monitoring Manual specifies that sampling shall be done at an elevation of at least two (2) meters above the ground level, and shall be conducted either at the property line or at a downwind distance of five (5) to twenty (20) times the stack height, whichever is more stringent. However, the Bureau may approve the adoption of a different procedure in the choice of the location of the monitoring equipment depending upon the physical surrounding and other relevant factors in the area where the sampling is to be conducted.

**Table 3
National Ambient Air Quality Standards for Source Specific Air Pollutants from Industrial Sources/Operations**

	Concentration <small>a</small>	Averaging	
Pollutants	µg/Ncm	Ppm	Time (min)
		Method of	

				Analysis/Measurement^c
Ammonia	200	.028	30	Nesslerization / Indo Phenol
Carbon Disulfide	30	0.01	30	Tischer Method
Chlorine and Chlorine cmpds expressed as CL2	100	0.03	5	Methyl Orange
Formaldehyde	50	0.04	30	Chromotropic Acid method or MBTH Colorimetric method
Hydrogen Chloride	200	0.13	30	Volhard Titration with Iodine solution
Hydrogen Sulfide	100	0.07	30	Methylene Blue
Lead	20		30	AAS ^b
Nitrogen Dioxide	375 260	0.20 0.14	30 60	Griess-Saltzman
Phenol	100	0.03	30	4-Aminoantipyrine
Sulfur Dioxide	470 340	0.18 0.13	30 60	Colorimetric-Pararosaline
Suspended Particulate Matter – TSP	300	--	60	Gravimetric
PM-10	200	--	60	Gravimetric
Antimony	0.02 mg/Ncm	--	30	AAS ^b
Arsenic	0.02 mg/Ncm	--	30	AAS ^b
Cadmium	0.01 mg/Ncm	--	30	AAS ^b
Asbestos	2 x 10 ⁶ Particulates/Ncm (over 5 micrometer in size)	--	30	Light Microscopy
Sulfuric Acid	0.3 mg/Ncm	--	30	Titration

Nitric Acid	0.4 mg/Ncm	--	30	Titration
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^a Ninety-eight percentile (98%) values of 30-min. sampling measured at 25°C and one atmosphere pressure. ^b Atomic Absorption Spectrophotometry. ^c Other equivalent methods approved by the Department through the Bureau may be used.

Section 2. Review of Ambient Air Quality Standards

The Bureau shall provide industries, non-government organizations (NGOs) and other stakeholders the opportunity to participate in the formulation and revision of standards, determination of the technical feasibility of the revised standards, setting the schedule of implementation of the revised standards, and other related concerns. The Bureau shall, on an annual basis, in coordination with other concerned agencies, review the list of Hazardous Air Pollutants and the National Ambient Air Quality Standards for Source Specific Air Pollutants under Section 12 of the Act and recommend to the Secretary of the Department the revision thereof when necessary to protect public health and safety, and general welfare.

Section 3. Publication of Revised Standards

Upon approval by the Secretary of the Department, the revised Ambient Air Quality Standards shall be published in a newspaper of general circulation and may be posted on a public internet website.

RULE XXVII AIR QUALITY CONTROL TECHNIQUES

Section 1. Air Quality Control Techniques

Simultaneous with the issuance of the Ambient Air Quality Guideline Values, the Bureau, through the National Research and Development Program contained in the Act, and upon consultation with the appropriate advisory committees, government agencies and LGUs, shall issue, and from time to time, revise information on air pollution control techniques. Such information shall include:

- (a) Best available technology and alternative methods of prevention, management and control of air pollution;
- (b) Best available technology economically achievable which refers to the technological basis/standards for emission limits

applicable to existing, direct industrial emitters of non-conventional and toxic pollutants; and

- (c) Alternative fuels, processes and operating methods which will result in the elimination or significant reduction of emissions.

Such information may also include data relating to the cost of installation and operation, energy requirement, emissions reduction benefits, and environmental impact or the emission control technology.

Section 2. Air Quality Control Techniques Database

The Bureau may establish an Air Quality Control Techniques Database.

RULE XXVIII NON-BURN TECHNOLOGIES

Section 1. Incineration Prohibited

Pursuant to Section 20 of the Act, incineration, hereby defined as the burning of municipal, bio-medical and hazardous wastes, which process emits toxic and poisonous fumes is prohibited.

Section 2. Non-Burn Technologies

With due concern on the effects of climate change, the Bureau shall promote the use of state-of-the-art, environmentally-sound and safe thermal and non-burn technologies for the handling, treatment, thermal destruction, utilization, and disposal of sorted, un-recycled, un-composted, biomedical and hazardous wastes.

Non-burn technologies are technologies used for the destruction, decomposition or conversion of wastes other than through the use of combustion and which comply with at least one of the following conditions: a) The environment within the destruction chamber is free of Oxygen; or

- b) Fire is not used within the destruction chamber; or
- c) The source of heat is not fire; or
- d) A heat-conducting material or medium, whether of a solid, liquid, gaseous, sol or gel form, is used to destroy the waste.

Non-burn technologies may be used provided that the following conditions are strictly complied with:

- (a) Applicable emission standards are not exceeded;
- (b) Installation and approved use of CEMS measuring PM, NO₂, CO, Chlorine and temperature;
- (c) Compliance with all other relevant requirements of these Implementing Rules and Regulations. In cases where the requirements of this Rule are more restrictive than those of the other requirements of the Implementing Rules and Regulations, the more restrictive requirements shall apply.

Section 3. Emission Standards for Treatment Facilities Using Non-Burn Technologies

Emissions from treatment facilities using non burn technologies shall be deemed toxic and poisonous when they result from the processing of chlorinated compounds, or when they exceed the following emission standards set forth in Tables 4 and 5.

**Table 4
Daily and Half Hourly Average Limits –Treatment Facilities Using Non-burn Technologies**

Item	Daily Average Values	Half Hourly Average Values
Particulates (total dust)	10 mg/Ncm	30 mg/Ncm
Gaseous and vaporous organic substances, expressed as total organic carbon	10 mg/Ncm	20 mg/Ncm
Hydrogen chloride (HCl)	10 mg/Ncm	60 mg/Ncm
Hydrogen fluoride (HF)	1 mg/Ncm	4 mg/Ncm
Sulfur dioxide (SO ₂)	50 mg/Ncm	200 mg/Ncm

Nitrogen monoxide (NO) and Nitrogen dioxide (NO ₂), expressed as nitrogen dioxide for incineration plants with a capacity exceeding 3 tonnes per hour	200 mg/Ncm	400 mg/Ncm
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as nitrogen dioxide for incineration plants with a capacity of 3 tonnes per hour or less	300 mg/Ncm	--
Ammonia	10 mg/Ncm	20 mg/Ncm

Table 5
Limits for Metals, Dioxins and Furans - Treatment Facilities Using Nonburn Technologies

Item	Average Values ^a
Cadmium and its compounds, expressed as cadmium (Cd)	total 0.05mg/Ncm
Thallium and its compounds, expressed as thallium (Tl)	
Mercury and its Compounds, expressed as mercury (Hg)	0.05 mg/Ncm
Antimony and its compounds, expressed as antimony (Sb)	total 0.5 mg/Ncm
Arsenic and its compounds, expressed as arsenic (As)	
Lead and its compounds, expressed as lead (Pb)	
Chromium and its compounds, expressed as chromium (Cr)	
Cobalt and its compounds, expressed as cobalt (Co)	
Copper and its compounds, expressed as copper (Cu)	

Manganese and its compounds, expressed as manganese (Mn)	
Nickel and its compounds, expressed as nickel (Ni)	
Vanadium and its compounds, expressed as vanadium (V)	
Tin and its compounds, expressed as tin (Sn)	
Dioxins and Furans	0.1 nanogram/Ncm

^a These average values cover gaseous and the vapor forms of the relevant heavy metal emission as well as their compounds. Provided, that the emission of dioxins and furans into the air shall be reduced by the most progressive techniques. The average values shall be measured over a sample period of a minimum of four (4) hours and a maximum of eight (8) hours, except that all averages of dioxins and furans shall be measured over a sample period of a minimum of six (6) hours and maximum of eight (8) hours.

Section 4. Non-applicability of the Prohibition

The prohibition shall not apply to traditional small-scale method of community/neighborhood sanitation “siga”, traditional, agricultural, cultural, health, and food preparation and crematoria.

Section 5. Phase-out of Incinerators Dealing with Biomedical Wastes

Existing incinerators dealing with a biomedical wastes shall be phased out on or before 17 July 2003 provided that in the interim, such units shall be limited to the burning of pathological and infectious wastes, and subject to close monitoring by the Bureau. After the said grace period, facilities that process or treat biomedical wastes shall utilize state-of the art, environmentally-sound and safe non-burn technologies.

Section 6. Monitoring.

There shall be public participation in the monitoring of thermal treatment facilities.

PART VIII POLLUTION FROM OTHER SOURCES

RULE XXIX POLLUTION FROM OTHER SOURCES - GENERAL

Section 1. Ban on Smoking

The Local Government Units (LGUs) shall, within six (6) months from the effectivity of these Implementing Rules and Regulations, implement or enforce a ban on smoking inside a public building or an enclosed public place including public vehicles and other means of transport or in any enclosed area outside of one's private residence, private place of work or any duly designated smoking area which shall be enclosed.

Section 2. Regulation of Other Sources

The DOTC shall regulate and implement emission standards on mobile sources other than those referred to under Section 21 of the Act. For this purpose, the Department through the Bureau, shall formulate and establish the necessary standard for these other mobile sources. The DOTC shall collect fines and penalties provided for under Section 46 of the Act from those found to be in violation of the applicable emissions standards for other mobile sources.

PART IX POLLUTION FROM MOTOR VEHICLES

RULE XXX MOTOR VEHICLE COVERAGE

Section 1. Scope

These provisions, in the interest of public safety and conservation of the environment, are applicable with respect to:

- (d) Manufacture, local assembly or importation into the country of new motor vehicle as classified under PNS 1891 shall be covered by a Certificate of Conformity (COC) to be issued pursuant to the following sections of this Rule, provided, however, that those motor vehicle types already covered by the COC at the time of the effectivity of these rules shall not be subject to these provisions unless the Department finds justifiable reason to suspend, cancel or revoke such a certificate;
- (e) Enforcement of permissible emission levels of motor vehicles to be manufactured, marketed and/or operated in the country;

- (f) Implementation of the National Motor Vehicle Inspection and Maintenance Program including accreditation and authorization of private emission testing centers and certification of inspectors and mechanics, and;
- (g) Roadside inspection of motor vehicles.

RULE XXXI EMISSION CONTROL FOR NEW MOTOR VEHICLES

Section 1. Certificate of Conformity

A COC shall be issued by the Department through the Bureau to a motor vehicle manufacturer, assembler, or importer certifying that a motor vehicle type complies with the numerical emission standards in this Rule, using the relevant ECE test procedures or their equivalent as approved by the Department. No new motor vehicle shall be allowed initial registration unless a valid COC issued by the Department through the Bureau is granted. New motor vehicles shall refer to the following:

- a) Motor vehicles designed and manufactured in the Philippines using brandnew engines and spare parts;
- b) Motor vehicles assembled in the Philippines using original and brand new parts and components imported into the country completely knocked down (CKD);
- c) New motor vehicles completely built up (CBU) imported into the country.

The emission test for type approval shall be carried out by the DOTC/LTO under the policy, regulation and guidelines supervision of the Department. The facility where the tests will be conducted shall be chosen by the Department utilizing the motor vehicle type approval system testing center of the DOTC/LTO. It shall also have visitorial powers over the LTO Motor Vehicle Inspection Station and Vehicle Type Approval System Testing Center where these tests are carried out.

While the DOTC/LTO is developing inspection capability of the motor vehicle type approval system test, the previous emission test results of preproduction engine vehicle type duly authenticated by the Philippine Embassy/Consulate of the country of origin or manufacture of subject motor vehicle shall be valid and sufficient.

Section 2. Transitory Emission Limits

As a condition for the issuance of a COC, exhaust emission limits for new motor vehicle types, to be introduced into the market up to 31 December 2002, shall not exceed the following:

For cars and light duty motor vehicles, the limits for emission of gaseous pollutants as a function of given reference mass shall be as provided hereunder:

Table 6
Exhaust Emission Limits of Gaseous Pollutants for Cars and Light Duty Motor Vehicles (Reference No. ECE Reg. 15-04)

Reference Mass (kg)	CO g/test		HC + NOx g/test	
Type I Test	Type Approval	Conformity of Production	Type Approval	Conformity of Production
750	58	70	19.0	23.8
751 – 850	58	70	19.0	23.8
851 – 1020	58	70	19.0	23.8
1021 – 1250	67	80	20.5	25.6
1251 - 1470	76	91	22.0	27.5
1471 – 1700	84	101	23.5	29.4
1701 – 1930	93	112	25.0	31.3
1931 – 2150	101	121	26.5	33.1
2150	110	132	28.0	35.0
All Motor Vehicles Type II Test	Maximum Concentration of CO at end of last urban cycle = 3.5%			
All Motor Vehicles Type III Test	No Crankcase Emissions Permitted			

For medium and heavy duty motor vehicles with compression-ignition engine, the limit for the emission of gaseous pollutants and smoke shall be as provided in Table 7 and Table 8.

Table 7

Exhaust Limits of Gaseous Pollutants for Medium and Heavy Duty Motor Vehicles Equipped with Compression-Ignition Engines (Reference No. ECE Reg. 49-01)

CO (g/kWh)	HC (g/kWh)	NOx (g/kWh)
11.2	2.4	14.4

Table 8

Smoke Emission Limits Under Steady State Conditions for Heavy Duty Motor Vehicles Equipped with Compression-Ignition Engines (Reference No. ECE Reg. 24-03)

Nominal Flow (liters/second)	Absorption Coefficient (m⁻¹)
42	2.26
100	1.495
200	1.065

Opacity under free acceleration should not exceed the approved level by more than 0.5 m⁻¹.

Fuel evaporative emissions for spark ignition engines shall not exceed 2.0 grams per test.

For motorcycles, CO emissions at idle shall not exceed 6% for all types.

Section 3. Test Procedures to Determine Exhaust Emissions Under Transitory Standards

The test procedures for the determination of gaseous exhaust emissions under the transitory standards shall be as follows:

For cars and light duty motor vehicles	ECE Regulation 15-04 "Uniform provision concerning the approval of motor vehicle equipped with positive-ignition engine or with compressionignition engine with regard to emission of gaseous pollutant by the engine"
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For medium and heavy duty motor vehicles with compression ignition engines	ECE Regulation 49-01 “Uniform provision concerning the approval of compression ignition (C.I.) engines and motor vehicles with C.I. engines with regards to the emission of pollutant by the engine”
For the determination of CO emission	Test procedure for the determination of CO emission shall be at idling speed.

Section 4. Emission Standards Effective Year 2003

As a condition for issuance of a COC, exhaust emission limits for motor vehicle types to be introduced into the market beginning 01 January 2003 shall refer to the provisions of Sec. 21 of the Act, which is equivalent to Euro 1, as follows:

**Table 9
Emission Limits for Passenger Car/Light Duty Vehicle Type Approval (Directive 91/441/EEC)**

CO (g/km)		HC + NOx (g/km)		PM ¹ (g/km)	
Type Approval	Conformity of Production	Type Approval	Conformity of Production	Type Approval	Conformity of Production
2.72	3.16	0.97	1.13	0.14	0.18

**Table 10
Emission Limits for Passenger/Light Commercial Vehicles as a Function of the Given Reference Mass Type Approval (Directive 93/59/EEC)**

Class of Vehicle	CO (g/km)		HC+ NOX (g/km)		PM ² (g/km)	
	Type Approval	Conformity of Production	Type Approval	Conformity of Production	Type Approval	Conformity of Production

¹ For compression-ignition engines only.

² For Compression ignition vehicles only.

Class 1 (1250 Kg)	2.72	3.16	0.97	1.13	0.14	0.18
Class 2 (125 1< > 1700)	5.17	6.0	1.40	1.6	0.19	0.22
Class 3 (> 1700 Kg)	6.9	8.0	1.7	2.0	0.25	0.29

¹For Compression ignition vehicles only.

Table 11
Emission Limits for Heavy Duty Vehicle Type
Approval (Directive 91/542/EEC)

CO (g/kWh)		HC (g/kWh)		NOx (g/kWh)		P
Type Approval	Conformity of Production	Type Approval	Conformity of Production	Type Approval	Conformity of Production	Type Approval
4.5	4.9	1.10	1.23	8.0	9.0	0.3
Nominal Flow (liters/second)		Light Absorption Coefficient¹ (m⁻¹)				
42		2.26				
100		1.495				
200		1.065				

¹ For engines of 85 kW or less, the limit value for particulate emissions is increased by multiplying the quoted limit by a coefficient of 1.7.

Table12
Smoke Emission Limits Under Steady State Conditions
(Reference No. ECE Reg. 24-03)

¹For Compression ignition vehicles only.

Opacity under free acceleration should not exceed the approved level by more than 0.5 m⁻¹.

Table 13

Emission Limits for Motorcycle Type Approval with 4-stroke Engines ECE Regulation 40.01

Reference Weight R(1) (kg)	CO (g/km)		HC (g/km)	
	Type Approval	Conformity of Production	Type Approval	Conformity of Production
<100	17.5	21	4.2	8
100-300	$(17.5 + 17.5(R/100))/200$	$21 + 21(R/100)/200$	$4.2 + 1.8(R/100)$	$(6 + 2.4(R/100))/200$
>300	35	42	8	9.4

Notes:1) Reference weight (R) = Motorcycle weight + 75 kg.

Table 14

Emission Limits for Motorcycle Type Approval with 2-stroke Engines ECE Regulation 40.01

Reference Weight R(1) (kg)	CO (g/km)		HC (g/km)	
	Type Approval	Conformity of Production	Type Approval	Conformity of Production
<100	12.8	16	8	10.4
100-300	$(12.8 + 19.2(R/100))/200$	$16 + 24(R/100)/200$	$8 + 4(R/100)$	$(10.4 + 6.4(R/100))/200$
>300	32	40	12	18.8

Notes:1) Reference weight (R) = Motorcycle weight + 75 kg.

Table 15

Emission Limits for Mopeds Type Approval ECE Regulation 47

Vehicle type	2-Wheeled		3-Wheeled	
	CO g/km	HC g/km	CO g/km	HC g/km
Licensing	8.0	5.0	15.0	10.0
Production	9.6	6.5	18.0	13.0

(Mopeds are vehicles of less than 400 kg equipped with an engine having a cylinder capacity of less than 50 cubic centimeters.)

For mopeds, CO emissions at idle shall not exceed 6% for all types.

Fuel evaporative emission for spark-ignition engines shall not exceed 2.0 grams hydrocarbons per test. Likewise, it shall not allow any emission of gases from crankcase ventilation system into the atmosphere.

Durability of pollution control equipment for spark-ignition and compression engines shall conform to the deterioration factor prescribed in the test procedure.

The standards set forth in the above paragraphs of this section refer to the exhaust emitted over a driving schedule or engine speed, evaporative emission, crankcase ventilation emission and durability of pollution control equipment as set forth in the test procedures indicated in the succeeding section.

Section 5. Test Procedures to Determine Exhaust Emissions and Other Standards Effective in Year 2003

The test procedures for the determination of emissions and other standards effective in 2003 shall be as follows:

<p>For exhaust emissions, fuel evaporative emission, emission of crankcase gases and durability of pollution control equipment for cars and light duty motor vehicles</p>	<p>ECE Regulation 83-01/02, series of amendment approval B and C: "Uniform provision concerning the approval of vehicles with regards to the emission of gaseous pollutants by the engine according to engine fuel standards"</p> <p>Approval B - Limitation of emission of gaseous pollutant by the engine, evaporative emission, crankcase emission and durability of motor vehicle fueled with unleaded petrol.</p> <p>Approval C - Limitation of emission of gaseous and particulate pollutants, crankcase emission and durability of pollution control devices of motor vehicles fueled with diesel fuel.</p>
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For Medium and Heavy Duty Motor Vehicles with compression-ignition engines	ECE Regulation 49-01/02, series of amendment (49/02) “Uniform provision concerning the approval of compressionignition (C.I) engines and motor vehicles equipped with C.I. engine with regards to the emission of pollutants by the engine”
For the determination of CO emission	The test procedure for the determination of CO emission shall be at idling speed as provided in the Emission Test Procedure for Vehicles Equipped with Spark-Ignition Engines and the Free Acceleration Test Procedure for Vehicles Equipped with Compression-Ignition Engines

Other equivalent test procedures as approved by the Department may be utilized.

Section 6. General Requirements

Every motor vehicle manufacturer, assembler or importer shall provide all new motor vehicles with a service manual or written instructions for the proper use and maintenance of the motor vehicle, including all relevant service information or specifications to ensure proper functioning of the emission control system and compliance with emission standards.

All newly-manufactured or imported gasoline-fuelled motor vehicles, including motorcycles and mopeds, to be introduced into the market or imported into the Philippines shall be designed to operate on unleaded gasoline upon the effectivity of these Implementing Rules and Regulations.

Section 7. Application for Certificate of Conformity

The application for a COC shall be submitted to the Bureau by the motor vehicle manufacturer, assembler, importer or their duly authorized representatives. It shall be accompanied by the following particulars in triplicate copies:

- (a) Complete and detailed descriptions of motor vehicle and the engine;

- (b) Description of the emission control system installed in the motor vehicle;
- (c) Details of the fuel feed system;
- (d) Vehicle Type Approval System test result by DOTC/LTO (while the DOTC/LTO is developing inspection capability of the motor vehicle type approval system test, the previous emission test results of pre-production engine vehicle type duly authenticated by the Philippine Embassy/Consulate of the country of origin or manufacture of subject motor vehicle shall be valid and sufficient); and
- (e) Other particulars which may be required by the Department.

Section 8. Filing Fees for Application for COC

A fee to be determined by the Department through the Bureau shall be paid upon the filing of the COC application. Filing fees for applications that have been denied shall not be refundable, nor applicable to subsequent applications.

Section 9. Approval of Application

Upon a determination that the vehicle type meets the general requirements of this Rule and upon payment of the corresponding application fees, the Bureau shall issue a COC within a reasonable time.

Section 10. COC as Requisite for Registration

New motor vehicles shall be registered with the LTO of the DOTC only upon presentation of a copy of a valid COC issued by the Bureau.

For purposes of registration, the COC shall cover only:

- (a) new vehicle types described in the COC, or
- (b) new vehicle types which conform in all material respects to the design specifications applicable to the particular vehicle type as described in the application for COC and which are produced in accordance with the particulars of a valid COC.

Section 11. Validity of COC

For purposes of vehicle registration, the COC shall be valid for six (6) years from the date of issue unless sooner revoked or suspended. In case of suspension, the 6-year validity period shall not be extended by the period of suspension.

Modifications of the brake system, steering, air conditioning, suspension and interior and exterior trimmings shall not be construed as a change in vehicle type and there will be no need to apply for a new COC.

Section 12. Consent to Inspection as Condition of COC.

To ensure that new motor vehicles manufactured, assembled, or imported conform in all material respects to the design specifications described in the COC, it shall be a condition of the COC that the manufacturer, assembler or importer shall consent to all the inspections by the Department through the Bureau of the vehicle engine, emission control system, among others, of the new motor vehicles covered by the COC.

Section 13. Ground for Revocation of COC.

Failure to comply with any of the requirements of this Rule shall justify the revocation or suspension of the COC.

Section 14. Emission Control Labeling

The manufacturer, assembler or importer of any motor vehicle or motor vehicle engine, subject to the applicable emission standards prescribed by the Department, shall affix a permanent legible label, and the vehicle identification number (VIN) plate of the type and in a manner described below.

The label, of durable material, shall be affixed by the manufacturer, assembler or importer in such a manner that it cannot be removed without defacing such label. It shall be affixed in a readily visible position in the engine compartment or any conspicuous area under the hood, or under the seat in case of a motorcycle.

The label shall contain the following information lettered in the English language in block letters and numerals with a legible print size, and of a color that contrasts with the background of the label:

- (a) The label heading: Vehicle Emission Control Information;
- (b) Full corporate name and trademark;
- (c) Engine type displacement in metric units;
- (d) International emission regulation code and/or this Act; and
- (e) Engine tune-up specification and adjustment as recommended by the manufacturer including but not limited

to idle speed(s), ignition timing, the idle air-fuel mixture setting procedure and value (e.g. idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing and valve lash (as applicable) as well as other parameters deemed necessary by the manufacturer.

Section 15. Submission of Vehicle Identification Number.

The manufacturer, assembler or importer of any motor vehicle covered by a COC under these Implementing Rules and Regulations shall submit to the Bureau, not later than sixty (60) days after its manufacture or entry into the country, the vehicle engine number, chassis number, engine type, vehicle type and color. Likewise, a sticker with the Department logo, COC number and date of issue and a brief statement that the vehicle complies with the provisions of the Act and its Implementing Rules and Regulations shall be conspicuously displayed on the front windshield of the motor vehicle.

RULE XXXIII EMISSION CONTROL FOR IN-USE VEHICLES

Section 1. Emission Standards for In-Use Vehicles

All in-use motor vehicles, and vehicles with updated/enhanced engine whose chassis are pre-registered with DOTC/LTO will only be allowed renewal of registration upon proof of compliance of the emission standard described below. The DOTC/LTO shall conduct the vehicle test utilizing the Motor Vehicle Inspection Station (MVIS) or its duly authorized and accredited inspection centers consistent with the R.A. 7394 otherwise known as the Consumer Act of the Philippines within sixty (60) days prior to date of registration.

Emission test procedures as given in Annex B and Annex C for registered or in-use motor vehicles equipped with spark-ignition or compressionignition engines, respectively, should be strictly followed.

For vehicles with spark-ignition engines except motorcycles, the following emission standards shall apply:

Table 16 Emission Standards for Vehicles with Spark-Ignition Engines (Gasoline) Except Motorcycles

Vehicle Category	CO (% by volume)	HC (ppm as hexane)
Registered prior to January 1, 1997 At Idle	4.5	800
Registered on or after January 1, 1997 but before January 1, 2003 At Idle	3.5	600
Registered on or after January 1, 2003 At Low Idle At High Idle (rpm > 2,500)	0.5 0.3 ($\lambda = 1 +$ $/0.03$)*	100

* or in accordance with manufacturer's specification

For vehicles with compression-ignition engines, the following emission standards shall apply:

Table 17
Emission Standards for Vehicles with Compression-Ignition Engines (light absorption coefficient, m^{-1})*

	Naturally Aspirated	Turbo charged	1,000 m increase in elevation
Registered for the first time prior to	2.5	3.5	4.5
December 31, 2002			
Registered for the first time on or	1.2	2.2	3.2

after January 1, 2003			
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* Using the free acceleration test.

For motorcycles registered for the first time on or before December 31, 2002, CO emissions at idle shall not exceed 6.0%. For motorcycles registered for the first time after December 31, 2002 CO emissions at idle shall not exceed 4.5%.

Section 2. Emission Standards for Rebuilt Vehicles and Imported Second Hand Vehicles

No rebuilt or second hand-CBU imported into the country or preregistered vehicles retrofitted with second hand engines shall be allowed registration or renewal of registration without valid Certificate of Compliance to Emission Standard (CCES) issued by the DOTC.

As a condition for the issuance of a CCES, exhaust emission standards of vehicles enumerated previously shall not exceed the standards described below.

As a requirement for the issuance of a CCES by DOTC for imported second hand vehicles, a Certificate of Emission Compliance duly authenticated by the Philippines Embassy/Consulate from the country of origin shall be valid and sufficient. The DOTC may however seek verification through actual testing in the MVIS.

In the case of locally rebuilt vehicles, a CCES issued by the DOTC on the basis of an inspection by the DOTC Vehicle Type Approval System, if available, or initially by LTO MVIS, is required.

The DTI through the Bureau of Import Services (BIS) shall formulate regulations and guidelines that will ensure rebuilt and imported second hand motor vehicles and engines will satisfy the emission standards for rebuilt and imported second hand motor vehicles as provided in these Implementing Rules and Regulations.

Table 18 Emission Standards for Rebuilt Vehicles and Imported Second Hand Vehicles*

	CO ^a	HC ^a	Smoke ^b [turbocharged]
Registered for the first time prior to December 31, 2002 At Idle	3.5%	500 ppm	2.5 [3.5] m ⁻¹
Registered for the first time on or after January 1, 2003 At Idle	0.5%	100 ppm	2.5 [3.5] m ⁻¹

a – For spark-ignition (gasoline-fueled) motor vehicles b – For compression-ignition (diesel-fueled) motor vehicles; figure in brackets relate to turbocharged vehicles.

* If the in-use emission standard of the country of origin is more stringent than these maximum limits, it will supersede them.

Section 3. Test Procedures for Measurement of Exhaust Emission

The Department shall prescribe the type of smoke opacity meter to be used in the emission testing of vehicles with diesel engines.

The test procedures for measurement of exhaust emissions for in-use motor vehicles with spark-ignition engines and compression-ignition engines are described in Annexes B and C.

Section 4. Control of Emissions from In-use Vehicles

Pursuant to Section 21(d) of the Act, the DTI, DOTC/LTO, and the Department shall develop and implement the National Motor Vehicle Inspection and Maintenance Program that will ensure the reduction of emissions from motor vehicles and promote the efficient and safe operation of motor vehicles. The inspection and maintenance program shall require all vehicles, as a requisite for renewal of registration, to undergo mandatory inspection to determine compliance with the in-use emission standards. The DOTC through LTO and/or DOTC designated enforcement units shall also establish a roadside inspection

system to ensure that vehicles comply with the in-use emission standards.

The National Motor Vehicle Inspection and Maintenance Program is described in detail in Rule XXXIV and the Roadside Inspection System is described in Rule XXXV.

Section 5. Use of tamper-resistant odometers and fuel management systems

Pursuant to Section 21 of the Act, the DTI shall prescribe regulations requiring the disclosure of odometer readings and the use of tamper-resistant odometers for all motor vehicles including tamper-resistant fuel management systems for the effective implementation of the inspection and maintenance program.

Section 6. Useful Life of For-Hire Vehicles

Pursuant to Section 22 of the Act, the DTI shall promulgate the necessary regulations prescribing the useful life of vehicles and engines including devices in order to ensure that such vehicles will conform to the emission they were certified to meet. These regulations shall include provisions for ensuring the durability of emission devices. For considerations of public health and welfare, the Department, DTI, DOTC/LTO, NEDA and DOF may develop and implement a program to ensure for-hire vehicles to continue to meet emission standards hereto described.

RULE XXXIII REVIEW AND REVISION OF STANDARDS

Section 1. Review and Revision of Standards

To further improve the emission standards, the Department through the Bureau, in coordination with the DOTC/LTO, shall review the standards every two (2) years or as the need arises. Where necessary to achieve substantial improvement in air quality for the health, safety and welfare of the general public, the Department through the Bureau shall revise the exhaust emission standards for new and in-use motor vehicles. The revised standards must be published in a newspaper of general circulation or be filed in triplicate copies with the University of the Philippines (UP) Law Center pursuant to Presidential Memorandum Circular No. 11 dated 09 October 1992.

Section 2. Participation of Stakeholders

The Department shall provide the motoring public, automotive industry, non-government organizations (NGOs) and other stakeholders the opportunity to participate in the formulation and revision of standards, determination of the technical feasibility of the revised standards, setting the schedule of implementation of the revised standards, and other related concerns.

Section 3. Harmonization with International Standards

In the review and revision of emission standards, the Department shall endeavor to achieve the harmonization of national emission standards with internationally-accepted standards.

The Department, in coordination with the DOTC and DTI, may adopt or formulate the functional equivalence of the emission limits and test procedures. "Functional equivalence" means exhaust emission limits and test procedures whose numerical values are almost the same or identical with other types of emission limits and test procedures.

The Department, in coordination with DOTC and DTI, and in consultation with the motor vehicle manufacturers and other stakeholders, shall study the feasibility of adopting EURO II or III standards or other appropriate standards in the Philippines to further reduce emissions from motor vehicles.

RULE XXXIV NATIONAL MOTOR VEHICLE INSPECTION AND MAINTENANCE PROGRAM

Section 1. National Motor Vehicle Inspection and Maintenance Program.

All private in-use motor vehicles and vehicles with updated/enhanced engine whose chassis are pre-registered with Land Transportation Office (LTO) will only be allowed renewal of annual registration when, upon inspection by the LTO or other authorized private Motor Vehicle Inspection Station (MVIS), such vehicles meet the in-use emission standards set forth in Section 1 of Rule XXXII hereof. The LTO or other authorized MVIS shall conduct the vehicle tests for emissions.

Public Utility Vehicles submitted to DOTC/LTO for renewal of

registration shall only be allowed upon presentation of a valid Vehicle Inspection Report issued on the basis of the inspection following the standard described hereto from the MVIS or its authorized testing center. The Vehicle Inspection Report shall be valid for a maximum of six (6) months.

Emission tests may be conducted within sixty (60) days prior to the renewal of registration. The results of such test shall be presented within sixty

(60) days from the date of the test and may be presented to the LTO motor vehicle registration offices as a prerequisite to renewal of registration.

Section 2. Phased Implementation

The DOTC/LTO shall ensure that the Motor Vehicle Inspection System shall be fully operational in Metro Manila by January 2003. Nationwide implementation shall follow in twelve (12) to eighteen (18) months thereafter.

The vehicle inspection will be initially conducted in the LTO-operated MVIS or LTO Motor Vehicle Registration Centers. Priority shall be given to the immediate testing of diesel-powered vehicles.

Section 3. DOTC Authorization and DTI Accreditation of Private Emission Testing Centers

Emission testing of vehicles as a consequence of roadside inspection, for voluntary inspection after vehicle maintenance, or for rebuilt and imported second hand vehicles and engines, may be done in a private emission testing center. Private emission testing centers shall be commissioned by the Government through accreditation by DTI and authorization by DOTC. The DTI and DOTC shall accredit and authorize emission testing centers in accordance with the procedural guidelines thereon.

In order to accommodate all vehicles for emission testing, the DOTC may authorize private emission testing centers previously accredited with the DTI. Such testing centers shall be authorized to conduct emission tests on vehicles apprehended for non-compliance with the in-use emission standards. The DOTC shall issue the procedural guidelines on the authorization process. Pursuant to its standard-setting functions, the

Department is responsible for regulating the specifications of the emission testing equipment to be used by private emission testing centers. The DTI shall ensure that these specifications are met by the accredited private emission testing centers.

In seeking authorization from DOTC, qualified persons may file an application with the DOTC through LTO or its designated agency, to be authorized as an emission testing center. The applicant must comply with the requirements of area, trained personnel, adequate equipment and facilities, and submit the documentary requirements as may be required by the DOTC in subsequent regulations. The facilities shall be inspected prior to the issuance of the authorization to determine compliance with the authorization requirements.

To obtain accreditation from the DTI, an application form shall be submitted by the applicant to the DTI Provincial Office located in the province where the applicant operates or resides. The applicant shall comply with the accreditation requirements and submit its organizational manual to the DTI. The facilities of the applicant shall then be inspected. Upon a favorable recommendation of the DTI Evaluation Panel / Committee, the Director of DTI Provincial Office shall approve the application and issue a certification to the applicant.

The accredited testing center shall make available to DTI or its appointed assessors all documents and shall allow the latter to inspect its facilities.

The accredited emission testing center must secure the authorization of the DOTC to conduct emission tests on vehicles apprehended for noncompliance with the in-use standards.

To facilitate the process of accreditation and authorization, the DOTC and DTI shall enter into an inter-agency agreement to develop and implement a uniform procedure for accreditation and authorization of emission testing centers. The DOTC and DTI shall study, among others, (1) the creation of a "one-stop shop" where an applicant may complete the process of accreditation and authorization, (2) the imposition of one fee, (3) the use of a single application form for both accreditation and authorization, and (4) the issuance of a single certificate of accreditation and authorization signed by both DOTC and DTI representatives.

Section 4. Certification of Institutions and Instructors; Licensing of Service Centers and Technicians

The DTI shall also develop and implement standards and procedures for the certification of training institutions, instructors, and facilities and for the licensing of qualified service centers and their technicians as prerequisite for performing the testing, servicing, repair and the required adjustment to the vehicle emission system. Vehicles that fail the emission test may be sent to accredited repair shops for repair of motor vehicle engines, exhaust system and pollution control devices.

These facilities shall be equipped with standard automotive repair tools, standard spare parts and pollution test equipment conforming to applicable ECE, ISO or SAE standards. It is also required that these repair shops or service stations shall have highly skilled mechanics and/or technicians who have on-the-job training certificates from TESDA, local assemblers and manufacturers of motor vehicles.

RULE XXXV ROADSIDE INSPECTION OF MOTOR VEHICLES

Section 1. Roadside Inspection

Vehicles found emitting excessive smoke while operating in any public highway shall be subjected to an emission test by properly-equipped DOTC through LTO and/or DOTC-designated enforcement unit(s) and/or its deputized agents. The procedure for the apprehension of non-compliant vehicles and the deputation of agents to perform roadside inspection are set forth in Section 4 of this Rule.

Section 2. Agency Responsible for Enforcement

Pursuant to Section 46 of the Act, the DOTC, through LTO or DOTC-designated enforcement unit(s) shall establish a roadside inspection system to ensure that vehicles comply with the in-use emission standards set forth in these
Implementing Rules and Regulations

The DOTC shall establish and chair an oversight committee for the purpose of monitoring smoke belching violations. Representatives from concerned government agencies, relevant sector organizations and civil society shall compose the membership of the oversight committee headed by the LTO.

Section 3. Deputation

The DOTC through LTO or DOTC- designated enforcement unit(s) may deputize qualified government employees, LGUs, government agencies and private entities to conduct roadside inspection and to apprehend vehicles which do not comply with the in-use standards set forth in these Implementing Rules and Regulations.

The deputized agents shall undergo a mandatory training on emission standards and regulations. For this purpose, the Department, together with the DOTC through LTO or DOTC- designated enforcement unit(s), DTI, DOST, the Philippine National Police (PNP) and other concerned agencies and private entities shall design a training program. The DOTC through LTO or its designated enforcement unit(s), together with the Department shall oversee the training program. This program shall include training in the correct use, maintenance and calibration of smoke testing equipment. No individual shall be deputized without satisfactorily completing the training.

Section 4. Apprehension and Impounding of Vehicles Exceeding Emission Limits

Pursuant to Section 46 of the Act, the procedure for apprehension and impounding of motor vehicles which emit pollutants beyond the allowable limits shall be as follows:

- a) A vehicle suspected of violation of emission standards through visual signs shall be flagged down by the apprehending officer.
- b) The apprehending officer shall conduct an emission test of the vehicle using portable emission testing equipment and using test procedures given in Annex B and Annex C, to determine whether the vehicle complies with the emission standards. Should the results show an exceedance of the emission limits, the computerized print-out, or other test result generated by the portable emission testing equipment shall serve as prima facie evidence of violation of the emission standards.
- c) Should the test result show that there is an exceedance of the standards, a ticket will be issued to the driver and a warrant of constructive or actual distraint to any owner of the

motor vehicle as provided for in Republic Act 4136 shall commence unless the vehicle has been previously found violating the standards three (3) or more times within the last 365-day period. In the latter case, the motor vehicle registration shall be suspended for a period of one (1) year.

- d) Upon payment of the fine at the DOTC through LTO or DOTC- designated enforcement unit(s) or deputized agency or private entity, the vehicle plate(s) will be surrendered to the apprehending officer and the driver will be issued a temporary pass allowing him to take possession of the vehicle for the purpose of undertaking the needed repairs within a period not later than seven (7) days from the date the vehicle is temporarily released.
- e) Motor vehicles released for purposes of repairs shall not be operated or used in public roads except for the purpose of transporting the same to the service center for repairs and to the authorized emission testing center for emission testing.
- f) When the repairs are made, the vehicle must undergo an emission test at a DOTC/LTO testing center or its authorized and accredited emission testing center to ascertain if it already meets the emission standards.
- g) Once the vehicle meets the standards, the DOTC/LTO testing center or its authorized and accredited emission testing center shall issue a Certificate of Emission Compliance to the driver of the vehicle. The CEC will have no validity period, its sole purpose is to secure the release of the impounded vehicle or the vehicle license plates, whichever is applicable and which were confiscated as a consequence of that specific violation.
- h) Upon presentation of the Certificate of Emission Compliance, the driver shall recover his vehicle or his vehicle plates, whichever is applicable, from the DOTC through LTO and/or DOTC- designated enforcement unit(s) which has custody over the vehicle or vehicle plates.

Further refinement of the apprehension procedure stated in the Act shall be developed and/or approved by the DOTC. All apprehensions shall be made strictly adopting the above procedure. Failure of enforcers to observe said procedure shall

merit review of the apprehension by the adjudication service and/or waiver of fines and penalties.

Section 5. Appellate Procedure

In the event the driver of the apprehended vehicle contests the fine imposed and/or the violation of emission standards, he may appeal the same with the DOTC-designated Traffic Adjudication Service where he will be given the opportunity to be heard.

Section 6. Self-Regulation

The DOTC shall encourage self-regulation among transport stakeholders. The DOTC shall encourage private sector initiated projects which integrate preventive maintenance, driver training, sealing of injections pumps, pre-registration testing, and modified apprehension procedures to reduce smoke belching.

Section 7. Data Collection and Management

The DOTC/LTO shall improve its system of managing and collecting data from the Motor Vehicle Inspection Stations and from roadside inspection / apprehensions for violation of emission standards. The ongoing computerization of LTO vehicle registration shall be linked to the MVIS and roadside inspection data base to be established.

Section 8. Certification of Emission Test Equipment.

To ensure proper and effective enforcement of the vehicle emission standard, the Department, through the Bureau, shall certify the conformity to standards of emission test equipment before it can be used for mandatory emission tests.

PART X FUELS, ADDITIVES, SUBSTANCES AND POLLUTANTS

RULE XXXVI STANDARDS FOR FUELS AND ADDITIVES

Section 1. Mechanism for Setting Fuel Specifications

Pursuant to Section 26 of the Act, the Department of Energy (DOE), cochaired by the Department, in consultation with the Bureau of Product Standards (BPS) of the DTI, the DOST,

the representatives of the fuel and automotive industries, academe and the consumers shall, within six (6) months from the effectivity of these Implementing Rules and Regulations, set the specifications for all types of fuel and fuel-related products, to improve fuel composition for increased efficiency and reduced emissions: Provided, however, That the specifications for all types of fuel and fuel-related products set-forth pursuant to this section shall be adopted by the BPS as Philippine National Standards (PNS).

Section 2. Specification of Allowable Additive Content

The DOE shall specify the allowable content of additives in all types of fuels and fuel-related products. Such standards shall be based primarily on threshold levels of health and research studies. On the basis of such specifications, the DOE shall limit the content or begin the phase-out of additives in all types of fuels and fuel-related products as it may deem necessary. Other agencies involved in the performance of this function shall be required to coordinate with the DOE and transfer all documents and information necessary for the implementation of this provision.

Section 3. Fuel Specifications

The fuel formulations shall meet, among others, the following specifications set in Table 19 on or before the deadline set forth in the Act:

Table 19
Fuel Specifications

Fuel	Property	Limit	Effectivity
Unleaded Gasoline	Aromatics	45% max 35% max	Jan. 1, 2000 Jan. 1, 2003
	Benzene	4% max 2% max	Jan. 1, 2000 Jan. 1, 2003
	Anti-Knock Index	87.5 min	Jan. 1, 2001
	Reid Vapor Pressure	9 psi max	Jan. 1, 2001

Automotive Diesel Fuel	Sulfur	0.20% max 0.05% max	Jan. 1, 2001 Jan. 1, 2004
	Cetane No./Index	48 min	Jan. 1, 2001
Industrial Diesel Fuel	Sulfur	0.30% max	Jan. 1, 2001

The fuels characterized above shall be commercially available. Likewise, the same shall be the reference fuels for emission and testing procedures to be established in accordance with the provisions of this Act.

Section 4. Review and Revision of Fuel Specifications

Every two (2) years thereafter or as the need arises and subject to public consultations, the specifications of unleaded gasoline and of automotive and industrial diesel fuels shall be reviewed and revised for further improvement in formulation and in accordance with the provisions of this Act.

Section 5. Monitoring Compliance through Fuel Sampling

Compliance with the fuel specifications set in the Act shall be monitored through fuel sampling. Guidelines and procedures for the conduct of fuel sampling shall be developed by the DOE within six (6) months from the effectivity of these Implementing Rules and Regulations. Such guidelines and procedures shall, among others, consider the following:

- (a) Fuel samples collected must be truly representative of the fuel sampled.
- (b) The chosen sampling procedure must be suitable for sampling fuel under definite storage, transportation, and container conditions.
- (c) Samples must be obtained in such a manner and from such locations in the tank or other container that the sample will be truly representative of the gasoline.
- (d) It must be ensured that the samples represent the general character and average condition of the fuel.
- (e) Care should be taken in collecting and storing samples in containers that will protect them from changes in content such as loss of volatile fractions by evaporation or leaching into the container.

Monitoring results shall be made available to the public through an annual report to be published by the DOE.

RULE XXXVII REGULATION OF FUELS AND ADDITIVES

Section 1. Agencies Responsible for Regulating Fuels and Additives

The DOE, in coordination with the Department and the BPS, shall regulate the use of any fuel or fuel additive.

Section 2. Registration of Fuels and Additives

No manufacturer, processor or trader of any fuel or additive may import, sell, offer for sale, or introduce into commerce such fuel or additive unless the same has been registered with the DOE. Prior to registration, the manufacturer, processor or trader shall provide the DOE with the following relevant information:

- (a) Product identity and composition to determine the potential health effects of such fuels and additives;
- (b) Description of the analytical technique that can be used to detect and measure the additive in any fuel;
- (c) Recommended range of concentration; and
- (d) Purpose in the use of the fuel and additive.

The DOE shall issue a separate regulation or circular detailing registration procedures, including but not limited to report formats and submission deadlines, within (6) months from the adoption and publication of these Implementing Rules and Regulations.

Section 3. Information Database

The DOE shall develop an information database of registered fuels and additives and other related data which shall be accessible to the public provided that information which are in the nature of trade secrets shall be subject to the non-disclosure and confidentiality agreement in Section 4 of this Rule.

Section 4. Non-disclosure and Confidentiality Agreement

Information on fuels and fuel additives registered with the Department of Energy which are considered trade secrets shall be covered by a nondisclosure and confidentiality agreement between the company and the Department of Energy for a period of fifteen (15) years.

RULE XXXVIII PROHIBITED ACTS

Section 1. Misfuelling

In order to prevent the disabling of any emission control device by lead contamination, no person shall introduce or cause or allow the introduction of leaded gasoline into any motor vehicle equipped with a gasoline tank filler inlet and labeled "unleaded gasoline only". This prohibition shall also apply to any person who knows or should know that such vehicle is designed solely for the use of unleaded gasoline.

Section 2. Manufacture, Import, and Sale of Leaded Gasoline and of Engines and/or Components, Requiring Leaded Gasoline

Effective December 23, 2000 no person shall manufacture, import, sell, offer for sale, introduce into commerce, convey or otherwise dispose of, in any manner leaded gasoline and engines and components requiring the use of leaded gasoline.

Section 3. Manufacture, Import and Sale of Fuels Not According to Legally Prescribed Specifications

The manufacture, importation and sale of fuels which do not meet the specifications prescribed in these Rules and Regulations or which may be prescribed by the DOE in the future is prohibited, except where the fuel is intended for export to a country which allows fuel specifications lower than are prescribed in the Philippines.

RULE XXXIX OZONE-DEPLETING SUBSTANCES

Section 1. Enforcement of Philippine Ozone Depleting Substances Phase Out Schedule

Consistent with the terms and conditions of the Montreal Protocol on Substances that Deplete the Ozone Layer and other international agreements and protocols to which the Philippines is a signatory, the Department through the Bureau shall enforce the Philippine Ozone Depleting Substances (ODS) Phase Out Schedule as published in the June 27, 2000 editions of the

Manila Times, Business World, Philippine Star, Manila Bulletin, Peoples Balita, and Abante.

Section 2. Revision of the List of Ozone Depleting Substances

When necessary, the Bureau shall revise the list of substances which are known to cause harmful effects on the stratospheric ozone layer which was initially published pursuant to Section 30 of the Act.

RULE XL GREENHOUSE GASES

Section 1. National Plan for Reduction of Greenhouse Gas Emissions

The Department through the Bureau, together with concerned agencies and local government units, shall, within one (1) year from the effectivity of these Implementing Rules and Regulations, prepare and implement a national plan consistent with the United Nations Framework Convention on Climate Change and other international agreements, conventions and protocols on the reduction of greenhouse gas emissions.

RULE XLI PERSISTENT ORGANIC POLLUTANTS

Section 1. National Action Plan

The Department through the Bureau, together with concerned agencies and local government units, shall, within one (1) year from the effectivity of these Implementing Rules and Regulations establish an inventory list of all sources of Persistent Organic Pollutants (POPs) in the country.

Section 2. National Programs on Reduction and Elimination of POPs

Pursuant to Section 32 of the Act, the Bureau shall, within one (1) year after the establishment of the inventory list referred to in the preceding section, design and implement a national government program on the reduction and elimination of POPs such as dioxins and furans.

RULE XLII RADIOACTIVE EMISSIONS

Section 1. Regulation on Atomic and/or Nuclear Energy Use

The Philippine Nuclear Research Institute (PNRI), in coordination with the Bureau and other concerned government agencies, shall regulate all projects which will involve the use of atomic and/or nuclear energy, and will entail release and emission of radioactive substances into the environment, incident to the establishment or possession of nuclear energy facilities and radioactive materials, handling, transport, production, storage, and use of radioactive materials.

RULE XLIII HAZARDOUS AIR POLLUTANTS

Section 1. Designation and Management of Hazardous Air Pollutants

The Department through the Bureau shall issue and maintain a list of hazardous air pollutants and required control measures. The list and control measures shall be source-specific by industry and shall be designed to protect Filipinos from unnecessary risk to health or welfare. Compounds shall be considered for inclusion on the list as reasonable data or information become available.

PART XI INSTITUTIONAL MECHANISMS

RULE XLIV IMPLEMENTING AGENCIES

Section 1. The Department

The Department is the primary government agency responsible for the implementation and enforcement of the Act. The Department shall have the following authority, among others:

- (a) To promulgate rules and regulations as may be necessary to implement the intent and provisions of the Act;
- (b) To closely supervise all or parts of the air quality action plans until such time that the local government concerned can assume the function to enforce the standards set by the Department;
- (c) To revise, from time to time, the designation of airshed utilizing ecoprofiling techniques and undertaking scientific studies;

- (d) To designate areas where specific pollutants have already exceeded ambient standards as non-attainment areas and to revise the designation of such areas after consultation with local government authorities, non-government organizations (NGOs), people's organization (POs) and concerned sectors;
- (e) To administer the Air Quality Management Fund;
- (f) To establish a National Research and Development Program for the prevention and control of air pollution, in coordination with the Department of Science and Technology (DOST), other agencies, the private sector, the academe, NGOs and POs;
- (g) To institute administrative proceedings pursuant to Section 40 of the Act;
- (h) To impose fines, through the Pollution Adjudication Board, for violations of standards for stationary sources;
- (i) To exercise such other authority vested by the Act and as provided for in these Implementing Rules and Regulations.

The Secretary may delegate such authority and other powers and function to the Director.

Section 2. The Bureau

The Environmental Management Bureau shall be a line bureau primarily responsible for the implementation and enforcement of the Act pursuant to Section 34 thereof. It shall be comprised of a Central Office and the necessary regional, provincial and such other offices as may be established in pertinent administrative orders issued by the Secretary. The Bureau shall establish and operationalize its regional offices within two (2) years from the effectivity of these Implementing Rules and Regulations. For this purpose, the Bureau shall reorganize and increase the number of its personnel to effectively implement the Act and the Implementing Rules and Regulations. The proposed line bureau staffing pattern shall be submitted to the Department of Budget and Management for approval.

The Bureau shall have the following powers and functions, among others:

- (a) To prepare annual National Quality Status Report pursuant to Section 6 of the Act;
- (b) To design and develop, in cooperation with the National Statistical Coordination Board (NCSB), an information network for data storage, retrieval and exchange;

- (c) To serve as the central depository of all data and information related to air quality;
- (d) To issue and, from time to time, revise information on air pollution control techniques upon consultation with the appropriate committees, government agencies and LGUs;
- (e) To, in coordination with other concerned agencies, review and/or revise and publish annually a list of hazardous air pollutants with corresponding ambient guideline values and/or standard necessary to protect public health and safety, and general welfare;
- (f) To design, impose on and collect regular emission fees from industrial dischargers as part of the emissions permitting system based on environmental techniques;
- (g) To issue permit as it may determine necessary for the prevention and abatement of air pollution;
- (h) To require program and project proponents to put up financial guarantee mechanisms to finance the needs for emergency response, clean-up or rehabilitation of areas that may be damaged during the program or project's actual implementation;
- (i) To review, or as the need therefore arises, revise and publish emission standards to further improve the emission standards for stationary sources of air pollution as well as emission standards for motor vehicles;
- (j) To have the right of entry or access to any premises including documents and relevant materials; to inspect any pollution or waste source, control device, monitoring equipment or method required; and to test any emission;
- (k) To require any person who owns or operates any emission source or who is subject to any requirement of the Act to (i) establish and maintain relevant records; (ii) make relevant reports; (iii) install, use and maintain monitoring equipment or methods; (iv) sample emission, in accordance with the methods, locations, intervals, and manner prescribed by the Department; and (v) keep records;
- (l) To exercise such other powers and functions as provided by the law, the Act and these Implementing Rules and Regulations.

Section 3. Other Implementing Agencies

The other agencies primarily responsible for the implementation of the Act are the Department of Transportation and Communications, the Department of Energy, and the Department of Trade and Industry.

The DOTC shall have the authority to, among others:

- (a) Implement the emission standards for motor vehicles pursuant to and as provided in the Act;
- (b) Participate in the formulation of an Action Plan for the control and management of air pollution from motor vehicles;
- (c) Contribute towards the establishment of procedures for inspection of motor vehicles, assist in the formulation and implementation of the National Motor Vehicle Inspection and Maintenance Program;
- (d) Authorize private emission testing centers (duly accredited by DTI);
- (e) Establish a roadside inspection system;
- (f) Contribute towards design of training program for law enforcement officials and deputized agents on vehicle emission testing.

The DTI shall have the authority to, among others:

- (a) Participate in the formulation of an Action Plan for the control and management of air pollution from motor vehicles;
- (b) Contribute towards the establishment of procedures for inspection of motor vehicles, assist in the formulation and implementation of the National Motor Vehicle Inspection and Maintenance Program;
- (c) Accredite private emission testing centers (duly authorized by the DOTC);
- (d) Develop and implement standards and procedures for the certification of training institutions, instructors and facilities and licensing of qualified private service centers and their technicians;
- (e) Prescribe regulations requiring the disclosure of odometer readings and use of tamper-resistant odometers, including tamper resistant fuel management systems.

The DOE shall have the authority to, among others:

- (a) In coordination with other relevant agencies, set the specifications for all types of fuel and fuel-related products;
- (b) Specify allowable content of additives in all types of fuel and fuel-related products;
- (c) In coordination with the Department and BPS, regulate the use of any fuel or fuel additive.

RULE XLV ROLE OF LOCAL GOVERNMENT UNITS

Subject to Section 36 of the Act and pursuant to the Local Government Code (R.A. 7160) and other pertinent laws, the Local Government Units (LGUs) shall have the following roles within their respective territorial jurisdiction:

- (a) To share the responsibility in the management and maintenance of air quality within their respective territorial jurisdiction;
- (b) To implement air quality standards set by the Governing Board, consistent with Sections 7, 8 and 9 of the Act;
- (c) To establish an Environment and Natural Resources Office (ENRO) in every province, city, or municipality which shall be headed by the environment and natural resources officer appointed by the chief executive of every province, city or municipality in accordance with the provisions of Section 484 of the R.A. 7160 and to exercise powers and duties set forth in Section 37 of the Act;
- (d) To prepare and develop, with the assistance from the Department, an action plan consistent with the Integrated Air Quality Framework to attain and maintain the ambient of air quality standards within their respective airsheds as provided in Section 9 of the Act;
- (e) To prepare and implement a program and other measures including relocation, whenever necessary, to protect the health and welfare of residents in the area;
- (f) To develop and submit to the Department through the Bureau a procedure for carrying out the action plan for their jurisdiction, provided that the Department through the Bureau shall maintain its authority to independently inspect the enforcement procedure adopted;
- (g) To perform such other powers and functions as may be provided by applicable laws, rules and regulations.

The Department shall provide the LGUs with technical assistance, training and a continuing capability-building program to prepare them to undertake full administration of the air quality management and regulations within their territorial jurisdiction.

RULE XLVI LINKAGE MECHANISM

Section 1. Participation of Other Organizations

The Department shall consult, participate, cooperate and enter into agreement with other government agencies, or with affected non-governmental (NGOs) or people's organizations

(POs), or private enterprises in the furtherance of the objectives of the Act and these Implementing Rules and Regulations.

Section 2. Linkage with Coordinative Multisectoral Body

Pursuant to Section 35 of the Act, the Bureau shall endeavor to institutionalize consultation with a multisectoral commission tasked to coordinate the plans and efforts of government agencies and non-government organizations in addressing air pollution in an organized and systematic manner.

The Bureau shall study the creation of a multisectoral commission headed by the Secretary of the Department and composed of representatives from the following sectors: (1) government agencies involved in the task of air pollution control and management, (2) civil society, (3) business, (4) and other concerned sectors. The commission shall serve as an oversight body to ensure the systematic and effective management of air quality.

RULE XLVII RECORD-KEEPING, INSPECTION, MONITORING AND ENTRY

Section 1. Required Relevant Reports and Records

The Department through the Bureau or its duly accredited entity shall, after proper consultation and notice, require any person who owns or operates any emissions source or who is subject to any requirement of this Act to: (a) establish and maintain relevant records; (b) make relevant reports; (c) install, use and maintain monitoring equipment or methods; (d) sample emission, in accordance with the methods, locations, intervals and manner prescribed by the Bureau; (e) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical; and (f) provide such other information as the Bureau may reasonably require.

Section 2. Right of Entry, Inspection and Testing

Pursuant to the Act, the Bureau, through its authorized representatives, shall have the right of:

- (a) entry of access to any premises including documents and relevant materials as referred to in the herein preceding paragraph;

- (b) inspect any pollution or waste source, control device, monitoring equipment or method required; and (c) test any emission.

Section 3. Records Available to the Public

Any record, report or information obtained under this Rule shall be made available to the public, except upon a satisfactory showing to the Bureau by the entity concerned that the record, report or information, or parts thereof, if made public, would divulge secret methods or processes entitled to protection as intellectual property. Such record, report or information shall likewise be incorporated in the Bureau's industrial rating system.

RULE XLVIII PUBLIC EDUCATION AND INFORMATION CAMPAIGN

Section 1. Public Education and Information Campaign

A continuing air quality information and education campaign shall be promoted by the Department, the Department of Education, Culture and Sports (DECS), the Department of the Interior and Local Government (DILG), the Department of Agriculture (DA) and the Philippine Information Agency (PIA). Consistent with Section 7 of the Act, such campaign shall encourage the participation of other government agencies and the private sector including NGOs, POs, the academe, environmental groups and other private entities in the formulation and implementation of a multi-sectoral information campaign.

Section 2. Awareness Campaign for Mobile Sources

The enforcement and implementation of emission standards requires the active cooperation of the importers, local assemblers, owners/operators and users of all motor vehicles. To ensure the cooperation of these groups, there is a need for an intensified and sustained awareness raising campaign. Awareness raising will be focused on the transport sector and will concentrate in communicating: (i) the harmful impact of gas emission on general public and workers in the transport sector, (ii) the technological options available to the transport sector to prevent smoke belching; and (iii) the commitment of the government to fully enforce emission standards through strengthening of apprehension activities.

The advertising industry, the broadcasting industry and the print media shall participate and cooperate in the formulation and implementation of public awareness raising campaigns in connection with the emission standards without any profit to claim in connection with their involvement.

PART XII ACTIONS

RULE XLIX ADMINISTRATION AND ENFORCEMENT

Section 1. Administration and Enforcement

These Implementing Rules and Regulations shall be administered by the Department and/or its authorized representatives or through other government agencies designated or deputized by the Department, or by this act, executive orders or memorandum circulars, and others.

Section 2. Rules and Regulations of other Government Agencies

The rules and regulations issued by other government agencies and instrumentalities for the prevention and/or abatement of pollution not consistent with this Act shall supplement the rules and regulations issued by the Department through the Bureau.

Section 3. Authentication with Official Seal

All decisions, orders and appropriate legal documents hereinafter promulgated shall be issued and authenticated with the official seal of the Department or other government agencies designated by this Act.

Section 4. Jurisdiction

The Department through the Bureau shall have exclusive and original jurisdiction to control and abate air pollution from stationary sources within the territorial jurisdiction of the Philippines.

The abatement of public nuisance as defined under the Civil Code of the Philippines and special laws shall not affect or stay the proceedings before the Department or the DOTC as the case may be, provided however, that the Department or the

DOTC as the case may be, may at its discretion, take appropriate steps in the interest of justice and public welfare.

RULE L ADMINISTRATIVE ACTIONS AND PROCEDURES IN AIR POLLUTION CASES INVOLVING STATIONARY SOURCES

Section 1. Administrative Action

Without prejudice to the right of any affected person to file an administrative action, the Department shall, on its own instance or upon verified complaint by any person, institute administrative proceedings against any person who violates:

- (a) Standards of limitation provided under this Act; or
- (b) Any order, rule or regulation issued by the Department with respect to such standard or limitation.

Section 2. The Pollution Adjudication Board

The Pollution Adjudication Board (PAB) shall have sole and exclusive jurisdiction over all cases of air pollution, as defined in these Implementing Rules and Regulations, and all other matters related thereto, including the imposition of administrative sanctions, except as may be provided by law.

The PAB shall adopt and promulgate the rules of practice and procedure in air pollution cases from stationary sources under this Act. Unless otherwise revised or amended, the existing rules of the PAB, PAB Resolution No. 1-C, Series of 1997, shall apply.

Section 3. Closure or Suspension of Development, Construction or Operations of a Stationary Source

In addition to the fines prescribed under the Act and these Implementing Rules and Regulations, the PAB shall order the closure or suspension of development, construction or operation of the stationary sources until such time that proper environmental safeguards are put in place; Provided, That an establishment found liable for a third offense shall suffer permanent closure immediately.

The Order of Closure or suspension is without prejudice to the immediate issuance of an ex parte order by the PAB for such closure, suspension or development or construction, or

cessation of operations during the pendency of the pollution case before the PAB. Said ex parte order shall be based upon prima facie evidence that there is imminent threat to life, public health, safety or general welfare, or to plant or animal life, or whenever there is an exceedance of the emission standards set by the Department and/or the Board or the appropriate LGU.

Section 4. Fine Rating System

The PAB shall prepare a fine rating system to adjust the maximum fine prescribed under Section 45 of the Act based on the violator's ability to pay, degree of willfulness, degree of negligence, history of non-compliance and degree of recalcitrance subject to conditions set forth in the Act. In case of negligence, the first-time offender's ability to pay may likewise be considered by the PAB. In the absence of any extenuating or aggravating circumstances, the amount of fine for negligence shall be equivalent to one-half of the fine for willful violation.

RULE LI ACTIONS, PLEADINGS AND HEARING PROCEDURES FOR MOTOR VEHICLES BEFORE THE LTO

Section 1. Nature and Procedure

Subject to the basic requirements of due process, the proceedings herein provided shall be summary in nature. The technical rules of evidence obtaining in courts of law shall not bind the Traffic Adjudication Service of the LTO. The Rules of Court shall not apply in proceedings before the Board except in a supplementary character and only whenever applicable.

Section 2. Commencement of Action

Actions for any violation of any of the motor vehicle pollution control laws and/or these Implementing Rules and Regulations may be commenced by any person by filing a written complaint, or by the DOTC on its own initiative, or by the filing of a charge by any deputized agent of the DOTC before the hearing officer.

Section 3. Caption and Title

In all cases cognizable by the Traffic Adjudication Service, the full names of all parties, as far as they are known, shall be

stated in the caption of the original pleadings, motion, resolution, order or decision and in all summons, notices and processes to be served upon them.

Section 4. Forms and Contents of Complaints and Charge Sheet

The complaint or charge sheet shall be in writing and drawn in clear and concise language, either in Filipino or in English. It shall recite the ultimate facts constituting the cause(s) of action and/or the violations of the motor vehicle pollution control laws and/or these Implementing Rules and Regulations, as well as all information pertinent thereto. It may specify the relief and such further remedies as may be deemed just and equitable, except that the charge sheet shall already include a notice requiring the Respondent to appear and answer the charge of the date, time and place indicated therein which shall not be less than one (1) day nor more than three (3) days from receipt hereof. In the case of a private complaint, the hearing officer shall set the case for hearing and require the Respondent to appear and answer the complaint on the date, time and place indicated in the notice of hearing which shall not be later than five (5) days from receipt thereof.

Section 5. Filing and Service of Complaint and Charge Sheet

The complaint or charge sheet shall be filed in two (2) copies before the Hearing Officer whose office covers the territorial jurisdiction where the Respondent was apprehended. The charge sheet shall be filed immediately, but not later than twenty-four (24) hours from knowledge of the violation. Service of the copy upon the driver of Respondent, shall be deemed service to Respondent. **Section 6. Hearing on Apprehended Motor Vehicles**

- (a) As soon as the parties enter their appearances and manifest their readiness to proceed with the hearing of the case, the complainant shall be allowed to present evidence in support of the charge with the testimony of each witness taken under oath. Thereafter, the Respondent shall be allowed to present this evidence.
- (b) If the case is commenced by the Secretary or its deputized agent, the hearing shall proceed directly with the presentation of results of the smoke meter or CO/HC tests as the case may be, and other evidence, after which the Respondent shall present his evidence.

In case of doubt, the Hearing Officer shall admit all the evidence presented, subject to the objections interposed, if there be any.

Section 7. Order/Decision

If the Respondent admits the charge, the Hearing Officer shall on that same day, issue an order imposing the appropriate fines and directing the grounding of the apprehended motor vehicle.

If the litigation of the case continues, the Hearing Officer shall decide the same within three (3) days from its submission. Said decision shall become final and executory if no appeal is taken therefrom to the Secretary within fifteen (15) days from notice thereof.

Only upon the presentation of the CEC and the official receipt certifying full payment of fines shall the grounded motor vehicle be released upon a written order duly issued by the Hearing Officer. The Hearing Officer shall then issue another order allowing the said motor vehicle to resume operation.

RULE LII CITIZEN SUIT

Section 1. Purposes

The purposes of this section are to:

- (a) promote the participation of the citizens in the enforcement of the Act
- (b) serve as a prod to government officials to take the necessary and appropriate action to abate and/or control pollution.

Section 2. Scope

The legal actions contemplated under this section are for civil and criminal remedies, the administrative action having been extensively treated in the preceding Rules.

Section 3. Party Defendants

The legal actions shall be against:

- (a) Any private natural or juridical person, including government owned and controlled corporations, who violates or fails to comply with the provisions of this Act;
- (b) Any Government agency which may issue any order or rules inconsistent with this Act. For this purpose, unless the

inconsistency is so blatant as to manifest evident bad faith, the action available under this heading shall only be civil in nature, such as for declaratory relief and/or injunction. The government official who was made a respondent in said civil action shall be sued in his official capacity and shall not be liable for damages.

- (c) Any public officer who willfully or grossly neglects to perform the duties provided for under the Act, or who abuses his authority or in any manner improperly performs his duties under the Act and its Implementing Rules and Regulations.

Section 4. Notice

The government official as well as the person in violation shall be given notice of thirty (30) calendar days to undertake the necessary measures to abate the pollution. This shall be a condition precedent to the filing of a civil or criminal case in court against the polluting establishment and against the government official concerned.

Section 5. Damages

Damages arising from illness, physical injury or damage to property as a result of air pollution may be included in the action filed against the government official concerned and the polluting establishment. In addition, failure to take action within the prescribed 30-day period may also be ground for the initiation of an administrative or criminal action against the government official concerned before the Office of the Ombudsman.

Section 6. Filing Fees

In coordination with the Supreme Court, the citizen suit under this Rule, including actual and moral damages alleged to have resulted from the air pollution, shall be exempt from filing fees and other court fees. The Supreme Court may also waive the payment of the nominal filing fee for actions not capable of pecuniary estimation (e.g., declaratory relief, prohibitory and mandatory injunction, etc). The fees shall however be recorded to enable the Court to collect the appropriate amount recovered by the plaintiff in the event a monetary judgment is rendered in favor of the plaintiff in the citizen suit.

Section 7. Bond

In coordination with the Supreme Court, where there is a prima facie showing by the plaintiff that the defendant establishment's emission is beyond the standards allowed by the law and these Implementing Rules and Regulations, or where there is a showing that the government official concerned has grossly neglected to perform his duty or has abused his authority, the Court shall exempt the plaintiff from the posting of a bond for the issuance of a restraining order or preliminary injunction.

Section 8. Malicious Actions

The Court shall, within thirty (30) days from receipt of the complaint, make a preliminary determination whether the case is malicious and/or baseless. The availability of technical data secured through the monitoring conducted by the Department through the Bureau, if any, or the presence of a photograph showing a visibly opaque emission shall be sufficient evidence to prove that the case is neither malicious nor baseless.

RULE LIII SUITS AND STRATEGIC LEGAL ACTIONS

Section 1. Duty of the Investigating Prosecutor

Where a suit is brought against a person who filed an action under the preceding Rule, or against any person, institution or government agency that implements the Act or these Implementing Rules and Regulations, it shall be the duty of the investigating prosecutor or the court, as the case may be, to immediately make a determination not exceeding thirty (30) days whether said legal action has been filed to harass, vex, exert undue pressure or stifle such legal resources of the person complaining or enforcing the provisions of the Act or these Implementing Rules and Regulations.

Section 2. Action of the Court

Upon determination made under the preceding section, if evidence warrants the same, the court shall dismiss the case and award attorney's fees and double damages.

Section 3. Scope

This Rule shall apply and benefit persons who filed an action under the preceding Rule or Section 41 of the Act and any person, institution or government agency that implements the Act

or these Implementing Rules and Regulations. Further, it shall also apply and benefit public officers who are sued for acts committed in their official capacity, there being no grave abuse of authority, and done in the course of enforcing the Act or these Implementing Rules and Regulations.

PART XIII FINES AND PENALTIES

RULE LIV FINES AND PENALTIES FOR VIOLATION OF STANDARDS FOR STATIONARY SOURCES

Section 1. Fines to Be Imposed

For actual exceedance of any pollution or air quality standards under the Act or these Implementing Rules and Regulations, the PAB shall impose a fine of not more than One Hundred Thousand Pesos (P 100,000.00) for every day of violation against the owner or operator of a stationary source until such time that the standards have been complied with.

The fines herein prescribed shall be increased by at least ten percent (10%) every three (3) years to compensate for inflation and to maintain the deterrent function of the fines.

Section 2. Gross Violation Defined

Gross violations of the Act or these Implementing Rules and Regulations shall mean:

- (a) Three (3) or more specific offenses within a period of one (1) year;
- (b) Three (3) or more specific offenses within three (3) consecutive years;
- (c) Blatant disregard of the orders of the PAB, such as but not limited to the breaking of seals, padlocks and other similar devices, or operating despite the existence of an order for closure, discontinuance or cessation of operation;
- (d) Irreparable or grave damage to the environment as a consequence of any violation or omission of the provisions of the Act or these Implementing Rules and Regulations.

Section 3. Penalties for Gross Violations

In case of gross violations of the Act or these Implementing Rules and Regulations, the PAB shall recommend to the proper government agencies the filing of appropriate

criminal charges against the violators. The PAB shall assist the public prosecutor in the litigation of the case.

Offenders shall be punished with imprisonment of not less than six (6) years but not more than ten (10) years at the discretion of the court. If the offender is a juridical person, the president, manager, directors, trustees, the pollution control officer or officials directly in charge of the operations shall suffer the penalty herein provided.

Section 4. Lien Upon Personal and Immovable Property

Fines and penalties imposed pursuant to the Act or these Implementing Rules and Regulations shall be liens upon personal and immovable properties of the violator. Such lien shall, in case of insolvency of the respondent violator, enjoy preference subsequent to laborer's wages under Article 2241 and 2242 of Republic Act No. 386, otherwise known as the New Civil Code of the Philippines.

RULE LV FINES AND PENALTIES FOR VIOLATION OF STANDARDS FOR MOTOR VEHICLES

Section 1. Fines and Penalties for Violation of Vehicle Emission Standards

The driver and operator of the apprehended vehicle found to have exceeded the emission standards shall suffer the following penalties.

- (a) First offense – a fine in the amount of one thousand pesos (P 1,000.00);
- (b) Second offense – a fine in the amount of three thousand pesos (P 3,000.00); and
- (c) Third offense – a fine in the amount of five thousand pesos (P 5,000.00) and the offender must undergo a seminar on pollution control and management conducted by the DOTC/LTO.

In case the third offense was committed within a year from the commission of the first offense, an additional penalty of suspension of the Motor Vehicle Registration (MVR) for a period of one (1) year shall be imposed.

Section 2. Fines for Violation of the Provisions of Section 21(d) of the Act

Any violation of the provisions of Section 21 paragraph (d) with regard to national inspection and maintenance program, including technicians and facility compliance shall be penalized with a fine of not less than thirty thousand pesos (P 30,000.00) or cancellation of license of both the technician and the center, or both, as determined by the DOTC.

RULE LVI FINES AND PENALTIES FOR VIOLATIONS OF OTHER PROVISIONS OF THE CLEAN AIR ACT

Section 1. Fines and Penalties for Violations of Other Provisions in the Act

For violations of all other provisions provided in the Act and these Implementing Rules and Regulations, fine of not less than Ten Thousand Pesos (P 10,000.00) but not more than One Hundred Thousand Pesos (P 100,000.00) or six (6) years imprisonment or both shall be imposed.

If the offender is a juridical person, the president, manager, directors, trustees, the pollution control officer or officials directly in charge of the operations shall suffer the penalty herein provided.

Section 2. Burning of Municipal Waste

Any person who burns municipal waste in violation of Sections 1 and 3 of Rule XXV shall be punished with two (2) years and one (1) day to four (4) years imprisonment.

Section 3. Burning of Hazardous Substances and Wastes

Any person who burns hazardous substances and wastes in violation of Section 1 of Rule XXV shall be punished with four (4) years and one (1) day to six (6) years imprisonment.

Section 4. Burning of Bio-Medical Waste.

Any person who burns bio-medical waste in violation of Section 4 of Rule XXV shall be punished with four (4) years and one (1) to six (6) years imprisonment.

Section 5. Smoking in Public Places

Any person who smokes inside a public building or an enclosed public place, including public utility vehicles or other means of public transport or in any enclosed area outside of his private residence, private place of work or any duly designated smoking area shall be punished with six (6) months and one (1) day to one (1) year imprisonment or a fine of ten thousand pesos (P 10,000.00).

Section 6. Manufacture, Importation, Sale, Offer for Sale, Introduction into Commerce, Conveyance or other Disposition of Leaded Gasoline.

Any person who manufactures, imports, sells, offers for sale, introduces into commerce, conveys or otherwise disposes of, in any manner leaded gasoline shall be punished with three (3) years and one (1) day to five (5) years imprisonment and liable for the appropriate fine as provided in Section 1.

Section 7. Manufacture, Importation, Sale, Offer for Sale, Introduction into Commerce, Conveyance or other Disposition of Engines and/or Engine Components Requiring Leaded Gasoline.

Any person who manufactures, imports, sells, offers for sale, introduces into commerce, conveys or otherwise disposes of, in any manner engines and/or engine components which require the use of leaded gasoline shall be punished with three (3) years and one (1) day to five (5) years imprisonment and liable for the appropriate fine as provided in Section 1.

Section 8. Manufacture, Importation, Sale, Offer for Sale, Dispensation, Transportation or Introduction into Commerce of Unleaded Gasoline Fuel which do not Meet the Fuel Specifications.

Any person who manufactures, sells, offers for sale, dispenses, transports or introduces into commerce unleaded premium gasoline fuel in violation of Section 3 of Rule XXXI or which do not meet the fuel specifications as revised by the DOE shall be punished with three (3) years and one (1) day to five (5) years imprisonment and liable for the appropriate fine as provided in Section 1.

Section 9. Manufacture, Importation, Sale, Offer for Sale, Dispensation, Transportation or Introduction into Commerce of Automotive Diesel Fuel which do not Meet the Fuel Specifications.

Any person who manufactures, sells, offers for sale, dispenses, transports or introduces into commerce automotive diesel fuel in violation of Section 3 of Rule XXXI or which do not meet the fuel specifications as revised by the DOE shall be punished with three (3) years and one (1) day to five (5) years imprisonment and liable for the appropriate fine as provided in Section 1.

Section 10. Manufacture, Importation, Sale, Offer for Sale, Dispensation, Transportation or Introduction into Commerce of Industrial Diesel Fuel which do not Meet the Fuel Specifications.

Any person who manufactures, sells, offers for sale, dispenses, transports or introduces into commerce industrial diesel fuel in violation of Section 3 of Rule XXXI or which do not meet the fuel specifications as revised by the DOE shall be punished with three (3) years and one (1) day to five (5) years imprisonment and liable for the appropriate fine as provided in Section 1.

Section 11. Manufacture, Processing, Trade of Fuel or Fuel Additive Without Prior Registration of the Fuel or Fuel Additive with the DOE.

Any person who manufactures, processes, or engages in the trade of any fuel or fuel additive without having the fuel or fuel additive registered with the DOE shall be punished with two (2) years and one (1) day to four (4) years of imprisonment and liable for the appropriate fine as provided in Section 1.

Section 12. Misfuelling.

Misfuelling refers to the act of introducing or causing or allowing the introduction of leaded gasoline into any motor vehicle equipped with a gasoline tank filler inlet and labeled "unleaded gasoline only."

Any person who misfuels shall be punished with one (1) year and one (1) day to three (3) years imprisonment or a fine of twenty thousand pesos (P 20,000.00).

PART XIV FINAL PROVISIONS

RULE LVII SEPARABILITY CLAUSE

Should any provision herein be subsequently declared unconstitutional, the same shall not affect the validity or the legality of the other provisions.

RULE LVIII REPEALING AND AMENDING CLAUSE

Department Administrative Order No. 2000-03 and all orders, rules and regulations inconsistent with or contrary to the provisions of these Implementing Rules and Regulations are hereby repealed or modified accordingly.

RULE LIX EFFECTIVITY

These Implementing Rules and Regulations shall take effect fifteen (15) days from the date of its publication in the *Official Gazette* or in at least two (2) newspapers of general circulation.

Approved : **07 November 2000.**

(Sgd.) ANTONIO H. CERILLES

Secretary

Prepared and Recommended for Approval by:

The Environmental Management Bureau
and

The Inter-Agency Technical Committee for the IRR of the Clean
Air Act of 1999

(Sgd.) PETER ANTHONY A. ABAYA

Director, EMB

Chairman, Inter-Agency Technical Committee

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Republic of the Philippines
Congress of the Philippines
Metro Manila

Eighth Congress

Republic Act No. 6969 October 26, 1990

**AN ACT TO CONTROL TOXIC SUBSTANCES AND HAZARDOUS AND NUCLEAR WASTES,
PROVIDING PENALTIES FOR VIOLATIONS THEREOF, AND FOR OTHER PURPOSES**

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

Section 1. Short title. – This Act shall be known as the "**Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990.**"

Section 2. Declaration of Policy. – It is the policy of the State to regulate, restrict or prohibit the importation, manufacture, processing, sale, distribution, use and disposal of chemical substances and mixtures that present unreasonable risk and/or injury to health or the environment; to prohibit the entry, even in transit, of hazardous and nuclear wastes and their disposal into the Philippine territorial limits for whatever purpose; and to provide advancement and facilitate research and studies on toxic chemicals.

Section 3. Scope. – This Act shall cover the importation, manufacture, processing, handling, storage, transportation, sale, distribution, use and disposal of all unregulated chemical substances and mixtures in the Philippines, including the entry, even in transit as well as the keeping or storage and disposal of hazardous and nuclear wastes into the country for whatever purpose.

Section 4. Objectives. – The objectives of this Act are:

- a) To keep an inventory of chemicals that are presently being imported, manufactured, or used, indicating, among others, their existing and possible uses, test data, names of firms manufacturing or using them, and such other information as may be considered relevant to the protection of health and the environment;
- b) To monitor and regulate the importation, manufacture, processing, handling, storage, transportation, sale, distribution, use and disposal of chemical substances and mixtures that present unreasonable risk or injury to health or to the environment in accordance with national policies and international commitments;
- c) To inform and educate the populace regarding the hazards and risks attendant to the manufacture, handling, storage, transportation, processing, distribution, use and disposal of toxic chemicals and other substances and mixture; and
- d) To prevent the entry, even in transit, as well as the keeping or storage and disposal of hazardous and nuclear wastes into the country for whatever purpose.

Section 5. Definition. – As used in this Act:

a) Chemical substance means any organic or inorganic substance of a particular molecular identity, including:

i) Any combination of such substances occurring in whole or in part as a result of chemical reaction or occurring in nature; and

ii) Any element or uncombined chemical.

b) Chemical mixture means any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in part, the result of a chemical reaction, if none of the chemical substances comprising the combination is a new chemical substance and if the combination could have been manufactured for commercial purposes without a chemical reaction at the time the chemical substances comprising the combination were combined. This shall include non-biodegradable mixtures.

c) Process means the preparation of a chemical substance or mixture after its manufacture for commercial distribution:

i) In the same form or physical state or in a different form or physical state from that which it was received by the person so preparing such substance or mixture; or

ii) As part of an article containing a chemical substance or mixture.

d) Importation means the entry of a products or substances into the Philippines (through the seaports or airports of entry) after having been properly cleared through or still remaining under customs control, the product or substance of which is intended for direct consumption, merchandising, warehousing, or for further processing.

e) Manufacture means the mechanical or chemical transformation of substances into new products whether work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold at wholesale or retail.

f) Unreasonable risk means expected frequency of undesirable effects or adverse responses arising from a given exposure to a substance.

g) Hazardous substances are substances which present either:

1) short-term acute hazards, such as acute toxicity by ingestion, inhalation or skin absorption, corrosivity or other skin or eye contact hazards or the risk of fire or explosion; or

2) long-term environmental hazards, including chronic toxicity upon repeated exposure, carcinogenicity (which may in some cases result from acute exposure but with a long latent period), resistance to detoxification process such as biodegradation, the potential to pollute underground or surface waters, or aesthetically objectionable properties such as offensive odours.

h) Hazardous wastes are hereby defined as substances that are without any safe commercial, industrial, agricultural or economic usage and are shipped, transported or brought from the country of origin for dumping or disposal into or in transit through any part of the territory of the Philippines.

Hazardous wastes shall also refer to by-products, side-products, process residues, spent reaction media, contaminated plant or equipment or other substances from manufacturing operations, and as consumer discards of manufacture products.

i) Nuclear wastes are hazardous wastes made radioactive by exposure to the radiation incidental to the production or utilization of nuclear fuels but does not include nuclear fuel, or radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial, or industrial purpose.

Section 6. Function, Powers and Responsibilities of the Department of Environment and Natural Resources. – The Department of Environment and Natural Resources shall be the implementing agency tasked with the following functions, powers, and responsibilities:

a) To keep an updated inventory of chemicals that are presently being manufactured or used, indicating, among others, their existing and possible uses, quality, test data, names of firms manufacturing or using them, and such other information as the Secretary may consider relevant to the protection of health and the environment;

b) To require chemical substances and mixtures that present unreasonable risk or injury to health or to the environment to be tested before they are manufactured or imported for the first time;

c) To require chemical substances and mixtures which are presently being manufactured or processed to be tested if there is a reason to believe that they pose unreasonable risk or injury to health or the environment;

d) To evaluate the characteristics of chemicals that have been tested to determine their toxicity and the extent of their effects on health and the environment;

e) To enter into contracts and make grants for research, development, and monitoring of chemical substances and mixtures;

f) To conduct inspection of any establishment in which chemicals are manufactured, processed, stored or held before or after their commercial distribution and to make recommendations to the proper authorities concerned;

g) To confiscate or impound chemicals found not falling within said acts cannot be enjoined except after the chemicals have been impounded;

h) To monitor and prevent the entry, even in transit, of hazardous and nuclear wastes and their disposal into the country;

i) To subpoena witnesses and documents and to require other information if necessary to carry out the provisions of this Act;

j) To call on any department, bureau, office, agency, state university or college, and other instrumentalities of the Government for assistance in the form of personnel, facilities, and other resources as the need arises in the discharge of its functions;

k) To disseminate information and conduct educational awareness campaigns on the effects of chemical substances, mixtures and wastes on health and environment; and

l) To exercise such powers and perform such other functions as may be necessary to carry out its duties and responsibilities under this Act.

Section 7. *Inter-Agency Technical Advisory Council.* – There is hereby created an Inter-Agency Technical Advisory Council attached to the Department of Environment and Natural Resources which shall be composed of the following officials or their duly authorized representatives:

Secretary of Environment and Natural Resources	Chairman
Secretary of Health	Member
Director of the Philippine Nuclear Research Institute	Member
Secretary of Trade and Industry	Member
Secretary of Science and Technology	Member
Secretary of National Defense	Member
Secretary of Foreign Affairs	Member
Secretary of Labour and Employment	Member
Secretary of Finance	Member
Secretary of Agriculture	Member
Representative from a non-governmental organization on health and safety	Member

The representative from the non-governmental organization shall be appointed by the President for a term of three (3) years.

The Council shall have the following functions:

- a) To assist the Department of Environment and Natural Resources in the formulation of the pertinent rules and regulations for the effective implementation of this Act;
- b) To assist the Department of Environment and Natural Resources in the preparation and updating of the inventory of chemical substances and mixtures that fall within the coverage of this Act;
- c) To conduct preliminary evaluation of the characteristics of chemical substances and mixtures to determine their toxicity and effects on health and the environment and make the necessary recommendations to the Department of Environment and Natural Resources; and
- d) To perform such other functions as the Secretary of Environment and Natural Resources may, from time to time, require.

Section 8. *Pre-Manufacture and Pre-Importation Requirements.* – Before any new chemical substance or mixture can be manufactured, processed or imported for the first time as determined by the Department of Environment and Natural Resources, the manufacturer, processor or importer shall submit the following information: the name of the chemical substance or mixture; its chemical identity and molecular structure; proposed categories of use; an estimate of the amount to be manufactured, processed or imported; processing and disposal thereof; and any test data related to health and environmental effects which the manufacturer, processor or importer has.

Section 9. *Chemicals Subject to Testing.* – Testing shall be required in all cases where:

- a) There is a reason to believe that the chemical substances or mixture may present an unreasonable risk to health or the environment or there may be substantial human or environmental exposure thereto;

- b) There are insufficient data and experience for determining or predicting the health and environmental effects of the chemical substance or mixture; and
- c) The testing of the chemical substance or mixture is necessary to develop such data.

The manufacturers, processors or importers shall shoulder the costs of testing the chemical substance or mixture that will be manufactured, processed, or imported.

Section 10. Action by the Secretary of Environment and Natural Resources of his Duly Authorized Representative. – The Secretary of Environment and Natural Resources or his duly authorized representative shall, within ninety (90) days from the date of filing of the notice of manufacture, processing or importation of a chemical substance or mixture, decide whether or not to regulate or prohibit its importation, manufacture, processing, sale, distribution, use or disposal. The Secretary may, for justifiable reasons, extend the ninety-day pre-manufacture period within a reasonable time.

Section 11. Chemical Substances Exempt from Pre-Manufacture Notification. – The manufacture of the following chemical substances or mixtures shall be exempt from pre-manufacture notification:

- a) Those included in the categories of chemical substances and mixtures already listed in the inventory of existing chemicals;
- b) Those to be produced in small quantities solely for experimental or research and developmental purposes;
- c) Chemical substances and mixtures that will not present an unreasonable risk to health and the environment; and
- d) Chemical substances and mixtures that exist temporarily and which have no human or environmental exposure such as those which exist as a result of chemical reaction in the manufacture or processing of a mixture of another chemical substance.

Section 12. Public Access to Records, Reports or Notification. – The public shall have access to records, reports, or information concerning chemical substances and mixtures including safety data submitted, data on emission or discharge into the environment, and such documents shall be available for inspection or reproduction during normal business hours except that the Department of Environment and Natural resources may consider a record, report or information or particular portions thereof confidential and may not be made public when such would divulge trade secrets, production or sales figures or methods, production or processes unique to such manufacturer, processor or distributor, or would otherwise tend to affect adversely the competitive position of such manufacturer, processor or distributor. The Department of Environment and Natural Resources, however, may release information subject to claim of confidentiality to a medical research or scientific institution where the information is needed for the purpose of medical diagnosis or treatment of a person exposed to the chemical substance or mixture.

Section 13. Prohibited Acts. – The following acts and omissions shall be considered unlawful:

- a) Knowingly use a chemical substance or mixture which is imported, manufactured, processed or distributed in violation of this Act or implementing rules and regulations or orders;

b) Failure or refusal to submit reports, notices or other information, access to records, as required by this Act, or permit inspection of establishment where chemicals are manufactured, processed, stored or otherwise held;

c) Failure or refusal to comply with the pre-manufacture and pre-importation requirements; and

d) Cause, aid or facilitate, directly or indirectly, in the storage, importation, or bringing into Philippines territory, including its maritime economic zones, even in transit, either by means of land, air or sea transportation or otherwise keeping in storage any amount of hazardous and nuclear wastes in any part of the Philippines.

Section 14. *Criminal Offenses and Penalties.* –

a) (i) The penalty of imprisonment of six (6) months and one day to six (6) years and one day and a fine ranging from Six hundred pesos (P600.00) to Four thousand pesos (P4,000.00) shall be imposed upon any person who shall violate section 13 (a) to (c) of this Act and shall not be covered by the Probation Law. f the offender is a foreigner, he or she shall be deported and barred from any subsequent entry into the Philippines after serving his or her sentence;

ii) In case any violation of this Act is committed by a partnership, corporation, association or any juridical person, the partner, president, director or manager who shall consent to or shall knowingly tolerate such violation shall be directly liable and responsible for the act of the employee and shall be criminally liable as a co-principal;

(iii) In case the offender is a government official or employee, he or she shall, in addition to the above penalties, be deemed automatically dismissed from office and permanently disqualified from holding any elective or appointive position.

b) (i) The penalty of imprisonment of twelve (12) years and one day to twenty (20) years, shall be imposed upon any person who shall violate section 13 (d) of this Act. f the offender is a foreigner, he or she shall be deported and barred from any subsequent entry into the Philippines after serving his or her sentence;

(ii) In the case of corporations or other associations, the above penalty shall be imposed upon the managing partner, president or chief executive in addition to an exemplary damage of at least Five hundred thousand pesos (P500,000.00). f it is a foreign firm, the director and all officers of such foreign firm shall be barred from entry into the Philippines, in addition to the cancellation of its license to do business in the Philippines;

(iii) In case the offender is a government official or employee, he or she in addition to the above penalties be deemed automatically dismissed from office and permanently disqualified from holding any elective or appointive position.

c) Every penalty imposed for the unlawful importation, entry, transport, manufacture, processing, sale or distribution of chemical substances or mixtures into or within the Philippines shall carry with it the confiscation and forfeiture in favor of the Government of the proceeds of the unlawful act and instruments, tools or other improvements including vehicles, sea vessels, and aircrafts used in or with which the offense was committed. Chemical substances so confiscated and forfeited by the Government at its option shall be turned over to the Department of Environment and Natural resources for safekeeping and proper disposal.

d) The person or firm responsible or connected with the bringing or importation into the country of hazardous or nuclear wastes shall be under obligation to transport or send back said prohibited wastes;

Any and all means of transportation, including all facilities and appurtenances that may have been used in transporting to or in the storage in the Philippines of any significant amount of hazardous or nuclear wastes shall at the option of the government be forfeited in its favour.

Section 15. *Administrative Fines.* – In all cases of violations of this Act, including violations of implementing rules and regulations which have been duly promulgated and published in accordance with Section 16 of this Act, the Secretary of Environment and Natural Resources is hereby authorized to impose a fine of not less than Ten thousand pesos (P10,000.00), but not more than Fifty thousand pesos (P50,000.00) upon any person or entity found guilty thereof. The administrative fines imposed and collected by the Department of Environment and Natural Resources shall accrue to a special fund to be administered by the Department exclusively for projects and research activities relative to toxic substances and mixtures.

Section 16. *Promulgation of Rules and Regulations.* – The Department of Environment and Natural Resources, in coordination with the member agencies of the Inter-Agency Technical Advisory Council, shall prepare and publish the rules and regulations implementing this Act within six months from the date of its effectivity.

Section 17. *Appropriations.* – Such amount as may be necessary to implement the provisions of this Act is hereby annually appropriated and included in the budget of the Department of Environment and Natural Resources.

Section 18. *Separability Clause.* – If any provision of this Act is declared void or unconstitutional, the remaining provisions thereof not affected thereby shall remain in full force and effect.

Section 19. *Repealing Clause.* – All laws, presidential decrees, executive orders and issuances, and rules and regulations which are inconsistent with this Act are hereby repealed or modified accordingly.

Section 20. *Effectivity.* – This Act shall take effect after fifteen (15) days following its publication in the Official Gazette or in any newspaper of general circulation.

Approved: **October 26, 1990**

**DENR Administrative Order
No. 29
Series 1992**

Subject : Implementing Rules And Regulations of Republic Act 6969

Pursuant to provisions of Section 16, Republic Act 6969, otherwise known as "Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990", the Department of Environment and Natural Resources hereby adopts and promulgates the following Rules and Regulations:

Title I. General Provisions And Administrative Procedures

**Chapter I
General Provisions**

Section 1. Title. These Rules and Regulations shall be known as the Implementing Rules and Regulations of Republic Act 6969.

Section 2. Declaration of Policy. It is the policy of the State to regulate, restrict or prohibit the importation, manufacture, processing, sale, distribution, use and disposal of chemical substances and mixtures that present unreasonable risk and/or injury to health or the environment; to prohibit the entry, even in transit, of hazardous and nuclear wastes and their disposal into Philippine territorial limits for whatever purpose; and to provide advancement and facilitate research and studies on toxic chemicals and hazardous and nuclear wastes.

Section 3. Scope. These Rules and Regulations shall cover the importation, manufacture, processing, handling, storage, transportation, sale, distribution, use and disposal of all unregulated chemical substances and mixtures in the Philippines including the entry, even in transit, as well as the keeping or storage and disposal of hazardous and nuclear wastes into the country for whatever purpose.

Section 4. Construction. These Rules and Regulations shall be liberally construed to carry out the national policy to regulate, restrict or prohibit the importation, manufacture, processing, sale, distribution, use and disposal of chemical substance and mixtures that present unreasonable risk and/or injury to health or the environment; to prohibit the entry, even in transit, of hazardous and nuclear wastes and their disposal into the Philippine territorial limits for whatever purpose and to provide advancement and facilitate research and studies on toxic chemicals and hazardous and nuclear wastes.

Section 5. Administrative And Enforcement. These Rules and Regulations shall be administered by the Secretary or his duly authorized representative or through any other department, bureau, office, agency, state university or college and other instrumentalities of the government for assistance in the form of personnel, facilities and other resources as the need arises in the discharge of its functions.

Section 6. Definitions. The following words and phrases when used in these Rules and Regulations shall, unless the context clearly indicates otherwise, have the following meanings:

1. **"CAS"** means Chemical Abstracts Service, a uniquely identifying number of adopted internationally which permits one to generate toxicological information from a computer base.
2. **"Chemical Substance"** means any organic or inorganic substance of a particular molecular identity excluding radioactive materials and includes – any element or uncombined chemical; and any combination of such substances; or any mixture of two or more chemical substances.
3. **"Chemical mixture"** means any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in the past, the result of chemical reaction, if none of the chemical substances and if the combination could have been manufactured for commercial purposes without a chemical reaction

at the time the chemical substances comprising the combination were combined. This shall include nonbiodegradable mixtures.

4. **"Department"** means the Department of Environment and Natural Resources.
5. **"Environmental Protection Officer"** means an officer appointed or deputized by the Secretary to execute the provisions of these Rules and Regulations subject to conditions, limitations or restrictions as prescribed by the Secretary.
6. **"Hazardous substances"** are substances which present either:
 - a. short-term acute hazards such as acute toxicity by ingestion, inhalation or skin absorption, corrosivity or other skin or eye contact hazard or the risk of fire or explosion;
 - b. long-term environmental hazards, including chronic toxicity upon repeated exposure, carcinogenicity (which may in some case result from acute exposure but with a long latent period, resistance to detoxification process such as biodegradation, the potential to pollute underground or surface waters, or aesthetically objectionable properties such as offensive odors.
7. **"Hazardous wastes"** are substances that are without any safe commercial, industrial, agricultural or economic usage and are shipped, transported or brought from the country of origin for dumping or disposal into or in transit through any part of the territory of the Philippines.

"Hazardous wastes" shall also refer to by-products, side-products, process residues, spent reaction media, contaminated plant or equipment or other substances from manufacturing operations and as consumer discards of manufactured products which present unreasonable risk and/or injury to health and safety and to the environment.

8. **Importation** means the entry of a product or substance into the Philippines (through the seaports or airports of entry) after having been properly cleared through or still remaining under customs control, the product or substance of which is intended for direct consumption, merchandising, warehousing, for further processing.
9. **"Inert waste"** means any waste that, when placed in a landfill is reasonably expected not to undergo any physical, chemical, and/or biological changes to such an extent as to cause pollution or hazard to public health and safety.
10. **"New Chemicals"** means any chemical substance imported into or manufactured in the country after December 31, 1993 and which are not included in the Philippine Inventory of Chemicals and Chemical Substances as published by the Department.
11. Nuclear wastes are hazardous wastes made radioactive by exposure to the radiation incidental to the production or utilization of nuclear fuels but does not include nuclear fuel, or radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial, or industrial purpose.
12. **Manufacture** means the mechanical or chemical transformation of substances into new products whether work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold at wholesale or retail.
13. **"Occupier"** is one who must have a license to accept, produce, generate, store, treat, recycle, reprocess, process, manufacture or dispose of hazardous waste.
14. **"Permit"** means a legal authorization to engage in or conduct any or all of the following activities for:
 - a. **Toxic chemicals** – importation, storage, manufacture, processing, selling, transport and disposal
 - b. **Hazardous wastes** – storage, treatment, transport, export, processing, reprocessing, recycling and disposal
 - c. **Hazardous materials** – importation or exportation
15. **"Person"** or **"persons"** includes any being, natural or juridical, susceptible of rights and obligations or of being the subject of legal relations.

16. **"Pollution"** means any alteration of the physical, chemical, biological properties of any water, air and/or land resource of the Philippines, or any discharge thereto of any liquid, gaseous or solid waste, or any production of unnecessary noise, or any emission of objectionable odor, as will or is likely to create or to render such water, air and/or land resources harmful, detrimental or injurious to public health, safety or welfare, or which will adversely affect their utilization for domestic, industrial, agricultural, recreational or other legitimate purposes.
17. **"Premises"** shall include but not limited to:
 - a. building or part of a building;
 - b. a tent, stall or other structure whether permanent or temporary;
 - c. land;
 - d. vehicle;
 - e. boat or ship
18. **Process** means the preparation of a chemical substance or mixture after its manufacture for commercial distribution:
 - i. In the same form or physical state or in a different form or physical state from that which it was received by the person so preparing such substance or mixture; or
 - ii. As part of an article containing a chemical substance or mixture.
19. **"Secretary"** means the Secretary of the Department of Environment and Natural Resources.
20. **"Transport"** includes conveyance by air, water and land.
21. **"Waste generator"** means a person who generates or produces, through any commercial, industrial or trade activities, hazardous wastes.
22. **"Wastewater transporter"** means a person who is licensed to treat, store, recycle, or dispose of hazardous wastes.
23. **"Waste treater"** means a person who is licensed to treat, store, recycle, or dispose of hazardous wastes.
24. **"Unreasonable risk"** means expected high frequency of undesirable effects or adverse responses arising from a given exposure to a substance.

Chapter II **Administrative Provision**

Section 7. Powers and Functions Of The Department Of Environment And Natural Resources. The Department of Environment and Natural Resources shall be tasked with the following functions, powers and responsibilities:

- a. To keep an updated inventory of chemicals that are presently being manufactured or used, indicating among others, their existing and possible uses, quantity, test data, names of firms manufacturing or using them, and such other information as the Secretary may consider relevant to the protection of health and the environment;
- b. To require chemical substances and mixtures that present unreasonable risk or injury to health or to the environment to be tested before they are manufactured or imported for the first time;
- c. To require chemical substances and mixtures which are presently being manufactured or processed to be tested if there is reason to believe that they pose unreasonable risk or injury to health and the environment;
- d. To evaluate the characteristics of chemicals that have been tested to determine their toxicity and the extent of their effects on health and the environment;
- e. To enter into contracts and make grants for research, development and monitoring of chemical substances and mixtures;

- f. To conduct inspection of any establishment in which chemicals are manufactured, processed, stored or held before or after their commercial distribution and to make recommendations to the proper authorities concerned;
- g. To confiscate or impound chemicals found not falling within the standards set by these Rules and Regulations and the said acts cannot be enjoined except after the chemicals have been impounded;
- h. To monitor and prevent the entry, even in transit, of hazardous and nuclear wastes and their disposal into the country;
- i. To subpoena witnesses and documents and to require other information if necessary to carry out the provisions of this Act;
- j. To call on any department, bureau, office, agency, state university or college, and other instrumentalities of the Government for assistance in the form of personnel, facilities and other resources as the need arises in the discharge of its functions;
- k. To disseminate information and conduct educational awareness campaign on the effects of chemical substances, mixtures and wastes on health and environment; and
- l. To exercise such powers and perform such other functions as may be necessary to carry out its duties and responsibilities under RA 6969.

Section 8. *Delegation Of Powers And Functions Of The Secretary*

1. The Secretary may appoint and/or deputize officers subject to conditions, limitations or restrictions as may be prescribed by him.
2. The Secretary may delegate his powers to:
 - a. conduct inspection of any establishment in which chemicals are manufactured, processed, stored or held before or after their commercial distribution and to make recommendations to the proper authorities concerned;
 - b. conduct inspection of any premises in which hazardous wastes are being generated, stored, processed, reprocessed, recycled, treated and/or disposed of and to make recommendations to the proper authorities;
 - c. stop, detain, inspect, examine and remove to some suitable place for inspection and examination any vehicle or boat that is believed to be or likely to be used for the transport of chemical substances and hazardous and nuclear wastes subject to pertinent provisions of these Rules and Regulations;
 - d. monitor and prevent the entry, even in transit, of hazardous and nuclear wastes and their disposal into the country;
 - e. subpoena witnesses and documents and to require other information if necessary to carry out the provisions of these Rules and Regulations.
3. The Secretary may, by notice, amend or revoke the:
 - a. delegated authorities previously granted under Section 8(2) of these Rules and Regulations; and
 - b. appointed of an Environmental Protection Officer.

Section 9. *Duties And Responsibilities Of An Environmental Protection Officer.*

An Environmental Protection Officer shall have the following duties and responsibilities:

- a. To make such examination or inquiry as is necessary to determine whether these Rules and Regulations are being complied with.
- b. To enter any premises in which he reasonable believes that chemical substance or hazardous waste are being used, manufactured, stored, processed, reprocessed, generated, treated, transported or disposed of and may –
 - i. without payment take or require the occupier or person in charge of the premises or person in possession of any chemical substance to give the Environmental Protection Officer samples of the chemical substance for examination and testing subject to pertinent provisions of these Rules and Regulations.
 - ii. require the production of any relevant documents and inspect, examine and make copies of or extracts from them or remove them to make a copy of extract; and

- iii. take such photographs or audio or visual recordings as he considers necessary.
- c. To stop, detain, inspect, examine and remove to some suitable place for inspection and examination any vehicle or boat that he believes is being or likely to be used for the transport of chemical substances and hazardous wastes without the necessary permit from the Department.
- d. To require a person found committing an offense under these Rules and Regulations to state the person's full name and address.
- e. To exercise such other duties and responsibilities as may be authorized by the Secretary.

Section 10. Confiscation, Impoundment And Imposition Of Administrative Fines. Upon receipt of a report from a duly authorized inspector or upon a verified complaint from a private person, the Secretary or his duly authorized representative shall order an investigation or inquiry in such a manner as he may determine on the alleged violation of any of the provision of RA 6969 and these Rules and Regulations. If after investigation there appears to be a violation of any of the provisions of RA 6969 or these Rules and Regulations, the Secretary or his duly authorized representative shall issue summons informing respondent/s of nature of charges against him and requiring the said respondent or respondents to appear before him or his duly designated representative for a conference for the purpose of determining whether an Order for confiscation or impoundment or fine should be issued.

Section 11. Ex-Parte Order Of Confiscation Or Impoundment. Whenever the Secretary or his duly authorized representative finds a prima facie evidence that the violation presents unreasonable risk and/or injury to health or the environment, the Secretary or his duly authorized representative may issue an Ex-Parte Order of confiscation or impoundment, provided that the respondent files his Motion for Reconsideration within ten (10) days from date of confiscation or impoundment which Motion for Reconsideration shall be resolved within fifteen (15) days from receipt of the same.

Chapter III **Inter-Agency Technical Advisory Council**

Section 12. Composition Of The Inter-Agency Technical Advisory Council. The interagency Technical Advisory Council shall be composed of the following officials or their duly authorized representatives:

Secretary of Environment and Natural Resources	Chairman
Secretary of Health	Member
Secretary of Trade and Industry	Member
Secretary of Science and Technology	Member
Secretary of National Defense	Member
Secretary of Foreign Affairs	Member
Secretary of Labor and Employment	Member
Secretary of Finance	Member
Secretary of Agriculture	Member
Secretary of Philippine Nuclear Research Institute	Member
Representative from non-governmental organizations On health and safety	Member

The representative from the non-governmental organization shall be appointed by the President for a term of three (3) years.

Section 13. *Functions Of The Council.* The Council shall have the following functions:

- a. To assist the Department in the formulation of these rules and regulations for the effective implementation of RA 6969;
- b. To assist the Department in the preparation and updating of the inventory of chemical substances and mixtures that fall within the coverage of RA 6969;
- c. To conduct preliminary evaluation of the characteristics of chemical substances and mixtures to determine their toxicity and effects on health and the environment and make the necessary recommendations to the Department; and
- d. To perform such other functions as the Secretary may, from time to time, require.

Title II. Toxic Chemical Substances

Chapter IV Inventory of Chemical Substances

Section 14. *Chemical Substances Inventory* ([click for the Annual Chemicals Inventory Checklist Form](#))

1. The Secretary or his duly authorized representative shall cause the keeping, updating, compilation and maintenance of an inventory of chemical substances which are stored, imported, exported, used, processed, manufactured or transported.
2. The inventory shall contain such information that the Secretary or his duly authorized representative considers to be relevant to the protection of health and the environment.
3. The Secretary or his duly authorized representative shall cause the release of an updated listing of the inventory comprising the chemical substance's name and its CAS number.

Section 15. *Pre-manufacturing And Pre-Importation Data Requirements* ([click for the PMPIN Abbreviated Form](#))

1. The desired information for a nomination of a chemical substance under Section 16 and the required information for a notification of a chemical substance under Section 17 shall comprise –
 - a. its proper chemical name;
 - b. its trade name or names;
 - c. its chemical and molecular structure;
 - d. its CAS number;
 - e. its RTECS number (if available)
 - f. its United Nations number (if applicable)
 - g. its United Nations class and subsidiary risk category (if applicable);
 - h. the following physical characteristics (if applicable) –
 - i. boiling point;
 - ii. melting point;
 - iii. specific gravity;
 - iv. vapor pressure;
 - v. appearance;
 - vi. odor;
 - vii. purity; and
 - viii. water/octanol partition coefficient;
 - i. the following chemical properties (if applicable)
 - i. solubility in water; and
 - ii. solubility in an organic solvent;
 - j. the following toxicological data (if applicable) –
 - i. measured lethal dose (median) in two species;

- ii. measured lethal concentration (median) in two species;
 - iii. results of an irritation test on the skin and eyes of species;
 - iv. results of a short-term sub-lethal toxicity test on one species
- k. any recommended time weighted exposure average (eight hour working day);
 - l. its flash point measured under close cup conditions;
 - m. its upper and lower explosive limits (if applicable);
 - n. its known stability and incompatibilities;
 - o. its carcinogenic, teratogenic and mutagenic properties;
 - p. the name and address of the nominating person; and
 - q. the anticipated volume in cubic meters or weight in tones, per annum of the chemical substance being used, stored, manufactured, processed, offered for sale or sold, transported, imported and exported by the nominating person.
2. The documents containing the above information shall be considered as public document.

Section 16. *Nomination Of Existing Chemicals*

1. Until 31 December 1993, a person shall submit to the Department for inclusion in the Philippine Inventory of Chemicals and Chemical Substances, a list of chemical substances which are currently used, sold, distributed, imported, processed, manufactured, stored, exported or transported in the Philippines in a form as may be provided by the Department. ([click for the PICCS Updating Form](#))
2. The person who nominates a chemical substance shall provide as much information as outlined in Section 15 of these Rules and Regulations and that such nomination shall contain the following minimum data:
 - a. chemical names
 - b. trade name or names
 - c. chemical structure
 - d. CAS number
 - e. anticipated volume in cubic meters, or weight in tones per annum of chemicals being nominated
 - f. name and address of nominating person.
3. Chemical substances in the chemical inventory shall be regarded by the Department as existing chemical substances and, therefore, exempted from the provisions of Section 17.
4. The Department shall not accept any further nominations of chemical substances under this section after 31 December 1993.

Section 17. *Notification Of New Chemicals* ([click for the Notice of Commencement \(manufacture or import\) Form](#))

1. After 31 December 1993, a chemical substance which is not included in the chemical inventory shall be considered as new chemical substance. ([click for the Biennial Report Form](#))

Unless exempted, any person who uses, stores, imports, manufactures, transports or processes a chemical substance after 31 December 1993 which is not listed in the chemical inventory shall be liable for violation of Section 16 of these Rules and Regulations and shall be dealt with subject to the provisions of Section 15 of RA 6969.

2. No person shall use, store, transport, import, sell, distribute, manufacture, or process a new chemical substance unless permitted by the Department. Permit shall be granted under the following conditions:
 - a. The Department must be notified of the intention to do so at least one hundred and eighty (180) days before commencing such activity; and
 - b. The Department shall be provided with such information as outlined in Section 15;

3. The notification must be made in accordance with a form and in a manner prescribed by the Department and accompanied with the payment of the prescribed fee.
4. The notification which does not comply with the requirement of Section 17(3) will not be acted and/or accepted.
5. The Department shall have the discretion not to include the new chemical substance in the chemical inventory if the information provided to the Department by the person does not fully comply with the requirements of Section 15 or the Department suspects that the data are of dubious quality.
6. Any person who falsifies information on a chemical substance while nominating an existing or new chemical substance shall be criminally liable.

Section 18. *Assessment Of Chemicals*

1. Upon notification of a new chemical substance under Section 17 of these Rules and Regulations, the Department shall within ninety (90) days determine whether –
 - a. to add the chemical substance to the chemical inventory;
 - b. to seek further information to any person for the purpose of assessing public health and environmental risk posed by the use, storage, manufacture, import, process or transport of the chemical substance or;
 - c. to issue Chemical Control Order in accordance to Section 20 of these Rules and Regulations.
2. The Department shall notify the applicant in writing of its decision.

Section 19. *Priority Chemical List*

1. The Department shall compile and may amend from time to time a list to be known as the Priority Chemicals List.
2. The Department may determine which chemical substance from the chemical inventory should be included, deleted, or excluded from the Priority Chemicals List.
3. The Department shall publish in the Official Gazette or newspaper of general circulation the Priority Chemicals List and any amendments and deletions to the List.
4. The Department may require information from any person for the purpose of assessing the public and environmental risk posed by the use, storage, manufacture, import, process or transport of the priority chemicals.

Section 20. *Chemical Control Orders*

1. If the Department has determined that the use, storage, transport, process, manufacture, import or export of any new substance or a priority chemical poses an unreasonable risk or hazard to public health or the environment, the Department, may, by order published in the Official Gazette or any newspaper or general circulation:
 - a. prohibit the use, manufacture, import, export, transport, process, storage, possession or sale of the chemical substance;
 - b. limit the use, manufacture, import, export, transport, process, storage, possession or sale of the chemical substances; or
 - c. place such controls or conditions on the use, manufacture, import, export, transport, process, storage, possession or sale of the chemical substance to abate or minimize risks or hazards posed by the chemical substances on public health and environment.
2. An order issued by the Department under Section 20(1) shall be known as Chemical Control Order.

Chapter V **Testing Requirements**

Section 21. Chemicals Subject To Testing

1. Testing shall be required in all cases where:
 - a. There is reason to believe that the chemical substances or mixture may present an unreasonable risk to health or environment;
 - b. There is insufficient data and experience for determining or predicting the health and environmental effects of the chemical substance or mixture; and
 - c. The testing of the chemical substance or mixture is necessary to develop such data.
2. The manufacturers, processors or importers of such chemicals subjected to testing shall shoulder the costs of testing the chemical substance or mixture.

Chapter VI **Exemptions**

Section 22. Exemptions. The following substances and mixtures shall be exempted from the requirements of Section 17, 18 and 21 of these Rules and Regulations:

1. Those chemicals already included in the Philippine Inventory of Chemicals and Chemical Substances;
2. Those to be produced or used in small quantities solely for experimental or research and development purposes;
3. Those that are reaction intermediates which do not leave the closed production system or undergo intermediate storage during the reaction process;
4. Those chemical substances that are regulated by laws other than RA 6969.

Section 23. Confiscation

1. The Secretary or his duly authorized representative may cause the impoundment or confiscation of any chemical substance and its conveyance and container if there is reasonable grounds to believe that:
 - a. the sale, storage, possession, use, manufacture, transport, import, or export for a chemical substance does not comply with the Chemical Control Order; or
 - b. the sale, storage, possession, use, manufacture, transport, import or export of chemical substance poses an immediate threat or hazard to public health and safety or the environment.
2. Any costs incurred by the Department under Section 23(1) shall be reimbursed by the occupier of the premises from which the Environmental Protection Officer impounded or confiscated the chemical substance.

Title III. Hazardous And Nuclear Wastes

Chapter VII **Hazardous Waste**

Section 24. Policy

1. It shall be the policy of the Department to prohibit the entry even in transit of hazardous wastes and their disposal into the Philippine territorial limits for whatever purpose.

2. The Department encourages proper management of hazardous wastes generated within the country by promoting, in order of preference:
 - a. minimization of the generation of hazardous waste;
 - b. recycling and reuse of hazardous waste
 - c. treatment of hazardous waste to render it harmless; and
 - d. landfill of inert hazardous waste residues.

3. Hazardous waste shall be managed in such a manner as not to cause or potentially cause –
 - a. pollution;
 - b. state of danger to public health, welfare and safety;
 - c. harm to animals, bird, wildlife, fish or other aquatic life;
 - d. harm to plants and vegetation; or
 - e. limitation in the beneficial use of a segment of the environment.

4. The waste generator shall be responsible for the proper management and disposal of the hazardous waste.

5. The waste generator shall bear the costs for the proper storage, treatment and disposal of their hazardous waste.

Section 25. Classification Of Hazardous Waste

1. The classes and subcategories of wastes listed in Table 1 shall be prescribed as hazardous waste for the purpose of these Rules and Regulations.

2. The types of wastes listed in Table 2 shall be exempted from the requirements of these Rules and Regulations.

3. The listings provided for Tables 1 and 2 are not inclusive and shall be subject to periodic review.

Table 1. Prescribed Hazardous Wastes

Class	Subcategory	Waste Number
Plating Wastes	Discarded plating solutions and salts with a cyanide concentration of less than 200 ppm.	A101
	Discarded heat treatment solutions and salts with a cyanide concentration of less than 200 ppm.	A102
	Plating solutions and salts containing cyanides at a concentration exceeding 200 ppm.	A103
	Heat treatment solutions and salts containing cyanides at a concentration exceeding 200 ppm.	A104
	Complexed cyanide solutions and salts.	A105
	Other cyanide wastes arising from the plating and heat treatment industries.	A199
Acid Waste	Sulfuric Acid	B201
	Hydrochloric Acid	B202
	Nitric Acid	B203
	Phosphoric Acid	B204
	Hydrofluoric Acid	B205

	Mixture of Sulfuric and Hydrochloric Acid	B206
	Other inorganic acids	B207
	Organic acids	B208
	Other mixed acids	B299
Alkali Wastes		
	Caustic soda	C301
	Potash	C302
	Alkaline cleaners	C303
	Ammonium Hydroxide	C304
	Lime slurries	C305
	Lime-neutralized metal sludges	C306
	Other alkaline materials	C399
Inorganic Chemical Wastes		
	Nontoxic salts	D401
	Arsenic and its compound	D402
	Boron compounds	D403
	Cadium and its compounds	D404
	Chromium compounds	D405
	Lead compounds	D406
	Mercury and mercuric compounds	D407
	Other salts and complexes	D499
Reactive Chemical Wastes		
	Oxidizing agents	D501
	Reducing agents	D502
	Explosive and unstable chemicals	D503
	Highly reactive chemicals	D599
Paints/	Aqueous-based	E601
Resins	Solvent-based	E202
/		
Latices/inks	Other mixed	E699
Dyes/Adhesives/		
Organic Sludges		
Organic Solvents		
	Flash point >61°C	F701
	Flash point <61 °C	F702
	Chlorinated solvents and Residues	F703
Putrescible/		

Organic Wastes	Animal/abattoir wastes	G801
	Grease trap wastes from industrial or Commercial premises	G802
	Others	G899
Textile	Tannery wastes	H901
	Other textile wastes	H999
Oil	Waste oils	I101
	Interceptor sludges	I102
	Vegetable oils	I103
	Waste tallow	I104
	Oil/water mixtures	I105
Containers	Portable containers previously containing toxic chemical substances	J201
Immobilized Wastes	Solidified and polymerized wastes	K301
	Chemically fixed wastes	K302
	Encapsulated Wastes	K303
Organic Chemicals	Aliphatics	L401
	Aromatics and phenolics	L402
	Highly odorous	L403
	Surfactants and detergents	L404
	Halogenated solvents	L405
	Polychlorinated biphenyls and related materials	L406
	Other organic chemicals	L499
Miscellaneous Wastes	Pathogenic or infectious wastes	M501
	Asbestos wastes	M502
	Pharmaceuticals wastes and drugs	M503
	Pesticides	M504

Table 2. Exempted Wastes

Description

Garbage from domestic premises and households

Industrial and commercial wastewaters which are disposed of on-site through the sewage system

Industrial and commercial solid wastes which do not contain prescribed hazardous wastes as identified in Table 1.

Materials from building demolition except asbestos

Septic tank effluents and associated sullage wastewaters.

Untreated spoils from mining, quarrying and excavation works but not materials in the nature of tailings, commercially treated materials and mine facility consumables.

Section 26. Waste Generators

1. All waste generators shall:
 - a. notify the Department of the type and quantity of wastes generated in accordance with the form and in a manner approved by the Department and accompanied by a payment of the prescribed fee; and ([click for the Hazardous Waste Registration Form](#))
 - b. provide the Department, on a quarterly basis, with information to include the type and quantity of hazardous waste generated, produced or transported outside, and such other information as may be required. ([click for the Hazardous Waste Quarterly Reporting Form](#))
2. A waste generator shall continue to own and be responsible for the hazardous waste generated or produced in the premises until the hazardous waste has been certified by the waste treater as had been treated, recycled, reprocessed or disposed of.
3. A waste generator shall prepare and submit to the Department comprehensive emergency contingency plans to mitigate and combat spills and accidents involving chemical substances and/or hazardous waste. These plans shall conform with the content of the guidelines issued by the Department.
4. A waste generator shall be responsible for training its personnel and staff on-
 - a. the implementation of the plan required under Section 26(3); and
 - b. the hazard posed by the improper handling, storage, transport, and use of chemical substances and their containers.

Section 27. Waste Transporter

1. No transport of hazardous waste shall be allowed unless prior permit is secured from the Department.
2. Any application for the issuance or amendment of a permit to transport hazardous waste shall be made in accordance with the form and in a manner approved by the Department and accompanied by a payment of the prescribed fee.
3. The Department shall maintain a register of waste transporters. ([click for the New Transporter \(Permit to Transport\) Form](#))
4. A waste generator shall only use waste transporters duly authorized by the Department to transport hazardous wastes. ([click for the List of Transporters](#))

Section 28. Waste Transport Record

1. A waste transport record shall be in a form prescribed by the Department and shall contain the following particulars –
 - a. the name and address of the waste generator;
 - b. the name of the waste transporter used to transport a load of hazardous wastes;
 - c. the registration number of the waste transport vehicle;
 - d. the waste treatment license of the waste transporter;

- e. the description of the hazardous waste transporter including its class and subcategories as stated in Table 1;
 - f. the quantity of the hazardous waste transported;
 - g. the type of container used during the transport;
 - h. the name and address of transit points and the final destination of the hazardous waste; and
 - i. the intended method of hazardous waste treatment, storage, export, recycling, processing, reprocessing or disposal at the destination.
2. Prior to the transport of hazardous wastes, the waste generator shall complete, in duplicate, portions that refer to the waste generator in the prescribed form and shall submit the same to the Department accompanied by payment of the prescribed fee. *(click for the [Uniform Hazardous Waste Manifest Form](#))*
 3. The waste generator shall retain and store a copy of the waste transport record for a period of twenty-four (24) months from the date of receipt of Department.
 4. Prior to the transport of the hazardous waste, the waste transporter shall complete, in duplicate, portions referring to the waste transporter in the prescribed form.
 5. The waste transporter shall place a copy of the waste transport record in the driver's cabin of the waste transport vehicle.
 6. Upon arrival at the waste treatment, storage, recycling, reprocessing, processing or disposal premises, the waste transporter shall give a copy of the waste transport record to the waste treater.
 7. Upon receiving a waste transport record, the waste treater shall:
 - a. verify the accuracy of the waste description of the hazardous waste;
 - b. complete portions of the waste treater on the waste transport record; and
 - c. retain and store the complete waste transport record for a period of twenty-four months after receipt of the hazardous waste.
 8. If the hazardous waste data is inaccurate the waste treater shall immediately inform the waste generator of such inaccuracy within a reasonable period of time. The waste treater shall have the right to deny acceptance of such hazardous waste if such acceptance may cause any danger of hazard in the operation of its premises;
 9. If the hazardous waste is accepted by the waste treater for treatment, storage, export, recycling, reprocessing, processing or disposal, the waste treater shall certify in writing, the acceptance of the hazardous waste to the waste generator.
 9. The waste treater shall send to the Department within five (5) days, the certification required under Section 28(9) copy furnished the waste generator.
 10. Any waste transporter while transporting hazardous waste is involved in an accident which results in the spillage or release of the hazardous waste to the environment shall immediately contain the spillage and notify the Department.

Section 29. Hazardous Waste Storage And Labeling

1. Vessels, containers and tanks for the storage of hazardous waste shall be clearly labeled and this labeling shall comprise the following particulars –
 - a. the class of the hazardous waste as specified in Table 1;
 - b. the sub-category of the hazardous waste as specified in Table 1;
 - c. the waste number as specified in Table 1;
 - d. the name and address of the waste generator; and
 - e. the maximum capacity of volume.
2. The labeling of the vessels, containers and tanks specified in Section 29(1) shall be conspicuously marked in paint, decals or other permanent form of markings.

Section 30. Waste Treatment And Disposal Premises

1. No waste treater shall accept, store, treat, recycle, reprocess or dispose of hazardous wastes unless done in the premises as prescribed in Table 3 and permitted by the Department.

Table 3. Prescribed Wastes Treatment Premises

Category	Description
A.	Premises that conduct on-site disposal of hazardous wastes generated or produced at the premises through industrial or commercial processes and activities other than disposal via sewer.
B.	Commercial or industrial hazardous waste incinerators.
C.	Landfills, dumps or tips that accept hazardous waste for disposal
D.	Premises that recycle or reprocess hazardous waste which were not generated or produced at that premise.
E.	Premises that immobilize, encapsulate, polymerize or treat hazardous wastes which were not generated or produced at that premise.
F.	Premises that store hazardous wastes, which were not generated or produced at that premise for periods exceeding thirty (30) days.

2. An application for issuance or amendment of a permit under this section shall be made in accordance with a form and in a manner approved by the Department accompanied with the payment of the prescribed fee and accompanied by such plans, specifications and other information and a summary thereof as may be required by the Department.
3. The Department shall maintain a register of waste treaters. ([click for the List of Recognized Recyclers/Treaters of Hazardous Waste](#))

Section 31. Import And Export Of Hazardous Substances

1. Any person who wishes to import into the Philippines or export hazardous substances must seek and obtain prior written approval from the Department.
2. An application made under Section 31(1) shall be made in the form and manner approved by the Department and accompanied by payment of the prescribed fee.
3. The Department shall cause the seizure of the imported hazardous substances which does not comply with the approved permit, return the hazardous substance to their point of origin and initiate proceedings to recover cost incurred.

Chapter VIII Nuclear Waste

Section 32. Policy

1. It shall be the policy of the government to prohibit the entry, even in transit, of nuclear waste and their storage or disposal into the Philippine territorial limits for whatever purpose.
2. The Philippine Nuclear Research Institute (PNRI) shall be the government agency responsible for the regulation and licensing of nuclear facilities and radioactive materials pursuant to the provisions of R.A. 2067, the Science Act 56 of 1958, and R.A. 5207, the Atomic Energy Regulatory and Liability Act of 1968, both as amended. Radioactive material as defined in the laws include radioactive products or wastes.

Section 33. Specific Exemption

1. The following are exempt from the requirements of these regulations:
 - a. Any holder of a valid PNRI license authorized to operate a nuclear power plant or atomic energy facility, who, in the course of operating his licensed facility, transports spent nuclear fuel for reprocessing in a foreign country and re-acquires the by-products of reprocessing, including its nuclear wastes for storage in his facility.
 - b. States which are signatories to the Basel Convention and countries with bilateral agreements with the Philippines that would allow the passage or transit shipment of nuclear waste over Philippine territorial limit. Prior informed arrangements and notification schedules shall have been made through proper Philippine authorities including the DENR and the PNRI.
2. The DENR and the PNRI shall exercise their rights to monitor and inspect such shipments for the protection of the public and the national interest.

Section 34. *Abandoned Or Unclaimed Nuclear Waste*

Nuclear wastes which are unclaimed or abandoned, and whose legal ownership cannot be ascertained, shall be subject to the regulations of the PNRI on the management and disposal of nuclear wastes.

Section 35. *Scrap Metal That May Contain Radioactive Materials*

1. Any importer of scrap metal intended for domestic reprocessing shall certify to the DENR that the scrap metal he is importing does not contain radioactive material in any form, shape or containment.
2. Scrap metal that may contain radioisotopes of the elements Cesium, Cobalt Americium, Strontium, or as may be determined by the PNRI shall not be processed for the fabrication of metal bars or components.

Section 36. *Reporting And Notification*

Any person shall immediately notify the DENR or the PNRI of any existence of unauthorized radioactive material or nuclear waste anywhere in the Philippines. The report should be such as to cause the immediate location of the radioactive material to institute the necessary protective and recovery measures.

Title IV. Common Provisions

**Chapter IX
Permitting Regulations**

Section 37. *Prescribed Fees For Toxic Chemical Substances*

1. The Department shall prescribe fees for the notification and assessment of new chemicals under Section 17 and Section 18.
2. The Department shall publish the scale of fees and amendments to the scale of fees in the Official Gazette or any newspaper of general circulation which shall take effect fifteen (15) days after its publication.

Section 38. *Prescribed Fees For Hazardous And Nuclear Wastes*

1. The Department shall prescribe reasonable fees for –
 - a. registration of a waste generator;
 - b. permitting of a waste transporter;
 - c. permitting of a waste treater;
 - d. authority to import or export hazardous material; and
 - e. waste transport record

2. The Department shall publish the scale of fees and amendments to the scale of fees in the Official Gazette or any newspaper of general circulation which shall take effect fifteen (15) days after its publication.

Chapter X
**Public Access To Records, Reports And Notification
And Confidentiality Of Information**

Section 39. Public Access To Assessment Reports

1. The general public shall have access to the chemical inventory and to the priority chemical list.
2. The general public shall have access to the documents prepared by the Department regarding chemical control orders excepting confidential portions contained in these documents.

Section 40. Confidentiality Of Information

1. Any person who is requested to provide information to the Department under Section 16, 17, 18 and 21 of these Rules and Regulations may submit together with the information, a request that such information be treated as confidential.
2. The Department of Environment and Natural Resources may consider a record, report of information or particular person thereof confidential and may not be made public when such would divulge trade secrets, or sales figures or methods production or processes unique to such manufacturer, processor or distributor or would otherwise tend to affect adversely the competitive position of such manufacturer, processor or distributor, information other than its chemical name and CAS Number (if applicable) be treated as confidential.
3. No disclosure of any information shall be done subject to Sections 40(1) and 40(2) except –
 - a. where there is written consent provided the person who requested confidentiality under Section 40(1);
 - b. under an agreement, convention or treaty between the government of the Philippines and other foreign nations provided that the foreign nation undertakes to keep the information confidential;
 - c. under an agreement between the Department and other statutory bodies and local authorities provided that the information is required to fulfill their obligations and provided that they agree to keep the information confidential;
 - d. under formal instruction of a competent court of law;
 - e. to a physician or prescribed medical professional who request the information for the purpose of making a medical diagnosis of, or rendering medical treatment to, a person in an emergency and who agrees, in writing to keep the information confidential; or
 - f. where the department certifies that the disclosure of the information is in the interest of public health and safety or protection of the environment.
4. Where practical, the person who takes the request for confidentiality under Section 40(1) shall be notified in writing prior or as soon as possible to the intention of disclosure of information under Section 40(3).

Title V. Prohibited Acts And Penalties

Chapter XI
Prohibited Acts

Section 41. Administrative Violations. The following acts and omissions shall be considered as administrative violations:

1. All acts and omissions mentioned under Section 13(a to c) of Republic Act 6969.

2. Failure or refusal to subject for resting chemical substances and mixtures that present unreasonable risk or injury to health or to the environment before said chemical substances and mixtures are manufactured or imported for the first time;
3. Failure or refusal to subject for testing chemical substances and mixtures which are presently being manufactured or processed if there is a reason to believe that said chemical substances and mixtures pose unreasonable risk or injury to health and the environment;
4. Refusing, obstructing or hampering the entry of authorized representatives of the Secretary into any establishment in which chemicals are processed, manufactured, stored or held before or after their commercial distribution during reasonable hours for the purpose of conducting an inspection.
5. Failure or refusal to notify the Department with the type and quantity of hazardous wastes generated and to provide quarterly report of waste generation as provided for under Section 26 of these Rules and Regulations.
6. Failure or refusal to secure permit or authorization from the Department prior to transport, storage, or disposal of hazardous wastes as provided for in Section 27, 28 and 30 of these Rules and Regulations.
7. Failure or refusal to secure approval from the Department prior to conduct of any importation or exportation of hazardous substances as provided for in Section 31 of these Rules and Regulations.
8. Failure or refusal to provide proper labeling as provided for under Section 29 of these Rules and Regulations regarding hazardous waste storage and labeling.
9. Failure or refusal to comply with subpoena or subpoena duces tecum issued by the Secretary or his duly authorized representative.
- 10.

Section 42. Criminal Offenses

1. Knowingly use a chemical substance or mixture which is imported, manufactured, processed or distributed in violation of these Rules and Regulations;
2. Failure or refusal to submit reports, notices or other information, access to records as required by Republic Act 6969 as permit inspection of establishment where chemicals are manufactured, processed, stored or otherwise held;
3. Failure or refusal to comply with the pre-manufacture and pre-importation requirements;
4. Cause, aid or facilitate, directly or indirectly in the storage, importation or bringing into Philippine territory including its maritime economic zones, even in transit, either by means of land, air or sea transportation or otherwise keeping in storage any amount of hazardous and nuclear wastes in any part of the Philippines.

Chapter XII Penalties

Section 43. Administrative Violations And Fines. In all cases of violations under Section 41 of these Rules and Regulations, the Secretary is hereby authorized to imposed a fine of not less that Ten Thousand Pesos (PhP10,000.00) but not more than Fifty Thousand Pesos (PhP50,000.00) upon any person or entity found guilty thereof.

Nothing in this provision shall however under Section 14 of RA 6969 ban the institution of the proper criminal action against any person or entity found guilty herein.

Section 44. Criminal Offenses And Penalties

1. i. The penalty of imprisonment of six (6) months and one day to six (6) years and one day and a fine ranging from Six Hundred Pesos (PhP600.00) to Four Thousand Pesos (PhP4,000.00) shall be imposed upon any person who shall violate Section 42(1) of these Rules and Regulations. If the offender is a foreigner, he or she shall be deported and banned from any subsequent entry into the Philippines after serving his or her sentence.

ii. In case any violation of these Rules and Regulations is committed by a partnership, corporation, association or any juridical person, the partner, president, director or manager who shall consent to or knowingly tolerate such violation shall be directly liable and responsible for the act of the employees and shall be criminally liable as a co-principal;

iii. In case the offender is a government official or employee, he or she shall in addition to the above penalties be deemed automatically dismissed from office and permanently disqualified from holding any elective or appointive position;

2. i. The penalty of imprisonment of twelve (12) years and one day to twenty (20) years shall be imposed upon any person who shall violate Section 13(d) of R.A. 6969. If the offender is a foreigner, he or she shall be deported and banned from any subsequent entry into the Philippines after serving his or her sentence.

ii. In the case of corporations or other associations, the above penalty shall be imposed upon the managing partner, president or chief executive in addition to an exemplary damage of at least Five Hundred Thousand Pesos (PhP500,000.00). If it is a foreign firm the director and all officers of such foreign firm shall be banned from entry into the Philippines in addition to the cancellation of its license to do business in the Philippines.

iii. In the case the offender is a government official or employee, he or she shall in addition to the above penalties be deemed automatically dismissed from office and permanently disqualified from holding any elective or appointive positions.

3. Every penalty imposed for the unlawful importation, entry, transport, manufacture, processing, sale or distribution of chemical substances or mixtures into or within the Philippines shall carry with it the confiscation and forfeiture in favor of the Government of the proceeds of the unlawful act and instruments, tools or other implements including vehicles, sea vessels and aircraft used in or with which the offense was committed, chemical substances so confiscated and forfeited by the Government at its option shall be turned over to the Department of Environment and Natural Resources for safekeeping and proper disposal.

4. The person or firm responsible or connected with the bringing into the country of hazardous and nuclear wastes shall be under obligation to transport or send back said prohibited wastes. Any and all means of transportation, including all facilities and appurtenances that may have been used in transporting to or in the storage in the Philippines of any significant amount of hazardous or nuclear wastes shall at the option of the government be forfeited in its favor.

Title VI. Final Provisions

Chapter XIII

Section 45. Separability Clause. If any section or provision of these Rules and Regulations is held or declared unconstitutional or invalid by a competent court, the other sections or provisions hereof shall continue to be in force as if the sections or provisions so annulled or voided had never been incorporated herein.

Section 46. Repealing Clause. All Rules and Regulations or parts of said rules and regulations of pertinent laws inconsistent with the Rules and Regulations are hereby revised, amended, modified and/or superseded as the case may be by these Rules and Regulations.

Section 47. *Amendments.* These Rules and Regulations may be amended and/or modified from time to time by the Department of Environment and Natural Resources.

Section 48. *Effectivity.* These Rules and Regulations shall take effect thirty (30) days after completion of publication in the Official Gazette or in a newspaper of general circulation.

(Sgd.) FULGENCIO S. FACTORAN, JR.
Secretary, Department of Environment and Natural Resources



Office of the President

NATIONAL SOLID WASTE MANAGEMENT COMMISSION

Department of Environment and Natural Resources

2nd Flr. HRDS Bldg., DENR compound, Visayas Avenue, Diliman, Quezon City, 1100

Tel. Nos. (632) 920-2252 / 920-2279



NSWMC Resolution No. 1428, Series of 2021

RESOLUTION DECLARING THE PLASTIC SOFTDRINK STRAW AND PLASTIC COFFEE STIRRER AS NON-ENVIRONMENTALLY ACCEPTABLE PRODUCTS

WHEREAS, it is the policy of the state to adopt a systematic, comprehensive and ecological solid waste management program which shall ensure, among others, (1) the protection of public health and environment, (2) utilize environmentally-sound methods that maximize the utilization of valuable resources and encourage resource conservation and recovery, (3) encourage greater private sector participation in solid waste management, and (4) institutionalize public participation in the development and implementation of national and local integrated, comprehensive and ecological solid waste management programs;

WHEREAS, the enactment of Republic Act 9003 (RA 9003) institutionalized the creation of the National Solid Waste Management Commission (NSWMC), an inter-agency body that is mandated to oversee the implementation of the solid waste management plans and prescribe policies to achieve the objectives of the Act;

WHEREAS, Section 29 of RA 9003 mandated the NSWMC to prepare a list of non-environmentally acceptable products as defined by the said Act that shall be prohibited according to a schedule prepared by the Commission provided however, that the non-environmentally acceptable products shall not be prohibited unless the Commission first finds that there are alternatives available which are available to consumers at no more than ten percent (10%) greater cost than the disposable product;

WHEREAS, under Section 5 paragraph (r) of Republic Act No. 9003, the Commission shall encourage all local government agencies and all local government units to patronize products manufactured using recycled and recyclable materials;

WHEREAS, under Section of 5, Rule XII of the Implementing Rules and Regulations of RA 9003 or Non-Environmentally Acceptable Products, the Commission should decide on the basis of a set of criteria, which products or packaging are non-environmentally acceptable.

WHEREAS, NSWMC Resolution No. 9, series of 2006 created the Technical Working Committee (TWC) for the phasing-out of the Non-Environmentally Acceptable Products and Packaging;

WHEREAS, NSWMC Resolution No. 19, series of 2009 adopted the guidelines on the Phasing Out of Non Environmentally Acceptable Products and Packaging Materials;

WHEREAS, the Department of Science and Technology through the Industrial Technology and Development Institute (DOST-ITDI) as co-chair of the TWC under NSWMC Resolution No. 9, series of 2006, conducted the Assessment on Plastic Softdrink Straw and Plastic Coffee Stirrer for possible listing as Non Environmentally Acceptable Products (NEAP);

Waste No More! Waste No Time!



Office of the President

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Tel. Nos. (632) 920-2252 / 920-2279



WHEREAS, the Study found out that the following products are within the definition of the Act as NEAP:

1. Plastic Coffee Stirrer
2. Plastic Softdrink Straw

WHEREAS, a deliberation of the Executive Committee as a whole was conducted on February 2, 2021 at 10 AM and a recommendation by the majority of the Commission that the two mentioned products be included in the list of NEAP to be endorsed to the NSWMC En banc for its approval;

WHEREAS, the precautionary principle states that when human activities may lead to threats of serious and irreversible damage to the environment that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that threat;

NOW THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED, that the Risk Assessment and Cost Benefit Study on selected Single Use Plastic Products be adopted and that the aforementioned products be included in the list of NEAP and be phased out following the guidelines adopted by virtue of NSWMC Resolution No. 19.

FURTHER, it is hereby resolved that guidelines including specification and phase-out period of the said NEAP List will be issued one year after publication in a national paper of national circulation .

APPROVED on this 2nd day of February 2021.

ROY A. CIMATU

Secretary

Department of Environment and Natural Resources

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RESOLUTION NO. 25-2017

RECOGNIZING THE GREEN PUBLIC PROCUREMENT (GPP) ROADMAP AND ADOPTING THE TECHNICAL SPECIFICATIONS FOR THE TEN (10) COMMON-USE SUPPLIES AND EQUIPMENT (CSE) AND TEN (10) NON-COMMON-USE SUPPLIES AND EQUIPMENT (NON-CSE)

WHEREAS, Republic Act (RA) No. 9184 entitled “An Act Providing for the Modernization, Standardization and Regulation of the Procurement Activities of the Government and For Other Purposes,” took effect on 26 January 2003, while its revised Implementing Rules and Regulations (IRR) took effect on 2 September 2009;

WHEREAS, Section 63 of RA 9184 mandates the Government Procurement Policy Board (GPPB) to protect national interest in all matters affecting public procurement;

WHEREAS, Section 8.2.3(b) of the IRR of RA 9184 mandates that procuring entities shall procure common-use goods, supplies, materials, and equipment from the Philippine Government Electronic Procurement System’s (PhilGEPS) Electronic Catalogue;

WHEREAS, Section 4 of the Administrative Order (AO) No. 17, s. 2011, require the procurement of CSE products from the Department of Budget and Management – Procurement Service (DBM-PS) or its depots;

WHEREAS, Executive Order (EO) No. 301, s. 2004, establishes a GPP Program for all departments, bureaus, offices and agencies of the executive branch of the Government;

WHEREAS, on 10 May 2013, the GPPB issued Resolution No. 15-2013 entitled *Approval to Support the Implementation of Sustainable and/or Green Public Procurement Regime in Government*, wherein the GPPB resolved to, among others, “[s]upport the implementation of Sustainable Public Procurement and/or Green Public Procurement in Government acquisition system”;

WHEREAS, the European Union SWITCH-Asia Programme (EU-SWITCH) has provided Technical Assistance to the GPPB-Technical Support Office (GPPB-TSO) and the DBM-PS to mainstream GPP in government procurement policy and develop a GPP communication plan;

WHEREAS, the Scope of Work under the EU-SWITCH Technical Assistance includes the development of a GPP roadmap and technical specifications for ten (10) CSE and ten (10) Non-CSE product groups;

WHEREAS, during its 10th Regular Meeting on 23 September 2016, the GPPB approved the GPP List of Prioritized CSE and Non-CSE products, as follows:

A. Prioritized CSE Products

1. Multi-Copy Paper;
2. Toilet Paper;
3. Record Books;
4. Cleaner;
5. Trash Bag;
6. Disinfectant Spray;
7. Chairs;
8. Detergent Powder;
9. Liquid Hand Soap; and
10. LED Lights/Bulbs.

B. Prioritized Non-CSE Products

1. Computer Monitors, Desktop Computers and Laptops;
2. Air Conditioners;
3. Vehicles;
4. Fridges and Freezers;
5. Copiers;
6. Paints and Varnishes;
7. Food and Catering Services;
8. Training Facilities / Hotels / Venues;
9. Toilets and Urinals; and
10. Textiles / Uniforms and Work Clothes.

WHEREAS, the EU-SWITCH engaged international and local consultants for the development of the GPP Roadmap and the Technical Specifications for the ten (10) CSE and ten (10) Non-CSE products;

WHEREAS, the development of the GPP Roadmap is anchored on the following:

1. It was inspired by the logic that governments have to lead by example in transforming the market;
2. The strategy of GPP in the Philippines is to integrate the green argument harmoniously into the existing procurement processes;
3. The Roadmap describes a circumspect approach that reflects issues and concerns such as value for money, suppliers' readiness, capacity and awareness; and
4. It was formulated with the broadest participation of stakeholders.

WHEREAS, the development of the Technical Specifications for the 10 CSE and 10 Non-CSE products has undergone the following processes and principles:

1. Development of a standard template consisting of scope, key environmental factors, product specifications, evidence, verification and references;
2. Extensive research for GPP technical specifications taking into account international specifications and national specifications of countries with extensive GPP experience;
3. Document research on background reports regarding the experience made with the existing technical specifications where more than 100 documents in total were considered; and

4. Overall, the development of the technical specifications was guided by the principles of applicability and simplicity.

WHEREAS, during the 4th Inter Agency Technical Working Group (IATWG) Meeting held on 19 May 2017, the GPPB-TSO presented the development of the GPP Roadmap and the Technical Specifications for the 10 CSE and 10re Non-CSE products, as well as the following points to consider in recognizing the GPP Roadmap and adopting the Technical Specifications, thus:

1. It provides a clear perspective on mainstreaming green public procurement in government procurement;
2. It guides the procuring entities in implementing GPP, especially on incorporating green parameters in the technical specifications;
3. Supportive of international (Sustainable Development Goals) and national policies on environmental sustainability;
4. It gives a sense of ownership to the Philippines as the documents were developed in consultation with relevant government agencies;

WHEREAS, after due discussion on the matter, the IATWG adopted the following recommendations of the GPPB-TSO, thus:

1. Recommend to the GPPB the recognition of the GPP Roadmap and adoption of the Technical Specifications for 10 CSE and 10 Non-CSE Products, subject to additional comments within five (5) days after the meeting; and
2. Request the PhilGEPS to identify top agencies procuring Non-CSE items who will be requested to utilize the green technical specifications for the 10 Non-CSE Products for pilot testing;

WHEREAS, during its 3rd Regular Meeting on 30 May 2017, the GPPB, after careful review and due deliberation, adopted the recommendations of the IATWG and GPPB-TSO;

NOW, THEREFORE, for and in view of all the foregoing, **WE**, the Members of the **GOVERNMENT PROCUREMENT POLICY BOARD**, by virtue of the powers vested on **US** by law and other executive issuances, hereby **RESOLVE** to confirm, adopt, and approve, as **WE** hereby confirm, adopt, and approve the following:

1. **RECOGNITION** of the GPP Roadmap;
2. **ADOPTION** of the Technical Specifications for 10 CSE and 10 Non-CSE Products; and
3. **REQUEST** the PhilGEPS to identify top agencies procuring Non-CSE items who will be requested to utilize the green technical specifications for the 10 Non-CSE Products for pilot testing.

This Resolution shall take effect immediately.

APPROVED this 30th day of May 2017 at Pasig City, Philippines.

(SGD)

**DEPARTMENT OF BUDGET AND
MANAGEMENT**

**NATIONAL ECONOMIC AND
DEVELOPMENT AUTHORITY**

(SGD)

DEPARTMENT OF EDUCATION

DEPARTMENT OF ENERGY

(SGD)

(SGD)

DEPARTMENT OF FINANCE

DEPARTMENT OF HEALTH

(SGD)

**DEPARTMENT OF INFORMATION
AND COMMUNICATION
TECHNOLOGY**

**DEPARTMENT OF THE INTERIOR
AND LOCAL GOVERNMENT**

(SGD)

(SGD)

**DEPARTMENT OF NATIONAL
DEFENSE**

**DEPARTMENT OF PUBLIC WORKS
AND HIGHWAYS**

(SGD)

(SGD)

**DEPARTMENT OF SCIENCE AND
TECHNOLOGY**

**DEPARTMENT OF TRADE AND
INDUSTRY**

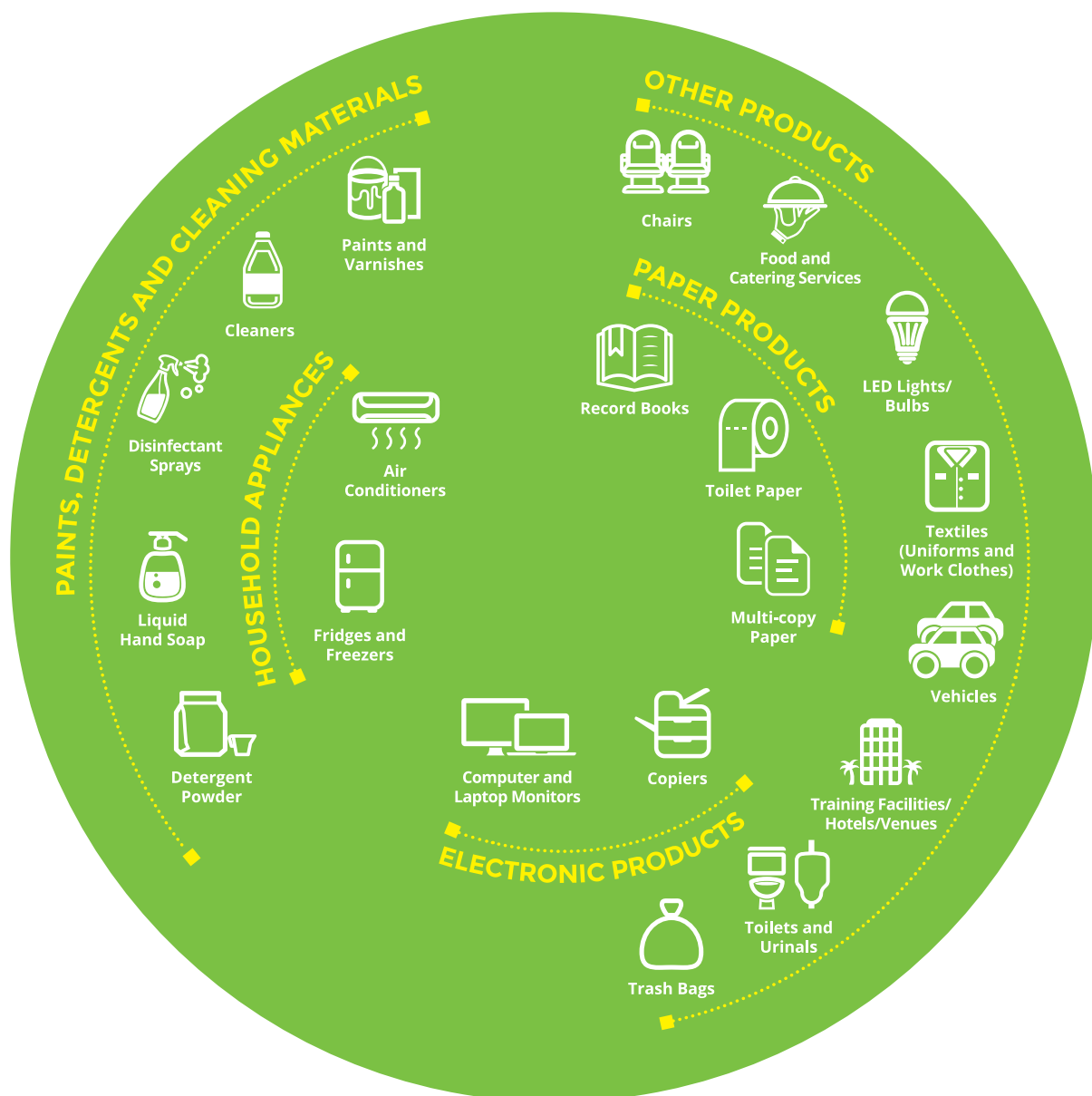
(SGD)

DEPARTMENT OF TRANSPORTATION

PRIVATE SECTOR REPRESENTATIVE

The Philippine Green Public Procurement Roadmap

Advancing GPP until 2022 and beyond



The Philippine Green Public Procurement Roadmap

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- Technical Support Office, Philippines

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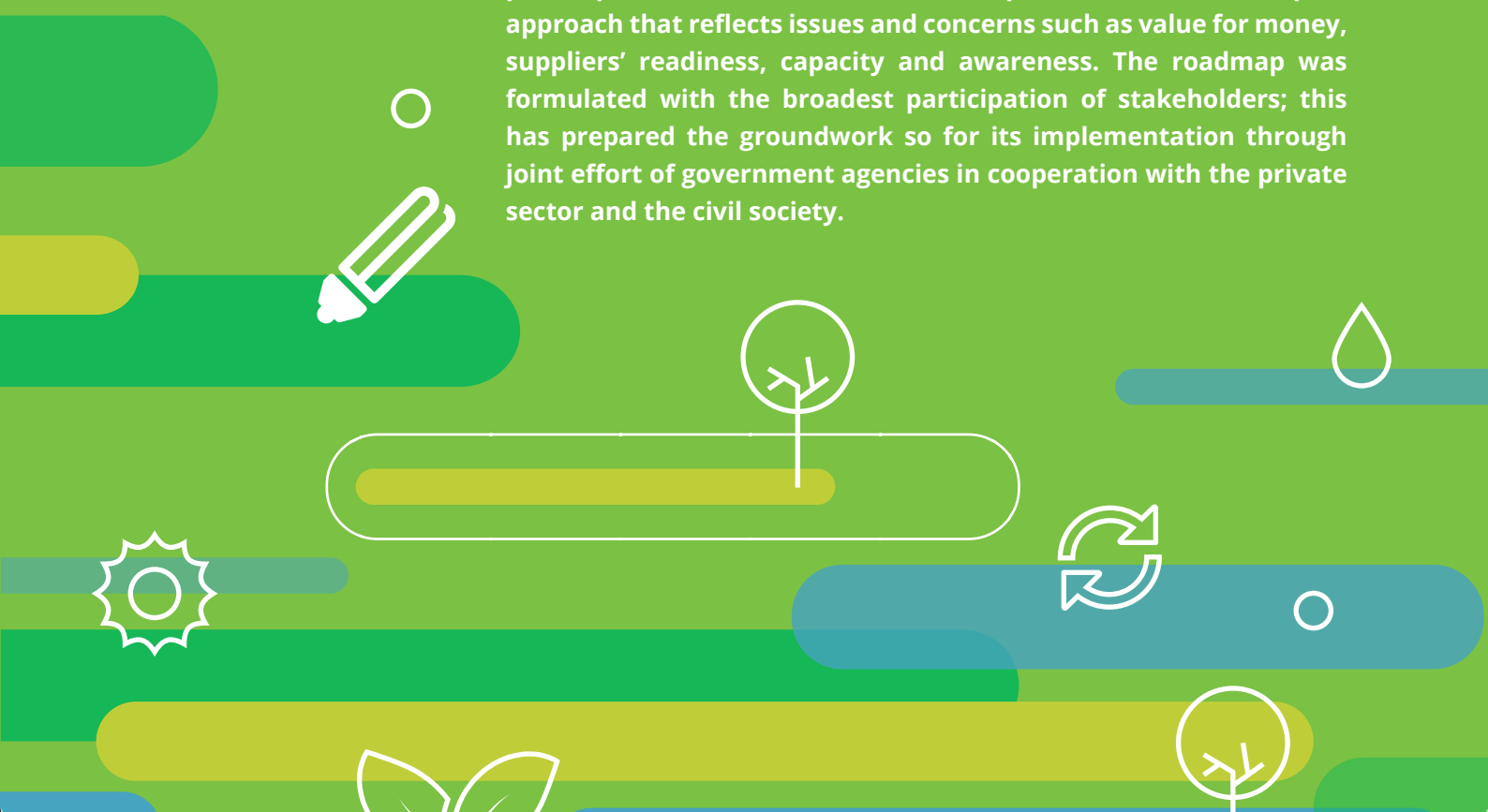


Foreword

Green Public Procurement is a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

GPP is a voluntary instrument. The government of the Philippines has decided to adopt this concept to develop the country in line with the Sustainable Development Goals agreed by the United Nations until 2030 and the UN 10-Years Framework Program on Sustainable Consumption and Production. Harnessing the immense purchasing power of the government will not only help convert the market to a greener market with substantial benefits for the environment, but also improve the socio-economy status of the nation.

The Philippine GPP Roadmap is inspired by the logic that governments have to lead by example in transforming the market. Numerous international examples exist to adopt the best practices and to avoid all possible failures on the way forward. The strategy of GPP in the Philippines is to integrate green practices harmoniously into the existing procurement processes. Over a short to medium-term period, procuring green will become the norm for an increasing number of commonly and non-commonly used supplies and equipment; the long-term perspective is to achieve sustainable public procurement. The GPP Roadmap describes a circumspect approach that reflects issues and concerns such as value for money, suppliers' readiness, capacity and awareness. The roadmap was formulated with the broadest participation of stakeholders; this has prepared the groundwork so for its implementation through joint effort of government agencies in cooperation with the private sector and the civil society.



List of Acronyms

10YFP	10-Year Framework of Programs (10YFP) on SCP
ABC	Approved Budget for the Contract
ADB	Asian Development Bank
APCPI	Agency Procurement Compliance and Performance Indicators
APP	Annual Procurement Plan
APRSCP	Asia Pacific Roundtable on SCP
AQMS	Air Quality Monitoring Stations
BAC	Bids and Awards Committee
BPS	Bureau of Philippine Standards (DTI)
BSMED	Bureau of Small and Medium Enterprise Development
CB	Competitive Bidding
CPMR	Consolidated Procurement Monitoring Report
CSE(s)	Common-Use Supplies and Equipment
CSR	Corporate Social Responsibility
DAC	Development Assistance Committee (OECD)
DBM-PS	Department of Budget and Management - Procurement Service
DC	Department Circular
DENR	Department of Environment and Natural Resources
DOE	Department of Energy
DOST	Department of Science and Technology
DTI	Department of Trade and Industry
EC	European Commission
EO	Executive Order
EU	European Union
FAQ	Frequently Asked Questions
GDP	Gross Domestic Product
GGP	Green Government Procurement (Malaysia)
GPMs	Generic Procurement Manuals
GPP	Green Public Procurement
GPPB	Government Procurement Policy Board
GPPB-TSO	GPPB Technical Support Office
GPRA	Government Procurement Reform Act
HoPE	Head of the Procuring Entity
IATWG	Inter-Agency Technical Working Group
IEC	Information, Education and Communication
ITDI	Industrial Technology Development Institute
IRR	Implementing Rules and Regulations
ISO	International Standards Organization

JICA	Japan International Cooperation Agency
KPI(s)	Key Performance Indicators
LA21	Local Agenda 21
LCA	Life Cycle Assessments
LCC	Life Cycle Costing
LCRB	Lowest Calculated and Responsive Bid
MEPS	Minimum Energy Performance Standards
NAP(s)	National Action Plans
NEDA	National Economic and Development Authority
non-CSE(s)	Non-Common-Use Supplies and Equipment
OECD	Organisation for Economic Co-operation and Development
PBD(s)	Philippine Bidding Documents
PDP	Philippine Development Plan
PhilGEPS	Philippine Government Electronic Procurement System
PNS	Philippine National Standards
PPC(s)	Public Procurement Centers (China)
PPIA	Philippine Plastics Industry Association
PPMAI	Philippine Paper Manufacturer's Association Inc.
R&D	Research and Development
RA	Reform Act
SC.Asia	Sustainable Consumption Asia
SCP	Sustainable Consumption and Production
SDG(s)	Sustainable Development Goals
SEIPI	Semiconductor and Electronics Industries in the Philippines Foundation Inc
SME(s)	Small and Medium Sized Enterprises
SPP	Sustainable Public Procurement
TCO	Total Cost of Ownership
TSRC	Technical Specifications Review Committee
TWG	Technical Working Group
UN-DESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Program
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
WB	World Bank

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1 Policy Brief

Today, Green Public Procurement (GPP) is the policy of many governments as prominent market stakeholders focus on sustainable consumption that will influence the patterns of production. GPP is contributing to sustainable development as a process of meeting human development goals while sustaining the ability of natural systems to continue to provide the natural resources and ecosystem services upon which the economy and society depends. GPP is a market-based approach: Governments have the privilege to regulate the market where it's necessary, to incentivize, to inform and to guide the market players. Through public procurement, governments are themselves important players in the market. The immense purchasing power of governments, which is almost 20% of Gross Domestic Product (GDP) in the Philippines, is an important

market factor. Government spending is necessary to execute manifold public services; and, government spending is creating demand that influences supplies. Greening governments' demands and procuring items with green specifications are strong signals to the suppliers, vendors and merchants to venture into the green enterprise. By going green, governments take on a leading role to convert the market to a green market. These considerations have guided governments around the world to pursue green purchasing. There is no single recipe for GPP; the number of approaches account to the number of governments which are practicing GPP. The numerous experiences provide useful lessons to shape a GPP system customized to the Philippine context.

1.1 The Philippine approach toward GPP

The Philippine approach to GPP is based on a well-established public procurement system which perfectly allows integrating the green practices without inventing a parallel system of public procurement just for the green purpose. The existing principles and procedures are maintained by the GPP aspirations.

Over the past decade and following a fundamental reform, the Philippine Government has established a state-of-the-art system of public procurement which is transparent and conducive for open competition. Rules and regulations provide a fair and level playing field for businesses. The introduction of GPP will be organically integrated into the existing framework; no separate track for green will be introduced; the vision is a public procurement that is green throughout. A stepwise and cautious approach will accelerate green purchasing from first tranches of Common-Use Supplies and Equipment (CSEs), which are centrally purchased

through the Department of Budget and Management-Procurement Service (DBM-PS), and Non-Common-Use Supplies and Equipment (non-CSEs) directly purchased by the various government stakeholders. From there, and following the same mechanisms that have guided to select the first items for GPP, the scope will be gradually enhanced. The purchasing mechanisms starting from the needs assessments over tendering to the contract awarding remain unchanged by GPP. The existing procedure to describe the quality requirements of demanded products and services provides the avenue for the inclusion of green criteria through

technical specifications that could be verified similarly to the existing practice for conventionally purchased items. The focus will be on simple and meaningful green specifications, expressed as core green criteria; the comprehensiveness can grow over time, but will not be the ambition at the start. Along with the first phase of GPP and the first set of ten CSEs and ten non-CSEs, the implementation framework of public procurement will be adjusted to fit the new paradigm: a resolution by the Government Procurement Policy Board (GPPB) will refresh the existing government

commitment to green procurement; Implementing Rules and Regulations (IRR) will be updated where necessary, the generic procurement manuals will be adjusted with the features of GPP; the bidding documents will contain green technical specifications plus the required suppliers' proofs for verification. The whole process will be supported by auxiliary measures of capacity building, training and awareness raising to increase knowledge, skills and attitudes for GPP. The implementation progress will be systematically monitored and evaluated.

1.1.1 Principles of GPP

GPP is only new in so far as how the quality of demands is specified. The innovation is to include environmentally relevant technical specifications in bidding documents; this can happen in the form of replacements of or as additions to the existing requirements. The basic functionality of procured items remains untouched.

The roadmap defines GPP as an effective mechanism of a transparent, accountable, efficient, equitable, economical and effective procurement system. GPP is a prudent approach that ensures value for money in terms of source, quantity, quality, price, time, and delivery. Open competitive bidding ensures to identify

the lowest calculated and responsive bid in compliance with the specifications including the green criteria. The use of discriminatory criteria such as brands, labels or other suppliers' requirements that could distort the open competition are prohibited. Market readiness and impact on local suppliers will determine the speed and scope of green purchasing. Local circumstances will be respected with circumspect.

1.1.2 GPP and development objectives

GPP contributes to the development objectives of the Philippines; it supports the enforcement of sector policies relevant for sustainable development such as energy, water and material efficiency, waste reduction, pollution and emission prevention including climate change mitigation, local and rural development, greening supply chains, greening infrastructure and works, industry productivity, innovation and competitiveness, inclusive business models and green jobs. A full-scale GPP system is a corner stone to achieve these priorities.



1.2 Goals and positive impact

The ultimate goal is to establish a GPP program for all departments, bureaus, offices and agencies of the government, including the local government units. GPP will cover CSEs, which are centrally purchased through the DBM-PS and non-CSEs directly purchased by the various government stakeholders. The implementation of GPP will become the norm of public procurement in the medium to long term.

Establishing GPP systematically will create a growing market for the green supplies and equipment in the Philippines. This will have positive impacts on the economy, society and environment:



The government is the single largest buyer in the market; the demand for green products will change the market towards green with positive effects to the jobs and incomes of the people.



Procurement of green products will encourage and create markets for Philippine manufacturers, particularly Small and Medium Sized Enterprises (SMEs), to produce green products and use environmentally friendly processes.



A transparent and fair process of GPP through the avenue of green technical specifications will support value for money in competitive procedures.



The leading example of the government to go green will have a spill-over effect on the private sector and on private households to also give preference to green products.



The increasing demand will increase the supplies of green products, which in turn will level the costs of green products and make them more affordable.



The green quality of supplies and equipment will reduce the pressure on the environment over the life cycle of producing, using and disposing of the purchased items.

In summary, GPP will be the main pillar of the country to achieve green growth through a switch to sustainable consumption and production patterns.



1.3

The intervention logic of the GPP Roadmap

The diagram summarizes how GPP as a part of public procurement works, based on good practices and lessons learnt, thereby, building on existing legal and institutional conditions. Five strategies will deliver the expected results in terms of impact on the socio-economy lifestyle in the Philippines and its environment to reach the goals aligned with national priorities for sustainable development.



2 Overall Background

GPP is a good practice of public procurement. It evolved with the growing understanding and operationalization of sustainable development since the Earth Summit in 1992. Governments are leading by example and use their immense purchasing power to shape the patterns of growth, eventually achieving green growth. Best practices show the individual nature of national GPP programs and has provided inspiration for the Philippine GPP roadmap.

2.1 Green Public Procurement in the context of public procurement

Public procurement is the mechanism to purchase goods, services and works¹ from vendors, merchants, specialized companies or qualified bidders on behalf of a public entity. Without public procurement, a government would not be able to fulfill its service functions to its citizens. In many sectors such as energy, transport, waste management, social protection and the provision of health or education services, public entities are the principal buyers. Public procurement uses taxpayers' money and governments are expected to carry it out efficiently while considering its value for money and high standards of conduct. The public procurement process is the sequence of activities starting with the assessment of needs through bidding and awards to contract management and final payment. Public procurement rules and regulations aim to create a level playing field for businesses and ensure transparency, fairness and open competition.

With 10% to 20% of GDP, public procurement accounts for a substantial part of the global economy. The immense purchasing power of governments has significant impacts on the economy. Government

spending aggregates demand and increases consumption. Governments use public procurement strategically to drive economic growth, to provide business opportunities for suppliers which, in consequence, creates jobs and income for the people. Public procurement is a vital engine for the economic system. As the biggest single buyer, governments are influencing demand and shaping the patterns of growth. What goods, works and services are demanded determine the supply side. Governments have the privilege to lead by example and to transform the market. Including green considerations in public procurement activities influences the 'color' of growth and spur a switch to the green growth patterns.

Basically, GPP follows the same procedures and principles like conventional public procurement, but is adds more value to sustainable development and the benefit of a prospering economy, an inclusive business and consumer society and environment protection.

¹Goods are typically equipment and consumables; services refer to activities with an immaterial exchange of values and may include consulting services but also financial, health, hospitality, facility management and other services; works are usually related to infrastructure and construction. The distinction between these spheres of public procurement varies per national definition and terms. In the Philippines, typical services, except consulting services, are subsumed under goods or works.

2.2 Advancements of GPP and examples

Since the Rio Earth Summit in 1992, sustainable development at global, national and local levels became an important part of the policy concepts with growing attention. The main paradigm established over the past two decades is the concept of Sustainable Consumption and Production (SCP). It serves as an umbrella for sector-specific pathways among which GPP has proved to be the most important, highly pragmatic and operational approach, cutting across the socio-economic dimensions of consuming and producing.



2.2.1 History and state of play

In 1992, the Rio Earth Summit recognized that unsustainable consumption and production patterns are a major cause of environmental degradation. In the consecutive years, various definitions translated this global concern into an operational understanding. The Oslo Ministerial Roundtable Conference on Sustainable Consumption and Production (Oslo Symposium) in 1994 provided the first definition: SCP is the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations. From the business perspective, the World Business Council for Sustainable Development defined SCP in 1997 as efforts by various stakeholders in achieving environmental quality through efficient utilization of natural resources, minimization of wastes, and optimization of products and services. The European Union (EU) defines sustainable consumption and production as the approach to *maximize business potential to transform environmental challenges into economic opportunities and provide a better deal for consumers [...] to improve the overall environmental performance of products throughout their life cycle, to boost the demand for better products and production technologies and to help consumers in making informed choices.*

SCP has evolved into a key concept for sustainable development in the twenty-first century. Ten years after the Rio Earth Summit, the Johannesburg World Summit on Sustainable Development in 2002 reiterated the concept of SCP. It was agreed to elaborate a 10-Year Framework of Programs (10YFP) on SCP through a global stakeholder effort, the so-called Marrakech process². Eventually, the Rio+20 Conference in 2012 adopted the 10YFP on SCP. United Nations Environment Program (UNEP) was appointed as the secretariat to coordinate this global initiative.

SCP has the potential to address, overall, the triple bottom line of sustainable development: economy, society and environment. More importantly, SCP has the potential to reconcile the domains of economic interests, social balance and environment protection. Today, SCP is frequently associated with profit, people and the planet. In 2015, the international community adopted the UN 2030 Agenda for Sustainable Development to transform the world through an action plan for people, planet and prosperity.

²The Marrakech process was coordinated by UNEP and UN DESA with the active participation of national governments, development agencies, business and industry, civil society and other stakeholders. The first meeting devoted to developing the 10 YFP took place in Marrakech, Morocco in June 2003, hence, the name. The process worked through regional consultations in Africa, the Arab Region, Asia-Pacific, Europe, Latin America and North America. The Asia-Pacific region has held four consultations in Indonesia (2003), in South Korea (2003) and in the Philippines (2008 and 2009) in joint cooperation with UNESCAP and the Asia Pacific Roundtable on SCP (APRSCP). The main initiatives developed in the Asia-Pacific region are the 'Green Growth Initiative', the 'Help Desk on SCP', the 'Asia-Pacific Roundtable on SCP' and 'SC.Asia'.



Among the 17 Sustainable Development Goals (SDGs) of the post 2015 framework, goal 12 will ensure the responsibility for the sustainable consumption and production patterns respectively. ***SDG target 12.7 refers to promoting public procurement practices that are sustainable, in accordance with national policies and priorities***³. In addition, SCP effectively supports other SDGs such as security of supplies, healthy living, inclusiveness and access to adequate education, sustainable management of water, energy and natural resources, resilient cities, combating climate change and the protection of ecosystems and biodiversity.

SCP is considered as the key approach to bring forward green economies and green growth. Green growth is a term to describe a path of economic growth that uses natural resources in a sustainable manner. It is an alternative concept to conventional economic growth. A corner stone of the green growth policy is GPP.

The idea that governments will lead by example has been present since the beginning of the concept of sustainable development. Within the framework of the Local Agenda 21 (LA21), concluded in 1992, it was local governments, cities and municipalities, which embarked on GPP as one of their means to fill the LA21

framework with real action, following the slogan to 'think globally and act locally'. Local authorities started to procure green through a plurality of self-knitted approaches which covered items such as stationary goods, IT equipment, cleaning detergents and in some cases, investment goods such as buildings and vehicles.

At the national levels, ministries and departments of environment were the first promoters of GPP. Within their jurisdictional mandate of nature conservation and pollution prevention and the practice to regulate through emission thresholds and limits. The main approach was to promote a new kind of product labels with the aim to determine in very detail the attributes of green products; a spectrum of national eco-labels emerged. However, there was little response in the market. Industries refrained to apply eco-labels due to the additional certification costs and often due to the mere absence of certification bodies; consumers had difficulties to recognize eco-labels due to the sheer abundance of product labels and there is the perception that green-labeled products are extra-costly. The ambition to link GPP with eco-labels largely failed, mainly for legal reasons since the conventional procurement rules would not permit referring to branding or other discriminatory specifications in the procurement process such as distinct labels. Still, the efforts on eco-labels have produced a rich source of green criteria to a growing number of product groups deduced from comprehensive research such as Life Cycle Assessments (LCA) that are useful for the formulation of green specifications in tendering documents.

During the past decade, the role of governments and public institutions in the pursuit of ambitious

³<https://sustainabledevelopment.un.org/sdg12>

policy goals towards sustainable development and the building of inclusive civil and business societies have gained more attention to drive sustainable consumption and production, circular economy, energy, water and resource efficiency, climate change mitigation and adaptation. There is an increasing awareness that environmentally friendly products and

services cannot be promoted only by regulation, but through leadership of governments as purchasers of products and services.



2.2.2 Global examples of GPP

Dozens of countries worldwide are practicing GPP. Introducing and advancing GPP is a pragmatic and selective approach that fits national circumstances and priorities. The number of approaches is counted by the number of public authorities that have embarked on GPP. Good examples on GPP exist at local, national and even supra-national levels and serve as inspiration to design a suitable program for GPP in the specific context. In the EU, where public procurement accounts for almost 20% of the GDP, green public procurement will stimulate green markets. The flagship initiative on a 'Resource-efficient Europe' under the Europe 2020 strategy encourages the 'wider use of green public procurement' as a means to smart growth through the development of environmental and climate-friendly technologies, products and services. With financial support of the EU SWITCH-Asia Program, a number of Asian countries such as Thailand, Indonesia and Malaysia have drawn up the national SCP policy frameworks or are in the process of doing so, such as the Philippines and Sri Lanka. China's 13th Five Year Plan (2016-2020) pursues sustainable development through the so called

'Ecological Civilization Construction' which resembles the concepts of SCP and resource efficiency in the EU. OECD countries are increasingly using procurement as a policy lever to promote environmentally sustainable development. In 2012, 72% of OECD countries have developed a strategy at the central level to support GPP. Some countries such as Germany, Japan and the USA have led the way by investing considerably in green energies and developing related policies. The USA has incorporated requirements for green procurement into federal regulations and executive orders. In 2011, the U.S. administration has announced ambitious green policies, for example, requiring 95% of all government contracts to meet sustainability requirements. GPP is a vehicle for economic growth: it is estimated that in 2020 the sales of eco-industries will reach EUR 2.2 trillion⁴.

⁴Mapping out good practices for promoting green public procurement, OECD 2013

The systematic approach to GPP in the EU commenced in 2001 with an integrated communication of the European Commission on a 'Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement' at each separate stage of the contract award process (COM 2001/274). In 2004, the Council and the European Parliament adopted two directives with distinct provisions for GPP⁵. Beside the inclusion of environmental requirements in technical specifications, the directives referred simultaneously to the use of eco-labels and that suppliers will meet environmental obligations in performing a contract in accordance with environmental management measures. However, the reference to eco-labels and environmental management systems in public procurement was too complicated and even contradictory to the existing national legislations. Clarifications were provided in 2008 with a further communication on 'Public Procurement for a Better Environment' (COM 2008/400), which was complementary to the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan of the EU⁶. The communication defines GPP as a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured. The European Commission started developing common GPP criteria of product and service groups such as cleaning products and services, construction, electricity, catering services and food products, gardening services and products, office IT equipment, copying and graphic paper, textiles, transport and furniture.



Public authorities were invited to include these criteria into their tendering procedures. Until 2015 the initial list of 10 product and service groups was expanded to twenty-plus GPP criteria sets⁷.

For each product group, the Commission has set 'core criteria' and 'comprehensive criteria'. The 'core criteria' addresses key environmental impacts and are designed to be used with minimum additional verification efforts or increase in cost. The 'comprehensive criteria' will guide contracting authorities to purchase the best environmental products available in the market; these criteria may require additional verification efforts or an increase in cost compared to other products with the same functionality. In the long term, these common criteria should also lead to a harmonized use of green criteria in procurement procedures throughout the EU, this is, however, a target far from reach as the current development and the individual approaches to GPP by procurement authorities across the EU show.

The European Commission has set the objective to achieve at least a 50% uptake of 'core' GPP criteria by 2010. Two recent studies in 2011⁸ and 2012⁹ monitored the GPP progress in the EU.

⁵Directive 2004/18/EC covers public works contracts, public supply contracts and public service contracts. Directive 2004/17/EC covers the procurement procedures of entities operating in the water, energy, transport and postal services sectors.

⁶Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan (COM 2008/397)

⁷The complete list of criteria is available at http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

⁸Strategic Use of Public Procurement in Europe; Adelphi, 2011

⁹Center for European Policy Studies (CEPS) and the College of Europe (CoE), 2012

'Green' contracts by number of contracts

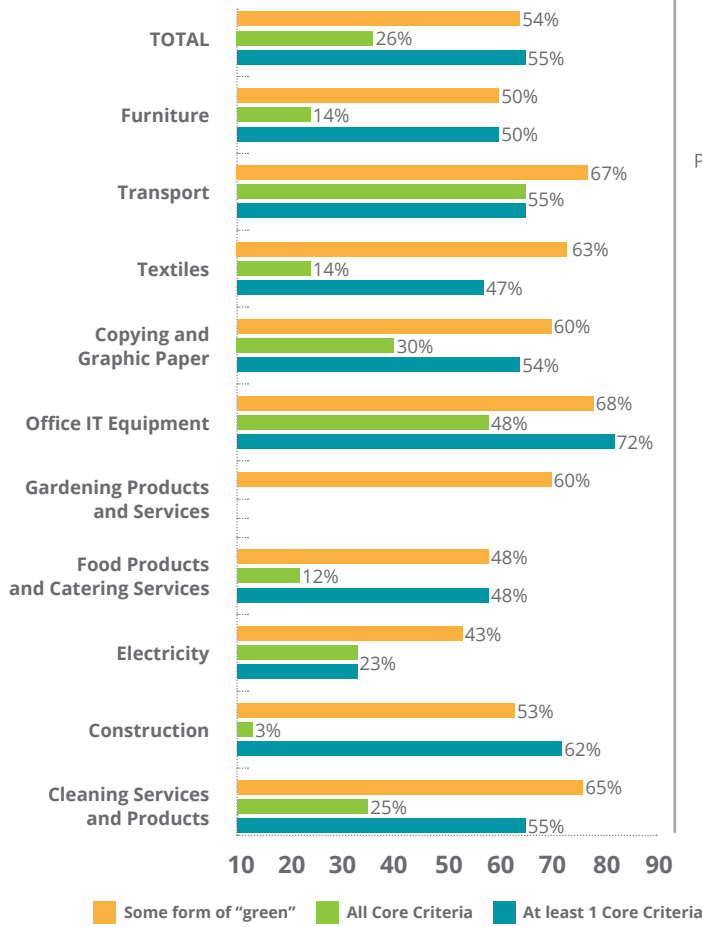


FIGURE 1: 'Green' contracts as a percentage of contracts in the EU

The figure on top shows that 26% of government procurement contracts are green, including all green core criteria of the EU. About 55% of contracts include at least one green core criterion. And 54% of contracts have some form of green criteria. The uptake of GPP is increasing especially in office ICT equipment, transport and paper. Green criteria covers about 38% of the total values procured. The figure above displays the reported level of uptake for the individual EU core GPP criteria. Only three out of the 24 EU core GPP criteria are reportedly used by more than 50% of the respondents: double printing and energy performance for office IT equipment, and the criterion on CO2 emissions for transport. The high score for energy

Uptake of individual EU core GPP criteria in product groups

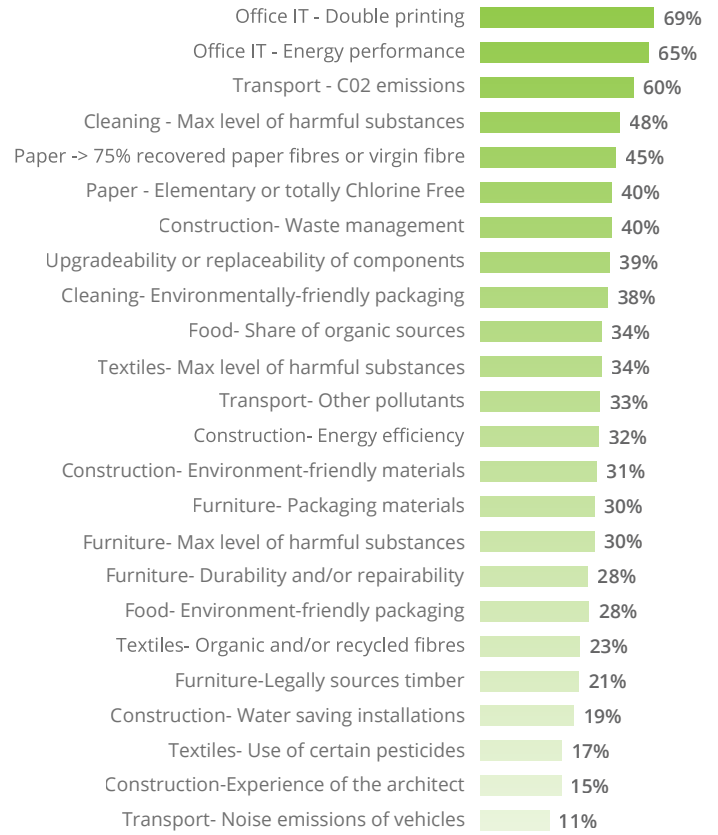


FIGURE 2: Uptake of Individual EU core GPP criteria in product groups

performance of IT equipment stems from the fact that central governments have the obligation to buy energy efficient equipment according to the Energy Star regulation.

The monitoring reports show that applying selected core criteria in technical specifications is the preferred practice of GPP by the public authorities. Other considerations like Life Cycle Costing (LCC) and Total Cost of Ownership (TCO) methods are not frequently used by public authorities. The most commonly used criterion is still purchasing costs (64%); followed by a mixed option (30%) that includes LCC/TCO. Only 6% of decisions are based predominantly on LCC/TCO.

A majority of EU Member States have developed NAPs since 2005

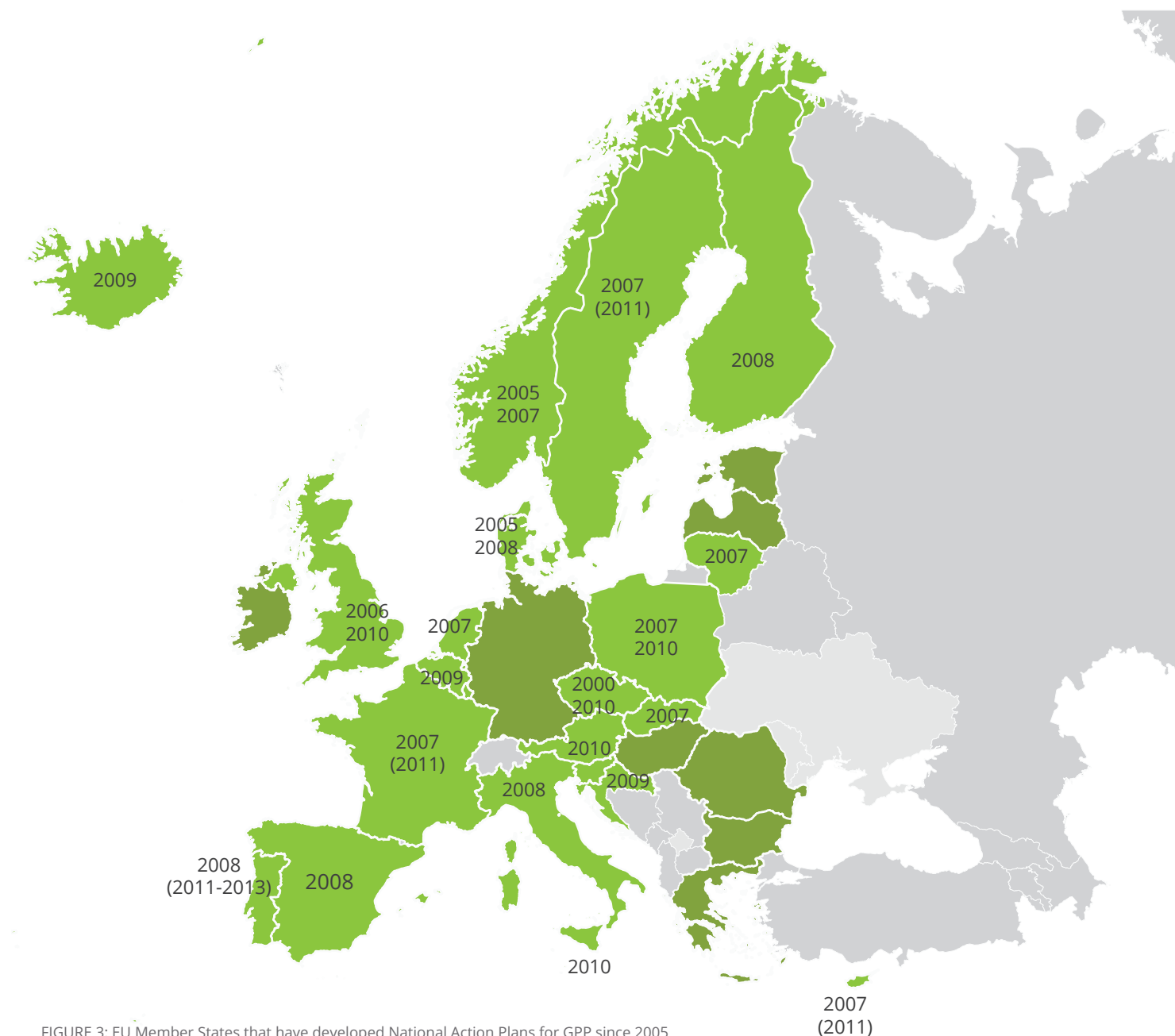


FIGURE 3: EU Member States that have developed National Action Plans for GPP since 2005

Of the 28 Member States of the EU, 22 have developed National Action Plans (NAPs) which address GPP in a stepwise manner and tailored to the national circumstances approaches.

A review of these NAPs shows big variations among the EU Member States in policy design to pursue GPP in coherence with national priorities and potentials. The differences of commitment to GPP reflect the development stage of a country depending on

the maturity of the existing public procurement systems. The responsibilities vary, in many cases, the ministries or departments of finance or designated procurement agencies are chairing the effort, in other cases, it's the environment agencies; often it is a mix of responsibilities depending on how much such processes are streamlined in a government. The constitution of a country is an important factor to shape GPP programs, either as a national effort or of provinces in case of federalist systems.

¹⁰Directive 2014/24/EU on public procurement, and Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors

In 2014, the EU replaced the old directives of 2004 (see before) with two new directives¹⁰ aimed at simplifying public procurement procedures and making them more flexible. The new rules seek to ensure greater inclusion of common societal goals in the procurement process. These goals include environmental protection, social responsibility, innovation, combating climate change, employment, public health and other social and environmental considerations. The directives specify: the requirements of a contract through defining technical specifications; under what conditions labels can be used and how the lowest price is awarded and LCC can be reconciled to award public contracts on the basis of the most economically advantageous tender; that innovation partnerships may be established where a contracting authority wishes to purchase goods or services, which are not currently available on the market to allow for R&D, piloting and subsequent purchase of a new product, service or work by establishing a

structured partnership. The procurement directives specifically allow for preliminary market consultations with suppliers to get advice, which may be used in the preparation of the procedure.

In conclusion, the overarching framework provided by the European Commission in form of common GPP criteria provides practical guidelines for national, provincial or local authorities. These guidelines are publicly available and free for outside the EU. European governments complement their strategies with capacity building of procurement officers and suppliers. A total of 236,752 contracts signed by public authorities in 2009-2010 alone account for a value of 117.5 billion Euros. It is expected that the volume of GPP will increase further in the EU; GPP will advance to a standard practice for public procurement, including social and innovative dimensions over time.

In Asia, a number of countries have adopted the concept of GPP. The approaches differ as Asian countries differ in terms of political system, governance, business culture and development grade. A few examples:



In Korea, GPP is regulated through the 'Act on Encouragement of the Purchase of Green Products (2004/2005)' to prevent wasteful use of resources and environmental pollution, and to contribute to sustainable developments in the domestic economy by encouraging environmentally-friendly product purchasing. Public authorities including central and local governments and public institutions have to submit annual implementation plans with voluntary targets and performance reports with the actual number of green products purchased. The public green market has grown about seven times since 2005 to 1.6 billion USD in 2012; GPP of 19 product groups resulted in 3.71 million tons of CO₂ emission reduction and the creation of 14,335 new jobs.



In Japan, the 'Law on Promoting Green Purchasing (2000)' mandates government institutions to implement green procurement. The 'Green Purchasing Law (2001)' requests that Japan become a recycling-based society through green procurement. Information on environmentally friendly products is provided with a central database administered by the Japanese Green Purchasing Network. All central government ministries practice green procurement; all 47 prefectural governments and 12 designated cities are engaged in green procurement, and two-thirds of the 700 cities now systematically implement green procurement. Over 150 items are targeted to shift the demand towards eco-friendly goods.



China has built GPP on a planned economy approach. The public procurement system has a hierarchical top-down structure. The central government formulates the national framework for public procurement. Sub-central government bodies undertake the actual budget allocation; carry out public procurement through specification and customization including training of procurement officers. Public Procurement Centers (PPCs) are responsible for implementing the public procurement plans. The main instruments for GPP are two public procurement lists with environmentally friendly and energy efficient products. Since 2007, PPCs are requested to give priority to the products listed in these 'green product inventories'. These lists include products ranging from cars to construction materials, office equipment and other consumer goods.



Malaysia has formulated a long-term national action plan for Green Government Procurement (GGP) that is firmly linked with the country's development plan. GGP is a corner stone of Malaysia's pursuit of green growth as formulated in the 'Eleventh Malaysia Plan (2016-2020)' and a corresponding 'National SCP Blueprint (2016-2030)'. The government will lead by example in changing patterns of consumption which will simultaneously lead to changes in production and to a growing green market. For selected product groups, GGP will become mandatory for all public entities by 2030. Gradually, all national, state and local governments will apply GGP. The volume of green purchasing shall increase up to 20% in 2020, to 50% by 2025 and to 100% by 2030 for selected product groups which are tendered with technical specifications based on green core criteria. The Ministry of Finance and the Ministry of Energy, Green Technology and Water ministries are spearheading the change in pursuit of smart and prudent spending, to increase Malaysia's global competitiveness, employment and business opportunities in green sectors, and to achieve a low carbon economy that is inclusive and based on innovation.



In many countries GPP has triggered spillover effects into the private sector. In Japan, the market share of environmental business is rapidly increasing, including 30% of private companies applying green purchasing principles. A 2013 study surveyed 133 multinational companies and found that for 93% of the respondents sustainable procurement is an important objective. In Europe, the main factors are client expectations and the avoidance of risks for a brand image that could be associated with poor social and environmental practices. Respondents in North America indicated compliance with new regulations and the reduction of costs as most influential.¹¹

¹¹Sources: UNEP (2014), COM (2010), SEC (2011), Center for European Studies (2012), EcoVadis and A.T. Kearney (2013)

2.2.3 Lessons learnt

After decades of trial and error characterized between over-ambition and reluctance, GPP has evolved to a mature practice and is becoming the overall trend of public procurement in a growing number of advanced countries. What was once considered a friendly-niche approach has shown a large potential to support national and global aspirations towards sustainable development. There is no unique recipe to set up a functional GPP program but the requirement to customize the approach by tying it to national or local circumstances, existing procedures, legal frameworks and rules. Each country is sovereign in determining the scope, rules and targets of GPP in accordance with its economic, social and environmental priorities.

GPP is frequently used as a synonym of Sustainable Public Procurement (SPP) which is a *process whereby public organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst significantly reducing negative impacts on the environment.*¹²

Based on global surveys and case studies, UNEP published in 2015 'Principles of Sustainable Public Procurement'¹³ which are recommended to countries in formulating and updating their own frameworks for GPP or SPP. The first principle says that good public procurement is sustainable public procurement; it follows the essential elements of good public procurement. This means that GPP is not an appendix to public procurement or an alien undertaking, but an enhancement of good procurement. The second principle says that SPP implementation needs leadership to ensure sufficient resources and dedication to implementation. This means in practice

that the appropriate institution needs to be in charge which would be the bodies in charge for the existing public procurement framework. The third principle says that SPP contributes to broad policy goals such as sustainable natural resource management, resource efficiency, sustainable development, and sustainable consumption and production. This means, in other words, if the GPP/SPP program is not aligned with a country's national priorities, it would fall short and meaningless. The fourth to sixth principles, recommended by UNEP, are self-evident such as to engage with all stakeholders, sound management and monitoring of results.

In conclusion, the best practice to develop a functional GPP program is building on the existing public procurement mechanisms, if already established along good practices such as being transparent, fair, non-discriminatory, competitive, accountable, efficient use of public funds, and verifiable. A GPP system should not be more sophisticated than the existing well-practiced procurement system and should adhere to easy-going tools. Less could be more when it comes to green criteria; focusing on core green specifications will pay off. A national action plan or roadmap to GPP will unfold in a stepwise proceeding that will build knowledge, skills, attitudes and awareness along the way forward.

¹²Updated by the Multi-Stakeholder Advisory Committee of the 10YFP SPP Program from Procuring the Future – the report of the UK Sustainable Procurement Task Force (June 2006). Definition adopted by the Marrakech Task Force on Sustainable Public Procurement. The footnote to the definition reads: Sustainable Procurement should consider the environmental, social and economic consequences of: design; material use; manufacture and production methods; logistics; service delivery; use; operation; maintenance; reuse; recycling options;

¹³The Sustainable Public Procurement Program of the 10-Year Framework of Programs (10YFP SPP Program) - Principles of Sustainable Public Procurement; UNEP 2015

3

Green Public Procurement in The Philippines

3.1 The legal and institutional situation

Good preconditions exist to include the concept of GPP into the existing Philippine framework of public procurement.

3.1.1 Existing legislation

The legal base for public procurement in the Philippines is the Government Procurement Reform Act (Republic Act (RA) 9184, GPRA 2003,) entitled as 'An Act Providing for the Modernization, Standardization and Regulation of the Procurement Activities of the Government and for Other Purposes'. The GPRA consolidated and replaced more than one hundred laws, presidential issuances, executive orders, rules and regulations dealing with public procurement. The GPRA also serves as an anti-corruption law and determines a system of 'good public procurement' according to international standards such as of the World Bank (WB), the Asian Development Bank (ADB) and the Japan International Cooperation Agency (JICA). With RA 9184 and its IRR atransparent, accountable, efficient, equitable, economical and effective procurement system was established.

Main features of RA 9184 is to improve the previous public procurement legal framework which includes: (1) development of standard bidding documents and standardization of the procurement process through implementing rules and regulations and procurement manuals; (2) linking procurement planning and budgeting, and the provision of an Approved Budget for the Contract (ABC) as ceiling for bid prices; (3) Competitive Bidding (CB) as the default method of procurement; (4) professionalization of procurement officials through a regular conduct of procurement training programs; (5) procurement by electronic means wherever and whenever applicable; (6) participation of observers in the procurement process; and (7) inclusion of penalties and sanctions against both the public officers involved in procurement and the suppliers, contractors or consultants.



The GPRA and its Implementing Rules and Regulations (IRR) apply to all branches, agencies, departments of the government, including government corporations, government financial institutions, state universities and colleges, and local government units to govern the procurement of goods, supplies, materials, and related services, of infrastructure projects and of consulting services. It covers procurement planning up to contract implementation.

Competitive bidding is the default method of procurement and consists of advertisement, pre-bid conference, eligibility screening of prospective bidders, receipt and opening of bids, bid evaluation, post-qualification, and contract award. Contracts are awarded to bidders that submit the Lowest Calculated and Responsive Bid (LCRB) for goods and for infrastructure projects or the Highest Rated and Responsive Bid (HRRB) for consulting services.

Procuring entities may resort to alternative methods of procurement in highly exceptional cases to promote economy and efficiency whenever justified by the conditions provided in the GPRA and with prior written approval by the Head of the Procuring Entity. The alternative methods of procurement are: (a) Limited Source Bidding, (b) Direct Contracting, (c) Repeat Order, (d) Shopping; and (e) Negotiated Procurement.

Some of the important features of the public procurement process according to the GPRA are: (1) An eligibility check of bidders is conducted through a simple verification of the presence of the required eligibility documents; the eligibility documents are then validated for their truthfulness during post-qualification of the bidder submitting the LCRB for procurement of goods and of infrastructure projects, and the HRRB for procurement of consulting services. (2) The ABC is the ceiling for bid prices; bids exceeding the ABC are rejected; there is no lower limit or floor on the amount of award; all bid prices are fixed prices and are not subject to price adjustments, except in extraordinary circumstances. (3) An Annual Procurement Plan (APP) is prepared by the procuring entity for all its procurement for the ensuing fiscal year; except for emergency procurement, implementation of any project not included in the APP is not allowed. (4) The Philippine Government Electronic Procurement System (PhilGEPS) managed by the DBM-PS serves as the primary and definitive source of information on all government procurement; it also has other features such as the Electronic Bulletin Board, the matching of procurement opportunities with the appropriate supplier, the Registry of Suppliers and the Electronic Catalogue. (5) Reference to brand names including

green labels or other tags as a requirement for the item to be purchased in the bidding documents is not allowed since it will limit competition; the procuring entity has to formulate the specifications as generic as possible to allow greater competition among suppliers. (6) A Bids and Awards Committee (BAC) is established in every procuring entity to supervise all procurements; the BAC may create a Technical Working Group (TWG) from a pool of technical, financial or legal experts, which shall assist the BAC in eligibility screening, evaluation of bids and post-qualification; a BAC Secretariat within the procuring entity provides administrative support to the BAC and is the central channel of communications. (7) To enhance the transparency of the procurement process, observers from the private sector are invited to sit and monitor all stages of BAC proceedings. (8) Decisions of the BAC at any stage of the procurement process may be questioned by filing a request for reconsideration; in case the request for reconsideration is denied by the BAC, decisions of the BAC may be protested in writing to the Head of the Procuring Entity (HoPE). (9) Bidders need to post bid securities, performance securities, and warranty securities when participating in public procurement to protect the procuring entity from defaults committed by the bidders/contract awardees. (10) Advance payment may be granted to the winning bidder upon request and in an amount not to exceed fifteen percent (15%) of the contract price. (11) Liquidated damages are to be imposed on contract awardees if the project is not completed within the period specified in the contract and has been established to be their fault; however, no incentive bonus is given in whatever form.

3.1.2 Mechanisms and instruments

The GPRA has standardized the procurement process to the possible extent. Generic Procurement Manuals (GPMs) and standard Philippine Bidding Documents (PBD) have been issued for the mandatory use by all government procuring entities.

The GPMs provide clear, concise, and accurate information on the steps of procurement in the manner prescribed by the GPRA. The GPMs provide guidelines on the Establishment of Procurement Systems and Organizations (Volume 1), the procedures for the Procurement of Goods (Volume 2), of Infrastructure Projects (Volume 3) and of Consulting Services (Volume 4). Most of the procedures are harmonized to a large extent with the major development partners of the Philippines. The GPMs also discuss important issues that may confront government procurement officials in all stages of the procurement, from the preparation of the bidding documents, the actual bidding activity and monitoring of contract implementation.

The PBDs are standardized bidding documents for the competitive bidding of goods, infrastructure projects and consulting services. The PBDs define the objectives, scope, and expected outputs of the proposed contract, the eligibility requirements of the bidders, the expected contract duration and the obligations, duties and functions of the winning bidder. The feature of technical specifications of goods and infrastructure projects in the PBDs is the ideal entry point for green criteria (see 4.2.2).

3.1.3 Key stakeholders for GPP

The Government Procurement Policy Board (GPPB) oversees the implementation of the public procurement reform agenda. It was established by virtue of Section 63 (GPPB Organization and Functions) of RA 9184 as an independent inter-agency body that is impartial, transparent and effective, with private sector representation. Its duties comprise protecting the national interest in all matters affecting public procurement, having due regard to the country's regional and international obligations; to formulate and amend public procurement policies, rules and regulations, and amend whenever necessary the implementing rules of rules and regulations; to provide procurement manuals and standard bidding forms; to ensure the proper implementation by the procuring entities of the GPRA and its IRR and all other relevant rules and regulations pertaining to public procurement; to establish a sustainable training program to develop the capacity of government procurement officers and employees, and to ensure the conduct of regular procurement training programs by the procuring entities; and to conduct an annual review of the effectiveness of the GPRA and to recommend any amendments there to, as may be necessary. Its vision is a government procurement system that is transparent, efficient and free of corruption, using information and communications technology as a tool for implementation, creating solidarity and proper coordination amongst all government agencies, improved transactions between the government and its suppliers, contractors and consultants, and an atmosphere of trust and confidence between the government and the general public.

The GPPB is supported by a Technical Support Office (GPPB-TSO) to spearhead the implementation of public procurement reform initiatives. The GPPB-TSO provides research, technical and administrative support to the GPPB. It is organized into strategic groups based on the responsibility areas covering its function as technical and administrative support to the GPPB consisting of: Legal and Secretariat Division, Performance Monitoring Division, Capacity Building Division, Information Management Division and Administrative and Finance Division. The GPPB-TSO conducts procurement-related research and evaluates the effectiveness of the government procurement system and the procurement reform program. Based on the results of studies and evaluations, the GPPB-TSO prepares discussion papers and recommendations to new or emerging issues. The GPPB-TSO submits the papers for deliberation by the GPPB Inter Agency Technical Working Group (IATWG) where issues are articulated to give a clear picture of how the concern could be addressed. If private sector interest is involved, the concerned private sector organizations are invited to provide their comments as well. The discussion benefits from inputs and comments from the members help ensure the completeness of the proposed solution in terms of resources, timeliness, risks, etc. In some instances, proponents of proposed procurement policy reforms are from other GPPB member-agencies or from the private sector. Nevertheless, it is expected that the proponents have exerted the same due diligence in their review of the issue and formulation of their recommendations. Once the IATWG is satisfied that all stakeholders have been properly consulted and a thorough analysis has been exerted in coming up with the recommendation, it elevates the matter to the GPPB for its consideration. If favorably considered by the GPPB, a resolution is issued and posted on the GPPB website.

The Department of Budget and Management - Procurement Service (DBM-PS) was created under Letter of Instructions No. 755 (Relative to the Establishment of an Integrated Procurement System for the National Government and its Instrumentalities) and has (among others) the functions to identify the supplies, materials and other such items, including equipment and construction materials, which can be economically purchased through central procurement and which it shall cover within its scope of activity; and to determine the technical specifications of items it will procure on behalf of the entire government. All procuring entities have to procure their common-use goods, supplies,

materials and equipment (CSEs) from the DBM-PS through the electronic catalogue of the PhilGEPS. The participation of DBM-PS will be a major factor in moving GPP, because it determines the technical specifications of items it will procure; it is in a position to influence the demand for environmentally-friendly products. It can encourage businesses to shift to produce green products or be involved in environmentally-friendly activities.

The roadmap lists further important stakeholders for the advancement of GPP in a summary matrix of stakeholders in chapter 5.

3.2 Explicit entry points for GPP

Excellent preconditions exist for the systematic uptake of GPP in the Philippines. The enterprise of GPP is driven by competent and committed institutions: the GPPB-TSO, the DPM-PS and other stakeholders of the government and the private sector. GPP can refer to a well-established public procurement system up to the state-of-the-art standards and with clear procedures. The possibility to use technical specifications provides a broad avenue to include green criteria in bidding documents. There is also a clear policy commitment to GPP.

3.2.1 Prior policy commitments to GPP



The first approach towards GPP was made by the presidential Executive Order No. 301/2004 (EO 301/2004), which ordered the 'Establishment of a Green Procurement Program in all Government Agencies':

(i) to promote the culture of making environmentally-informed decisions in the government, especially in the purchase and use of different products, (ii) to include environmental criteria in public tenders, whenever possible and practicable, (iii) to establish the specifications and requirements for products and services to be considered environmentally advantageous and (iv) to develop incentive programs for suppliers of environmentally sound products and services. However, the idea was not pursued systematically due to the then ongoing, overall reform process of the public procurement leading to the GPRA in 2003, which wisely prohibited in bidding documents to use brand names. Eco-labels were viewed as similar to brand names as it also limits competition. Unfortunately, eco-labels were set as the core mechanism of GPP according to the EO 301/2004.¹⁴

¹⁴Executive Order No. 301, s. 2004

Almost a decade later, the idea of GPP was taken up again by the GPPB which issued the Resolution No. 15, series of 2013 - Approval to Support the Implementation of Sustainable and/or Green Public Procurement Regime in Government, whereas public procurement is considered a major vector in social progress, environmental protection and innovation. SPP or GPP signifies a paradigm shift and is indispensable to effect economic, social and environmental changes in the public procurement regime in the country. The resolution recognizes that SPP or GPP must be included in the public procurement system, rules and procedures in line with sustainable consumption and production, green economy and sustainable development strategies, which entail commitment and

allow for synergies, faster deployment and institutional cooperation among various stakeholders. The GPPB confirmed, adopted and approved by virtue of its power: (1) to support the implementation of SPP or GPP in the government acquisition system, (2) to authorize the executive director of the GPPB-TSO to communicate and convey the request for technical assistance in the implementation of SPP or GPP with the United Nations Environment Program and other development partners¹⁵ and (3) to create a special SPP or GPP Committee.¹⁶ This resolution took effect on the 10th day of May 2013. The current document is the element of the mandate to the GPPB to establish a GPP/ SPP framework as issued by Resolution No. 15/2013.

3.2.2 The avenue of technical specifications

As mentioned earlier, one of the sections of the PBDs for procurement of goods and of infrastructure projects deals with specifications. The term 'specifications' refers to the physical description and requirements of the items to be procured regarding function, performance, environmental interface and design standard to be met by the goods to be manufactured or supplied. In determining the specifications of the goods it will procure, the procuring entity must consider the objectives of the project or procurement at hand and identify the standards to be met by the goods in terms of the aforementioned parameters. They must also conduct a market survey that will include a study of the available products to determine if there will be sufficient suppliers for the goods they wish to procure, industry developments or standards, product standards specified by the authorized government entity such as the Bureau of Product Standards, the International Standards Organization (ISO) or similar local or international bodies. As a rule, the Philippine standards as specified by the Bureau of Philippine Standards must be followed. For products where there are no specified Philippine standards, the standards of the country of origin or other international body may be considered.¹⁷

It is important to note that the use of brand names or labels is prohibited. Criteria that are preferred have to be expressed as technical specifications in a way that opens competition and does not favor one or a few providers. Similarly, performance-based specifications may be formulated. Also, under a GPP regime, contracts for goods and infrastructure projects will be awarded to the bidder with the LCRB in compliance with the required specifications which are subject to validation during the preliminary evaluation of bids and to verification during the post-qualification.

¹⁵This request was answered by the EU and technical assistance was provided through the SWITCH-Asia Program.

¹⁶GPPB Resolution No. 15/2013; <http://www.gppb.gov.ph/issuances/Resolutions/15-2013.pdf>

¹⁷Refer to Republic Act 7394 (Consumer Act of the Philippines), Title II, Chapter 1.

3.3

Building on and supporting existing policies

GPP has the potential to effect indispensable economic, social and environmental changes in the country as recognized by the GPPB Resolution No. 15/2013. GPP will contribute to Philippine Development Plans and to a broad range of existing policies, laws and regulations. It will support local businesses, increase competitiveness and help achieve environmental objectives at national and international levels.

3.3.1 Philippine Development Plan

The new 2016 – 2022 Philippine Development Plan (PDP) will strengthen the nation's aspirations of inclusive and sustainable development through national efforts by excelling the role of the government including public procurement to create businesses, jobs and income.¹⁸ Policies introduced by the previous 2010-2016 PDP will get support through GPP, such as the Competitive Industry and Services Sectors' 10-point agenda for the *'Development and implementation of programs that will enhance productivity and efficiency through green programs and sustainable consumption and production patterns'* (Chapter 3, p 94). In this context, GPP will support the 'Greening the Industry Roadmap; National Industry Cluster Program' of the Department of Trade and Industry (DTI), possibly generate new green industries, green jobs, growing expertise and employment of new skills and innovation for GPP, push relevant government agencies to strongly perform their mandate of issuing product standards and specification requirements and improve business environment, enhance consumer welfare and global competitiveness. GPP is in support of several specified outcomes of the PDP such as lessen waste through procurement of goods that can be returned to the manufacturer and to increase the procurement of recycled materials; lessen air pollution through shifting to solar as a service and reduction of use of fossil fuels at the macro level; promotion of recyclable water systems and water-less urinals; contribution to Disaster Risk Reduction through lessened environmental pollution through GPP.



GPP will have a spill-over effect on the private sector and support economic development through GPP as a market incentive that will empower and encourage SMEs to produce green products; a steadily increasing green demand of the government will create confidence to venture into the green business. GPP can help in promoting rural and value chain development toward increasing agricultural and rural-enterprise productivity through the adoption of green agricultural practices; promote rural tourism such as eco-tourism providing dispensers instead of small plastic containers; water re-use; use of appliances with inverter technology. The acceleration of annual infrastructure (spending to account for 5% of GDP), can be complemented with the incorporation of green criteria in infrastructure projects, specially building construction such as the installation of solar panels and compliance with green building standards.

¹⁸At the time of writing of this document, the details of the 2016-2022 PDP have not yet been published.

3.3.2 International commitments and national legislations

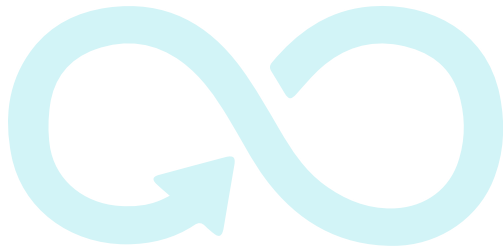
As outlined before GPP will be harmoniously integrated in the existing public procurement system as established with the RA 9184, 'Government Procurement Reform Act (GPRA)' through the inclusion of green technical specifications or requirements in bidding documents. In addition, GPP will be instrumental in support of further policies, laws and departmental issuances:

The 'Ecological Solid Waste Management Act of 2000 (RA 9003) mandates DTI in Article 4 Section 27 to formulate and implement a coding system for packaging materials and products to facilitate waste recycling and reuse; this ambition (supported by the formulation of technical specifications) could be used in bidding documents where applicable and practical.

GPP will support RA 10771, 'Philippine Green Jobs Act of 2016', which calls for the creation of 'green jobs' or employment that contributes to the preserving or restoring the quality of the environment, be it in the agriculture sector, industry or services. The RA grants incentives to encourage business enterprises to generate and sustain 'green jobs'.

Air Quality Monitoring Stations (AQMS) in accordance with Clean Air Act are set up in various locations in Metro Manila to monitor if air quality meets the national air quality standards.

The Philippines is committed to the new SDGs including goal 12 to achieve sustainable consumption and production; the GPP roadmap and its implementation is the Philippines contribution to achieve SDG target 12.7 to promote public procurement practices that are sustainable, in accordance with national policies and priorities.



GPP will support RA 6969, 'Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990' as the government aims to regulate, restrict or prohibit the importation, manufacturing, processing, sale, distribution, use and disposal of chemical and hazardous substances and mixtures that present unreasonable risk and/or injury to health or the environment.

One of the intentions of GPP is to strengthen a market for low carbon and climate-friendly products and services; hence, GPP will support RA 9729, 'An Act Mainstreaming Climate Change into Government Policy Formulations, Establishing the Framework Strategy and Program on Climate Change, Creating for this Purpose the Climate Change Commission, and for Other Purposes'.

GPP will contribute to the National Climate Change Action Plan 2011-2028 which aims to promote, develop and sustain climate smart industries through (1) providing a stable enabling policy for the development and implementation of climate-smart industries and services; and (2) implementing policies that provide incentives to business practices that incorporate eco-efficiency within their core business operation.¹⁹

Department of Environment and Natural Resources (DENR) Administrative Order (AO) 2015 - 04 dated March 24, 2015 - Euro 2 to Euro 4 in accordance with the Clean Air Act. In order to address the worsening air pollution in the country, all new vehicles shall be equipped with Euro 4 engine and compliant with Euro 4/IV limits/emission standards. The implementation of improved fuel standards will improve air quality and reduce the carbon footprint in the country.

Department of Energy (DOE) AO 110 - Procurement of Energy - Consuming Equipment where the government aims to reduce its monthly consumption of electricity and petroleum products by at least ten percent (10%) through the implementation of the Government Energy Management program.

DOE Department Circular (DC) 2016-04-0005 - Minimum Energy Performance Standards (MEPS) which prohibits the selling of energy--inefficient products and provides incentives for the judicious and efficient use of energy.

In summary, GPP will support a broad range of policies that result in a decrease of the carbon footprint and an improved environment for the Philippines. Further, it will cause greater resilience to climate change and natural disasters as well as promote cleaner production and resource efficiency. The charm of GPP in the pursuit of these objectives is its market-conform nature.

3.4 Issues and concerns

The first-time introduction of GPP is usually confronted with skepticism and various concerns. A well-designed approach that is sensitive to these sentiments and carefully aware that issues have to be solved, is necessary. This section explains why GPP is a measure of prudence; how value for money is ensured as the guiding principle; that supplier's readiness is a largely fulfilled condition; that more capacity and better awareness has to be created; and that verification of green supplies is not a matter different to the verification of conventional supplies.

3.4.1 Prudent spending

Is the government's spending on GPP prudent? The answer is simply, yes! GPP is based on good judgement and common sense that a change of consumption and production towards sustainable patterns cannot be expected by the consumer and the business societies, if the government, as the single largest consumer, is not going ahead; the government has to lead by example to substantiate its policies. GPP is a practical and careful approach in providing for the future, because a clearly articulated demand will be responded by an adequate supply. If the future of the Philippines lies in developing an inclusive, resilient and sustainable society, then actions have to be taken in an unambiguous way,

which will include a market mechanism to promote green and fair products. However, GPP activities require circumspect management in view of competing interests. GPP is prudent, if the procurement funds are distributed effectively and impartial. Thus, GPP will succeed through the adherence to the rules of the existing good practices of public procurement. This includes utilizing resources in a strategic way that the government is able to spend to get what it needs; goods and services must be provided at the most reasonable cost and lead to maximum benefit so that value-for-money is ensured.

3.4.2 Costs versus value for money

International experiences show that GPP gets complicated when the idea that green products and services are more expensive than their conventional alternative is accepted. This might be so in some cases, but should not become a practical consideration for the procurement process. Systems that allow an increase of cost for green products compared to other products with the same functionality, for example, through a best available product selection, will actually inculcate increases in prices. The image is created that green does not work without financial incentives and a distortion of the market is taking place. The better alternative is to allow competition at the same level of sufficiently specified items and let the lowest bid win.

The Philippine public procurement system is well prepared for the competitive bidding of goods, infrastructure projects and consulting services. The understanding is that the customer, which is the

government, has the right to get what it needs, this includes value for money in terms of source, quantity, quality, price, time and delivery.

The source is the suppliers, vendors or merchants that have to comply with eligibility criteria such as economic standing and previous records regarding reliability and satisfaction with supplies; under GPP perspectives. The procuring entity might optionally specify origin or other performance proofs as far as they are not discriminating. The procuring entity has obviously the say on the quantity of items it intends to procure. Quality is the entry point to issue technical specification including green criteria. The price will be the evaluation criterion that makes a bidding winner. Eventually, a failure in time and delivery could cause the termination of an awarded contract and compensation payments by the supplier. All these conditions remain untouched by GPP.

3.4.3 Readiness of suppliers

GPP combines and directly supports initiatives made in the greening of the industry roadmaps where sectoral plans were drafted by different industry associations/ chambers, the DTI and the Board of Investments. It identified key entry points in encouraging domestic manufacturers and SMEs to adopt the following fields of action: energy efficiency, resource efficiency, meeting international production and process standards, fostering innovation, mitigating of conflicts deriving from the overuse of natural resources, attracting foreign investments, natural resources and climate change resilience. By offering a ready and willing market in the government procurement system, it would complement and encourage private sector greening initiatives which, heretofore, have been hesitant to adopt environmentally friendly production processes as it is viewed as an investment without sure market and with uncertain returns.

The following sectors have identified its greening initiatives: auto manufacturers and auto parts industry; pulp and paper industry; plastics industry; housing industry; and, furniture industry. A recent market study²⁰ in these sectors came to positive conclusions regarding market readiness. Government's data, statistics and interviews with industrial associations such as the Philippine Paper Manufacturer's Association Inc. (PPMAI) for pulp and paper products, Semiconductor and Electronics Industries in the Philippines Foundation Inc (SEIPI) for electronic products, Philippine Plastics Industry Association (PPIA) for plastics and *Samahan sa Pilipinas ng Industriya ng Kimika* (SPIK) for chemicals to name a few, reveal that suppliers are ready for GPP by and large. Lack of product supply in the market should not be a problem. One reason is that a range of publicly procured items are not completely manufactured locally and a portion of products available in the market is imported through local traders and importers. Examples are paper products, plastics, copiers and vehicles. For example, all car manufacturing industries in the country are based on imported brands; cars enter the country either as ready built units or in parts which are just assembled locally.

Generally, suppliers are confident and willing to supply what the government requires as long as



these requirements are clear and adequately communicated. In fact, the local industries have already taken initiatives towards improving the environmental performance of their processes and products. The plastics industry has invested in conducting life cycle assessment studies for their products; it is offering take back mechanisms for plastic packaging and is making oxo-biodegradable plastics available in the market. Locally manufactured paper has high recycled matter content. Vehicle manufacturers and the electronics industry meet global environmental standards. LED lights are now prioritized over incandescent lamps for lighting purposes. Environmentally friendly paints are available in the market. Air-conditioning and refrigerator manufacturers export to markets with high standards which include green requirements such as replacement of banned cooling agents and more energy efficient products.

Other issues, which are significant to the success of GPP have surfaced and must be addressed in the future not only by GPP. For example, local paper industry could provide paper with 95% to 100% recycled material content, but recycling paper collected in the Philippines is not sufficient and recycling paper has to be imported. The plastics industry faces the same challenge that the recovery rates of used plastic materials are not sufficient in the Philippines and recycled plastics have to be imported. These issues give a perspective beyond GPP to increase the recycling rates in the Philippines on the move towards a circular economy; the demand for recycling materials will drive waste separation, collection and processing to secondary raw materials

²⁰The study was conducted by the EU SWITCH Policy Support project team in 2016.

(see policies of DENR on Solid Waste Management). For industry, the security of supplies including secondary raw materials is an important condition to venture into this sector.

Industry expects that the pursuit of GPP will come with the government's readiness to support certain future technologies which will benefit local producers of raw materials such as organic fibers harvested from agricultural wastes. Industry interview partners are looking forward to GPP. The initiatives of the government including support to technology development will be important, but not as a specific demand coming from GPP alone, but in support of industrial development (if at all). GPP will provide an additional momentum for the existing modernization programs of the government (see policies such as the 'Greening the Industry Roadmap').

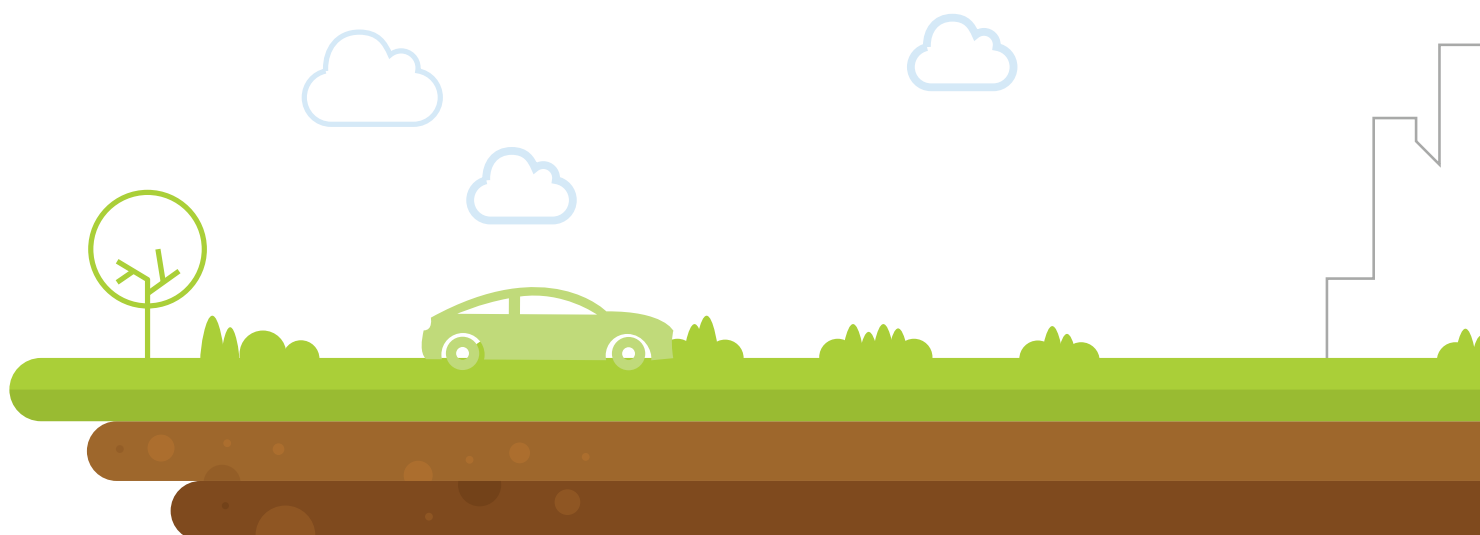
To bridge between the government's procurement plans and the suppliers, the DPM-PS has established the commendable exercise of conducting annually a 'Government Vendor Engagement Day' since 2015 in order to present the upcoming procurement plan for the next year, to introduce changes in regulations and rules and to discuss in a participative process for

any matters arising. Before enacting new technical specification through PhilGEPS, suppliers have the opportunity to give comments and suggestions. This best practice helps to avoid surprises regarding market readiness and availability of green items, both for the procuring entities and the suppliers. These and more measures shall be enhanced in the future (see chapter 4).

A public procurement system has to investigate the availability of supplies beforehand while checking the detailed formulation of technical specifications and of establishing budget ceilings. To avoid disadvantaging the local suppliers, market surveys are helpful. The GPP roadmap proposes a sincere assessment, besides environmental impacts and other criteria, of the market readiness and the support to local suppliers before new items are included in the GPP system (see chapter 4).

3.4.4 Capacity and awareness

GPP like any reform or innovation of the public procurement system must be complemented by adequate capacity building and awareness efforts. The main issues that could hamper the implementation of GPP are the lack of understanding of how GPP will fit into the existing system. Arguments such as green is more expensive and would not work without incentives, questions to fair competition, green criteria and their verification are addressed by the strategies of the roadmap (see chapter 4) with reference to existing institutions and programs.



3.4.5 Verification of green supplies

A frequent concern of procuring entities is the verification of supplies along the required technical specifications. The GPP roadmap describes the basic mechanisms of verification (see chapter 4) and the means to this end. It is important to note that GPP has no different requirements in this context than conventional procurement. The logical procedure is the formulation of technical specifications that are feasible to meet and to evidence by the suppliers without unreasonable burden to both suppliers and procuring entities. Keeping the system simple is the key to success and compliance. It is emphasized that public procurement is a commercial deal between the government and private business and rooted in mutual trust. There are firewalls in place that can prevent fraud through faked product information such as the possibility to exclude suppliers from a contract, to blacklist suppliers for the future and to request painful compensation payments.

It will be wise to conduct sample testing sometimes, particularly in case of bigger orders. The government can refer to a number of testing laboratories for this purpose such as: Forest Product Research and Development Institute (c/o the Department of Science and Technology (DOST), Fuels and Appliance Testing Lab (c/o DOE), Intertek Testing Services Philippines Inc., SGS Philippines, Ostrea Mineral Laboratories (Lead Content Only), Sentrotek, TUV Rheinland, Scientific Environmental and Analytical Laboratory and Services, Inc. (SEALS Inc.), and the Industrial Technology Development Institute (ITDI).



4 Strategies for the Way Forward

The GPP roadmap proposes five strategies for a systematic and gradually full-scale implementation of GPP in the Philippines. Paramount is an unambiguous policy commitment (Strategy 1). Following the established practice, separate approaches are proposed for CSEs which are centrally purchased through the DPM-PS (Strategy 2) and non-CSE are directly purchased by the various government stakeholders (Strategy 3). Complementary communication and awareness for GPP shall increase capacity in terms of knowledge, skills and attitudes (Strategy 4). Finally, monitoring and evaluation along a question-based format will follow-up the progress of implementation (Strategy 5).

Each strategy starts at the current state of play of identified and prioritized products over steps to be taken in the short to medium term up to a long-term scenario in the form of possible perspectives to advance GPP to a comprehensive SPP system. Underlying all strategies is the understanding that GPP is not meant to open a parallel track of public procurement but an inherent feature that shall become the norm of public procurement in the Philippines.

4.1 Policy commitment

Reiterating the importance of Resolution No. 15-2013, the GPPB will confirm, adopt and approve (by virtue of its power) the present GPP roadmap with a resolution after consent is achieved by the GPPB members. GPP will be declared as the desirable norm of public procurement to bring the country forward in conformity with the objectives of sustainable consumption and production, in support of national development priorities and with recognition of the leadership role of the government as the single largest buyer in the market.

The resolution will adopt the first set of CSEs and the mechanisms of the roadmap to extend the scope and dimensions of GPP towards SPP. The resolution will adopt the first set of non-CSEs and the mechanisms of the roadmap in this respect. The resolution will demand to establish and implement the complementary measures to increase capacities and awareness. It will adopt the proposed framework for future monitoring of GPP. Finally, the resolution will endorse the proposed timelines (see work plan in chapter 6) and responsibilities (see stakeholder matrix in chapter 5).

4.2 GPP of CSE products

Public procurement in the Philippines is equipped with a well-established process to centrally procure CSEs by the DBM-PS. About 82 product groups and 297 CSE and other consumable items are currently available which accounts for a sizable percentage of the total volume of public procurement. The majority of products under this regime are consumer goods, similar to that of private and commercial household consumption. Greening this sector will have a signal effect to the whole country.

4.2.1 Green criteria and technical specifications for CSE products

The main avenue for including the green argument in the public procurement process is the formulation of technical specifications in the bidding documents. GPP does not change the requirement of the standard PBDs to be clear and concise in specifying what quality and functionality the tendered items will have. The bidding process becomes a green process by adding new or alternative technical specifications which refer to the potential environmental impacts of an item regarding its material composition and in its use and its disposal phase. Green criteria express the environmental relevance of products and services over their life cycle or parts of it. Typical questions that can be asked are for example: What is the origin of the materials contained in a product; are they from renewable, recycled or from limited sources? Are there hazardous substances involved that could be avoided? What attributes would make a product more environmentally -friendly in its use phase through reduced energy and water consumption, lesser carbon emissions or extended durability? What are the options of an item at its end of life; is there a recycling or re-use opportunity?

In summary, commonly used criteria refer to energy consumption and energy sources, carbon emissions, waste to landfills and recycling options, packaging, water use, hazardous substances, local environmental pollution of air and water, biodiversity, and materials including renewable alternatives. The identification of green technical specifications for the Philippine context can capitalize on vast international experiences and research in the form of comprehensive life cycle assessments, the results of which are open-source available . The common practice is to pick those arguments for the formulation of green technical specifications, which are of the highest relevance, and are practicable to use by suppliers as well as by the procuring entity in the process of verification. Although comprehensive criteria are available, the best practice is

to refer to a few, in some cases, only to a single criterion depending on the nature of the subject; paramount is the feasibility of the approach and a lighter green approach is often more appropriate than a dark green ambition that probably fails due to sophistication.

Green technical specifications must fit the purpose to identify the Lowest Calculated and Responsive Bid (LCRB). Specifications have to be formulated so that a transparent evaluation at the price level is possible. This requires that the technical specifications express both the requested functionality and the green attributes. Aspects that refer to Life Cycle Costing (LCC) or Total Cost of Ownership (TCO) considerations have to be expressed as technical specifications that have to be met by the supplier. Green technical specifications will not spoil the value-for-money pledge. Usually, green criteria will even provide an added value, either directly due to improved product functionality or indirectly due to the contribution to realize the policy goals in environment protection and sustainable development.

In the annex²¹, the roadmap contains the first set of possible technical specifications for selected items that have been identified through stakeholder consultations during the effort to draw up this roadmap.



²¹See annex: GPP technical specifications for priority product groups

4.2.2 Selection of CSE products for GPP

Theoretically, all CSE items listed in the PhilGEPS are accessible by green technical specifications. However, a stepwise approach is recommended that follows the existing practice to conduct market surveys to explore the feasibility of putting new, (in this case) green products on the list. The right of the government to procure value for money in terms of source, quantity, quality, price, time and delivery has to be ensured. It is proposed to assess possible CSEs for GPP along the following considerations:

<p>Market readiness</p> <p>Are there sufficient number of suppliers, choices and product quality? A score is given between 1, if the market is not ready at all, for example, when no suppliers exist, and 5, if the market is perfectly ready and many suppliers which offer a broad choice of products are available.</p>	<p>Environmental impact</p> <p>What is the direct environmental impact, for example, through emissions, depending on the number of procured goods and the individual environmental pollution caused by each product? In addition, what is the indirect environmental impact through a potential contribution to greening the industry depending on the leverage on the market? A score of 1 to 5 is given depending on a low or very substantive positive environmental impact.</p>	<p>Cost implications</p> <p>Are decreasing costs through lower operational costs for energy, water and disposal expected? Or higher costs, for example, as a consequence of higher product cost and higher product quality? A score of 1 to 5 is given depending on substantial cost increases or notable savings.</p>
<p>Practicability</p> <p>Are supposed green criteria easy to formulate and to verify? A score of 1 to 5 is given depending on the difficulty or easiness to formulate and to verify green criteria.</p>	<p>Support to government environmental objectives</p> <p>A score of 1 to 5 is given depending on either a weak or a strong connection to government environmental objectives.</p>	<p>Support to the local economy</p> <p>A score of 1 to 5 is given depending on either no or substantial support to the local industry and local SMEs.</p>



²²See annex: GPP technical specifications for priority product groups

According to this 'radar' system, the first set of ten CSEs suitable for GPP have been identified in consultative processes assisted by the SWITCH-Asia team. The ten products have been prioritized with the following order of cumulative scores: multi-copy papers, toilet papers, record books, cleaners, chairs, disinfectant sprays, trash bags, liquid hand soaps, detergent powder and LED light bulbs.²²



This screening method is applicable to all other CSE items. The most critical issues that could favor or hamper the uptake of CSE products for GPP are the market readiness in the context of supporting the local economy, given a developed global market, which today is able to supply any form of green products. As far as there is no conflict with local suppliers' capacities, the uptake should not be an issue. In case of a conflict, there is still the broad field of formulating technical specifications in the country specific context. The considerations that are already present in the current public procurement system are chairs. In Scandinavian countries, a sustainable chair would be of wooden material due to the vast forest resources whereas; in the Philippines, chairs are preferable made from plastic due to the lack of forest resources; a plastic chair would not pass GPP in forest-rich countries like, a wooden chair will not pass GPP in the Philippines.

4.2.3 Verification of green CSE supplies

Public procurement that refers in the bidding process to technical specifications is challenged by the verification of supplies whether they actually meet the requirements. This applies to conventional public procurement and to GPP the same. An example are paper products which are required to contain a certain percentage of virgin pulp; green paper products would contain less virgin pulp and more recycling pulp; the means of verification remain unchanged. Already now, sample testing is conducted by the procuring entities to verify that the procured items match with the required specifications. The government can refer to a number of testing laboratories for this purpose (see chapter 3.4.5).

The principal mechanism is that the supplier has to provide sufficient evidence that the offered products meet the required specifications. Appropriate means of proof of compliance are, for example, technical dossiers from the manufacturer, test reports from a recognized body accredited by the Philippine Accreditation Bureau or a trusted declaration from the manufacturer. For imported products, recognized labels could be accepted, if a dossier on the reliability and the meaning of the label are provided in the product specific context; it would just serve in lieu of a test report.

4.2.4 Gradual advancements of GPP for CSEs

Stakeholder consultations have expressed optimism that of the list of prioritized CSEs, multi-copy papers, toilet papers, record books and LED light bulbs will be included quickly in the first tranche of GPP. The DBM-PS has already included these items with the initial green specifications in the procurement opportunities of 2017 (see slide). The remaining prioritized CSEs such as cleaners, chairs, disinfectant sprays, trash bags, liquid hand soaps and detergent powder will be included as a second tranche in the procurement plan for 2018.

Green Procurement Examples

ITEMS	SPECIFICATIONS
Folder, Tagboard, A4 and legal size	✓ Uses recycled tagboard, Carrier board, foldcote
CCF, 1 ply, 2 ply and 3 ply Sizes: 280mm x 241mm 280mm x 378mm	✓ Uses recycled bond paper
Data File Box and Data Folder	✓ Uses recycled chipboards
Envelope, documentary, A4 and legal size	✓ Uses recycled kraft paper
Wastebasket and Dust Pan	✓ Uses recycled plastic
Light Bulb, 7 watts Linear Tube, 18 watts	✓ LED (Light Emitting Diode)
Toilet Tissue	✓ Uses 40% recycled tissue paper

In the medium term, the entire list of CSEs will be equipped with green considerations. The practical mechanism is the inclusion of green technical specifications into the PhilGEPS procurement notices. This will be complemented by the updated procurement guidelines and further auxiliary measures of capacity building and suppliers' communication as discussed in chapter 4.4.

For the longterm, the criteria referring to employment, working conditions, CSR, supply chain management and others could be taken into consideration by advancing GPP to SPP. To extend the suppliers preparation phase, early forecasts of procurement opportunities could be used to inculcate innovation; the government could announce that it intends to buy (in a few years) only such products that comply with certain specifications. An international example is the Norwegian plan to procure only electric cars from 2025 onwards.

4.3 GPP of non-CSE products

Non-CSE items are all items that are not embraced by the central procurement activities of the DBM-PS. Non-CSEs are procured by individual government bodies and actually have a bigger volume of public procurement because it also concerns, (besides consumer goods) bigger investments and infrastructure projects. The GPP roadmap deals mainly with consumer goods; GPP for infrastructure projects is a complex aspiration that would need a separate roadmap.

4.3.1 Prioritization of non-CSE products for GPP

The scope of non-CSEs is very wide; theoretically, it covers everything else which is not a CSE item. Government agencies throughout the administration at national, provincial and local levels procure items necessary to fulfill their service duties to the people. The individual contexts create differing requirements to supplies and equipment. Yet, there are frequently procured non-CSEs which can be included under the regime of GPP in a similar way like CSEs and with respect to the government's right to procure value for money. By applying the considerations of market readiness, potential environmental impact, cost implications, practicability, support to government environmental

objectives and support to the local economy, the first shortlist of suitable non-CSE items for GPP was identified. Ten products have been prioritized with the following order of cumulative scores: computer monitors, desktop computers, laptops and copiers; air conditioners, fridges and freezers; toilets and urinals; vehicles; services of training facilities and hotels, food and catering services; paints and varnishes; textiles, uniforms and work clothes.²³ This screening method is applicable to expand the scope of GPP for additional non-CSEs over time.



Computer and Laptop Monitors



Vehicles



Copiers



Food and Catering Services



Toilets and Urinals



Air Conditioners



Fridges and Freezers



Paints and Varnishes



Training Facilities/ Hotels/Venues



Textiles (Uniforms and Work Clothes)

²³See annex: GPP technical specifications for priority product groups

4.3.2 Tendering of non-CSE products with green core criteria

One of the screening considerations used in selecting the prioritised non_CSE items was the practicality of incorporating green criteria in technical specifications of bidding documents. For office IT equipment, the requirement of energy star rating would suffice. For other energy consuming devices and for which, the DOE DC 2016-04-0005 applies, the highest Minimum Energy Performance Standards (MEPS) shall will be the requirements to be met. For all electric and electronic devices, safe disposal at the end of life through recycling and take-back options have to be provided; products which contribute to ozone depletion shall be excluded. Technical specifications are available to avoid purchasing of paints and varnishes which are related with harmful emissions to air and water during its production and use and with toxic contents with implications to human health. Textile products contain restricted amounts of hazardous substances used during the processing and be preferably made of

sustainably produced fibers. Toilets and urinals shall be water efficient with low maintenance costs. Vehicles shall be operable with low emissions. Food and beverages shall be of local productions to avoid food-mileages for transport, reduce packaging and storage. Training facilities and hotel venues will be required, for example, to practice energy and water efficiency.

A detailed list of possible green specifications for the prioritized non-CSEs is provided in the annex;²⁴ it also includes detailed justifications of the proposed green criteria and the means of verification. The principal mechanism is that the supplier has to provide sufficient evidence that the offered products meet the requested specifications. In choosing technical specifications and thereby, adopting international best practices, the general rule of thumb would be to select at least one green core criterion for each product group for a start.

4.3.3 Championing the implementation of GPP for non-CSEs

Different to CSEs, the procurement of non-CSEs is the responsibility of individual agencies and government branches. To push for GPP, champions are needed to test the procedures and to establish good practices that can be replicated at a larger scale. These champions will be selected according to their willingness to lead by example and a significant purchasing volume of the concerned items.

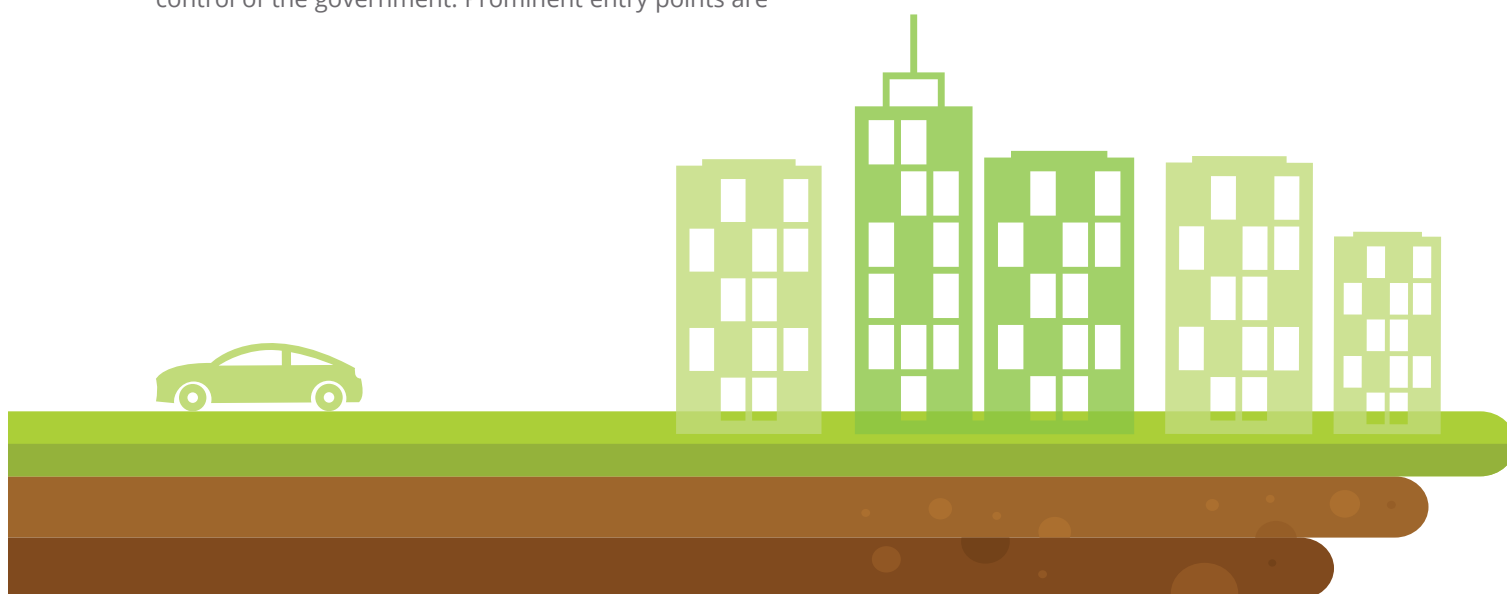
²⁴See annex: GPP technical specifications for priority product groups

4.3.4 Gradual advancements of GPP for non-CSEs

The implementation of GPP for non-CSEs will commence with a first set of prioritized items (see above) which are at least equipped (each) with one green core criterion in the technical specifications' section of the bidding documents. The appointed champions will go ahead during 2017 and 2018. The experiences of this pilot phase will allow a consolidated approach that will spread out to all public procurement agencies. GPP will become mandatory throughout for the selected items. A further option is to include certain items under the regime of the PhilGEPS, for example, IT offices. In the medium to long term plans, further non-CSE items will be adopted for GPP according to the described mechanisms of product selection and defining green technical specifications. The inclusion of social and innovation stimulating criteria will advance the system toward SPP.

A big challenge remains on how to include infrastructure and public works projects under the regime of GPP. It is proposed to develop a separate roadmap for greening the building sector under the control of the government. Prominent entry points are

office buildings and education facilities such as schools, kindergartens, universities and training centers and social and affordable housing projects subsidized by the government. The complexity of these objects will require an approach that considers the long turnover of the building stock. Building design and primary investment will determine the operating costs such as energy usage. GPP, in this sector, means to refer to LCC and TCO models, which are beyond the current legal possibilities of the GPRA. However, this will not hold back on the regular regime of GPP minor building operations in the field of repair work, lighting, change of air conditioners, the use of green building materials and paints, furniture, gardening and other products and services, some of which have been already included under CSEs or non-CSEs for GPP.

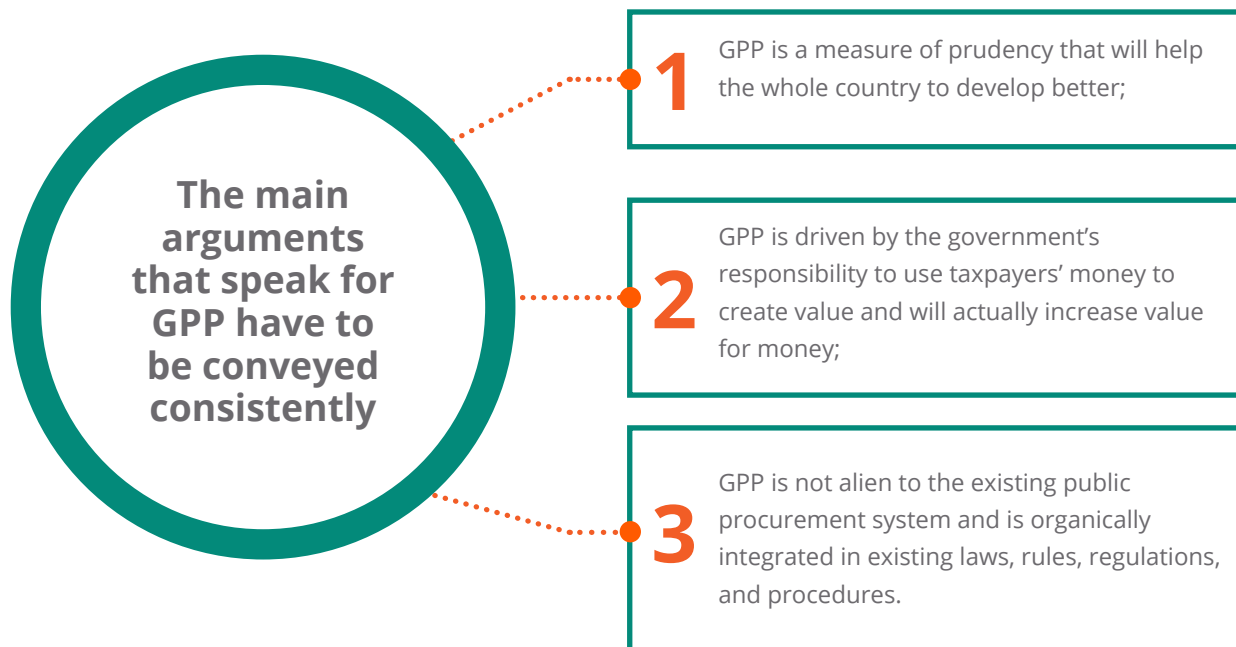


4.4 Communication and awareness for GPP

Currently, the understanding of GPP is at an infant stage. Creating awareness of the benefits of GPP, enhancing capacity in terms of knowledge and skills and changing mind-sets and attitudes are challenges that deserve high attention.

4.4.1 Communication strategy

Communicating GPP successfully requires clear messaging. GPP constitutes a paradigm shift in public procurement.



In summary, GPP is not complicated at all; it is simple enough that little additional efforts will be outweighed by the benefits.

Communicating GPP successfully means to address the players of the system in a customized manner. Procurement officers have to understand the features of GPP; guidelines, manuals and tools have to be updated; no separate track will be opened, rather green arguments will be integrated into existing

procedures. Capacity has to be built through a train-the-trainer approach. Leaders have to be convinced to use their authority to promote GPP as the new and beneficial paradigm. The private sector is the partner of the government to make GPP happen and should be properly informed about the new business opportunities given through GPP. Finally, the wider public will be inspired by the leading example of the government.

4.4.2 Guidelines, manuals and tools

Implementation of public procurement in the Philippines is supported by a set of auxiliary tools to guide how to create value for money through public procurement in compliance with the law. These materials also suffice to serve the green purpose, but will be updated whenever necessary to refer explicitly to the features of GPP.

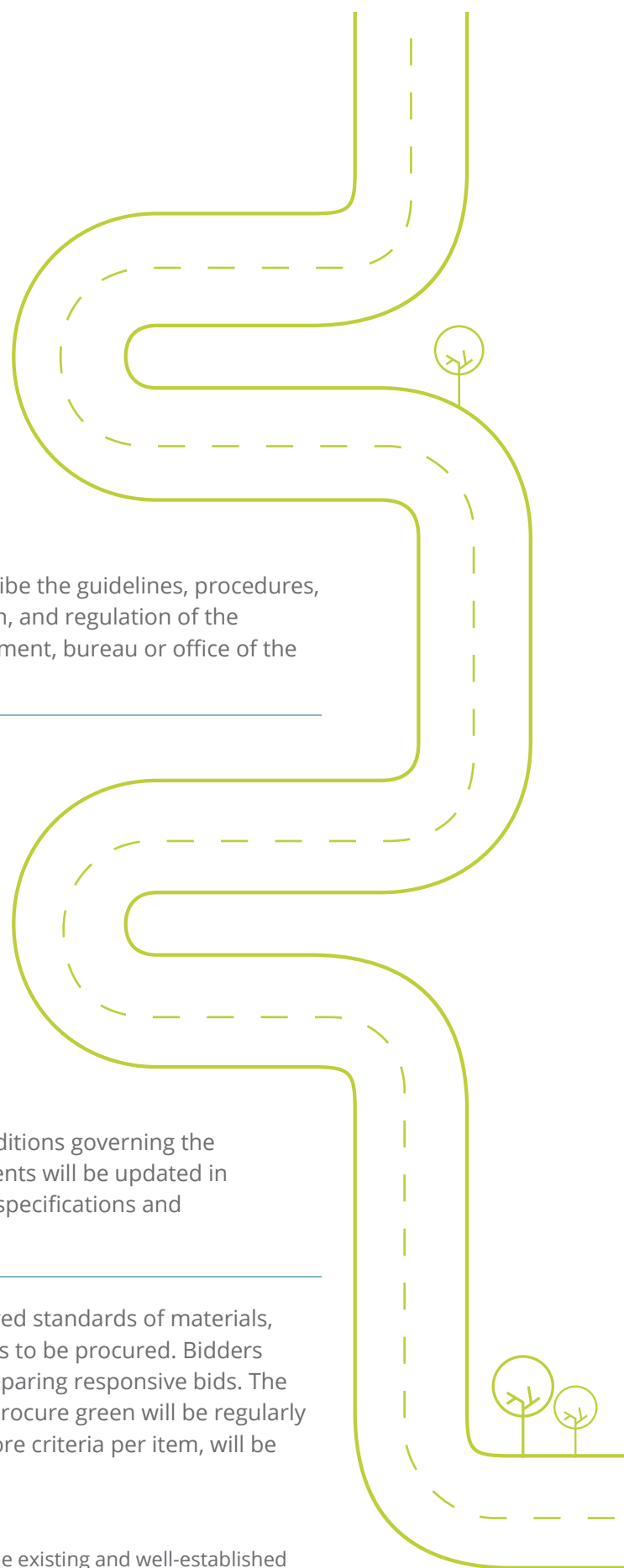
- The Implementing Rules and Regulations (IRR) prescribe the guidelines, procedures, and standards for the modernization, standardization, and regulation of the procurement activities of any branch, agency, department, bureau or office of the Government of the Philippines.

- The Generic Procurement Manual (GPM) details all aspects of public procurement to ensure the standardization of procedures. It is for the use by public officials involved in procurement and the private sector wishing to participate in government procurement. The GPM will be updated by including the concept of GPP as a principle of public procurement and how it materializes in the procurement procedures.

- The Philippine Bidding Documents (PBDs) provide, in clear and simple terms, the steps to follow under competitive bidding, and the contract terms and conditions governing the winning bidder and the procuring entity. The documents will be updated in particular regarding the selection of items, technical specifications and verification requirements to suit GPP.

- Specifications present a clear statement of the required standards of materials, workmanship and performance of goods and services to be procured. Bidders should comply with the required specifications in preparing responsive bids. The specifications applicable for the prioritized items to procure green will be regularly updated. The minimum requirements, at least one core criteria per item, will be determined.

It is paramount that GPP is not separated or alienated from the existing and well-established practices of public procurement in the Philippines. Instead of compiling separate rules, guidelines or bidding procedures the concept of green shall will be integrated organically into the existing set of legal and guiding documents. No parallel track for GPP shall be opened to avoid setting off GPP as a niche exercise.





4.4.3 Training for the DPM-PS and related agencies

The plan of the GPPB-TSO to advance its Capacity Development Division to eventually become a procurement capacity development institution is a perfect match. The division currently runs a 'procurement continuing professional education' program with 15 training modules on procurement topics. GPP will become the 16th module. The DPM-PS is the most advanced procuring entity and has already started to define its first products with green specifications. An in-depth training provided by the GPPB-TSO Capacity Development Division to the DPM-PS staff will kick-off a series of training efforts regarding the understanding and the importance of GPP, its rationale and practical implementation.

Training for GPP of CSEs will be provided to all purchasing officials, end-user units, planning and project implementing units of the Government, procurement personnel of national and local government, inspection and acceptance committees, Commission on Audit (COA) staff, PS Technical Specifications Review Committee (TSRC), bids and awards committees and its secretariat and the technical working group, marketing and sales staff, DTI Bureau of Small and Medium Enterprise Development (BSMED), and DTI Bureau of Philippine Standards.

The objective is to establish a pool of trainers that can also provide training to other stakeholders. Since the DPM-PS is partly procuring like non-CSEs, it will play a vital role in assisting other officials involved in procurement and the private sector to capture the concept of GPP as well as that of non-CSEs.



4.4.4 Modular training for procurement officers of other government agencies

These trainings will be conducted by the trainers that have been capacitated in the first instance. A stepwise and modular approach will suit the variety of non-CSE items. Training on the use of technical specifications and verification of green non-CSEs supplies could be clustered thematically such as for office IT or energy consuming devices under the MEPS regime. Technical assistance will be recruited through experts from concerned agencies such as DOE or DENR. The first target group is the appointed champions to lead the exercise in a pilot phase (see 4.3.3). To reach out to the many local government bodies, sufficient budget and personal resources have to be provided. Training will

be provided to the Head of a Procuring Entity (HoPE), technical specifications committee, bids and awards committee and its technical working group, inspection staff, etc.

The ideal formats for these trainings are workshops whereby the stakeholders will be guided to customize specifications to the individual context by including at least one green core criterion per tender. The intention of local authorities to prefer their local suppliers will not be contradicted by a generic GPP approach. This will create motivation and acceptance to pursue GPP with passion.

4.4.5 Getting the support of the leaders

For the overall success of GPP and to ensure the support of the top management, the GPPB, itself already consisting of 14 secretaries from key agencies, will organize an adequate flow of information on the concept of GPP as integral part of the public procurement system. The main contents of such activities could be to present the GPP roadmap and legal and organizational steps taken in the implementation. The desired outcome is that leaders in their public speeches and instructions refer to GPP as an important measure to bring the country forward. The main avenues in this respect are the members of the cabinet, heads and deputies of departments and bureaus, the members of congress, the leagues of provinces, cities and municipalities. Another target group is business leaders.

Key individuals who have already gained positive experiences with the GPP can assume the role of change agents and can influence other stakeholders and opinion leaders. A spokesperson may also be

designated; one who is high-profile, eloquent, and knowledgeable enough to discuss the GPP. The spokesperson should have an overall positive image and can be the face that could be associated with the GPP.

Promotion of the advantages and benefits of the GPP to the numerous heads of government offices (i.e. department/bureau heads for national government and LCEs for local government) via trainings, seminars, one-on-one presentations and the like can help the government leaders in acknowledging that they are not only participants to the GPP processes but partners and therefore, are expected to contribute to the success of its implementation. The GPPB, thus, should strengthen ties with the heads of the different governmental departments and bureaus as well as with local government executives for sustained cooperation and support to GPP.

4.4.6 Outreach to suppliers

Over the time, GPP will provide a momentum to upgrade Philippine standards of products and processes. The procurement notices to suppliers are a vehicle to convey updated standards to the business community; GPP and industrial development will go hand in hand.

The existing channels like the annual Vendors' Day organized by the GPPB-TSO and the DPM-PS to inform manufacturers, suppliers and contractors about GPP will be strengthened and advanced to a real market place to match the actual demands and supplies. Awareness campaigns should be conducted on the policies, regulations and developments in GPP. A frequently asked questions (FAQ) section will be established under the existing web portals of GPPB and DBM-PS. Meetings with the leaders of the various supplier and industry associations should be more

vigorously pursued to determine if positive attitude and behavior towards GPP have been attained and if not, determine how to address the gaps in the perception and attitude on GPP.

DTI is taking steps to assist suppliers to compete with those who can already offer green products. Manufacturers and suppliers, particularly SMEs, will be provided assistance to comply with green standards through innovation and technology upgrading, green financing for production and resource efficiency and certification of energy efficiency and environmental management systems. Communication and advocacy programs to promote green products and services will be adopted.

4.4.7 Outreach to the wider public

Mass media is an effective avenue to disseminate information to the greater public. Engagement with print media through press articles and media kits should also convey stories and testimonials on the advantages and benefits of green purchasing for the wider public. Similarly, broadcast media should not be limited to occasional broadcast plugs or press releases but should integrate the GPP into regular programming, such as talk shows, commentary and documentary. However, while television and radio opportunities would provide much exposure, they are costly. In most instances, meetings with a particular audience or media briefings are more cost-effective. The use of the internet should also be maximized. The GPP should be widely promoted in pertinent websites, with the goal of utilizing this interactive medium as an information dissemination tool, databank, and feedback channel, among others.

Information, education and communication (IEC) materials using different formats (e.g. posters, newsletters, brochures), audiovisuals and electronic are support materials that can be best utilized to reach out to other sectors; the government can use various social structures such as church, school, and community-based organizations as channels or venues for further IEC initiatives, specifically in advocating the role of the public as active partners in the implementation of GPP.



4.5 Monitoring and evaluation of GPP implementation

The implementation progress of GPP will be monitored and evaluated right from the beginning through a systematic effort to ensure compliance and to answer the key questions that are deduced from the set goals and targets for GPP.

4.5.1 Compliance and progress

Ensuring the proper implementation of rules and regulations and the effectiveness of public procurement is the responsibility of the GPPB-TSO. Assessing compliance and progress of GPP implementation will, therefore, rest with the GPPB-TSO. In 2012, the Agency Procurement Compliance and Performance Indicators (APCPI) was approved by the GPPB as the M&E methodology according to international best practices and standards. The agency approximates the methodology and criteria prescribed by the current OECD-DAC guidelines. The APCPI has the purpose of a standard monitoring and evaluation tool for use by all procuring entities on a regular to annual basis and works through a questionnaire that has to be filled by all procuring agencies. The main focus is on monitoring national compliance to procurement rules and regulations is to identify the strengths and weaknesses in the agency's procurement systems.

The APCPI has four key areas called 'pillars' that characterize the basic elements of the national public procurement system. The questions under Pillar I target the compliance with the legislative and regulatory framework. pillar II assesses the agency institutional framework and management capacity. The questions under pillar III aim at the procurement operations and market practices. Subject of pillar IV is the integrity and transparency of the agency procurement system. Sixteen (16) indicators and forty (40) sub-indicators are currently used across the four pillars.

GPP relevant aspects will be harmoniously integrated into the APCPI system. The current, ongoing review of the system in accordance with the recently updated OECD-DAC guidelines provides the opportunity to include indicators to effectively monitor the 'greened' public procurement system. It is suggested to insert two new sub-indicators under pillar I (Legislative and Regulatory Framework): a sub-indicator (2g) will observe the 'percentage of green CSE contracts of total amount of CSE contracts', and a sub-indicator (2h) will measure the 'percentage of green CSE and non-CSE contracts in terms of amount of total goods'. A scoring range will also be formulated to determine numerical and qualitative scores for each sub-indicator.

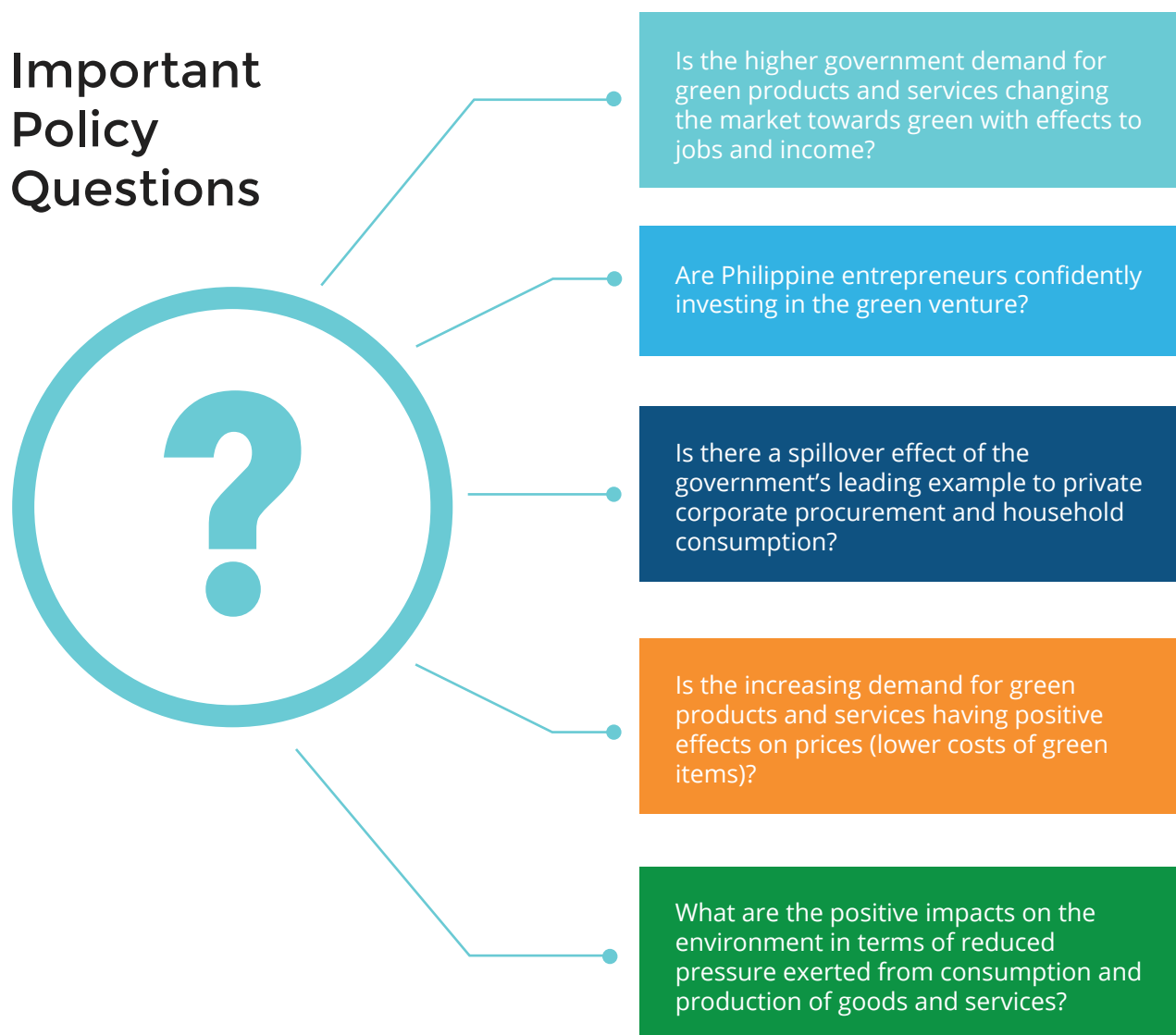
The APCPI and the consolidated procurement monitoring report (CPMR) would be revised accordingly. The procedures described in the APCPI guideline²⁵, basically, remain unchanged except the indicated updates with the additional GPP features. This applies analogously to the forms²⁶ in use. Section 2 (Assessment Methodology) of the APCPI will include the new sub-indicators and the CPMR will have two additional rows. These updates will be indicated in the GPPB resolution approving the GPP roadmap and the adoption of the green CSEs and non-CSEs.

²⁵Agency Procurement Compliance and Performance Indicators (APCPI) System User's Guide

²⁶APCPI User's Guide, CPMR, and the Action Plan

4.5.2 Impact of GPP

GPP has the potential to influence the bigger picture of sustainable development. The APCPI system in place focuses on Key Performance Indicators (KPIs) to monitor activities rather than the effects and impacts on the socio-economy and the environment. GPP intends to achieve significant impacts (see chapter 1.2) and it will be useful to observe whether these impact expectations hold true. The information submitted to the APCPI by the procuring agencies can be linked to other government-related databases to encompass the wider socio-economic aspects.



These complex questions are exceeding the narrow format of monitoring of the public procurement system. But they are worthwhile to be answered through a joint effort of all concerned stakeholders and by linking with other government surveys, statistics and databases.

5

Stakeholder Matrix

The successful implementation of GPP will require a joint effort of various stakeholders within their mandates and roles.

Government Procurement Policy Board (GPPB)



As independent inter-agency body with government and private sector representation, the GPPB will ensure the national interest in the pursuit of GPP. Upon consultations, it will endorse the GPP roadmap including all consequential amendments to the rules and regulations and tools for compliant implementation including the procurement process itself and its adequate monitoring. The GPPB will conclude and issue a new resolution to this end and any future amendments to it, if indicated in the longer term, to further advance to sustainable public procurement.

GPPB Technical Support Office (GPPB-TSO)



The GPPB-TSO will assist the GPPB in formulating the GPP resolution and amending implementing rules and regulations. It will spearhead the actual implementation of GPP through the formulation of updated guidelines including green technical specifications and the means of verification; adequate training to procuring entities will be organized. The TSO will ensure proper communication to leaders, government bodies and procuring entities at all levels, suppliers and the wider public including the international community. The GPPB website will be regularly updated. The TSO will closely observe the timely implementation of tasks formulated in the GPP roadmap and take care of the monitoring of GPP compliance and progress including the anticipated positive impacts through joint research activities within the wider government. The TSO will ensure maximum cooperation with the international community to follow up global trends in GPP to enhance the long-term perspectives of GPP in the Philippines, and to drive the further enhancement of the system based on lessons learned from the implementation of the current GPP roadmap.

Department of Budget and Management - Procurement Service (DPM-PS)



The DBM-PS is the lead agency in the practical implementation of GPP, foremost in the green procurement of CSEs, but also for guiding the green procurement of non-CSEs. It will determine the technical specifications of items that it will procure on behalf of the entire government, and it will assist to develop the green technical specifications for directly procuring entities throughout the government landscape. The DBM-PS will update the PhilGEPS which would become the major source of items with green technical specifications including the required means of verification. The expertise of DPM-PS staff, enhanced through in-depth training, will become a major factor for training on GPP in the Philippines through a train-the-trainers model. The DBM-PS will gradually increase the scope of green purchased items, conduct sincere market surveys and regularly communicate with suppliers and manufacturers.

Department of Trade and Industry (DTI)



DTI will strengthen its programs for greening of the industry and SMEs with interventions to enable the industry to meet environmental standards required by the market. DTI will also serve as the interface between government and business members organizations such as chambers and industry associations.

Department of Environment and Natural Resources (DENR)



The DENR aims to assure the availability and sustainability of the country's natural resources and have a clean and healthy environment. Cognizant of the worsening air pollution in the country, strict emission limits/standards have been imposed for vehicles to improve air quality. Air Quality Monitoring Stations have also been set up in the strategic locations in Metro Manila. The DENR has also set effluent standards for industrial wastewater, among others, so that disposal of wastewater during the production processes of suppliers are within acceptable standards.

Department of Trade and Industry - Bureau of Philippine Standards (DTI-BPS)

The DTI-BPS is the national standards body of the Philippines and formulates Philippine National Standards (PNS). The green specifications approved for the CSEs and non-CSEs by the GPPB may be harmonized with the PNS for these items. Through the BPS certification scheme, a quality seal is issued to the manufacturer of the product for its capability to consistently manufacture the goods in accordance with the specific PNS with green specifications. For imported products, Import Commodity Clearance certificates are issued to importers whose goods have been found to conform to the requirements of the relevant PNS similarly with that of the green specifications.

National Economic and Development Authority (NEDA)



NEDA will ensure the inclusion of the GPP Roadmap developments in the national development plans, as well as consideration of green infrastructure project proposals in their approval processes. NEDA will also play a vital role in the monitoring and evaluation of the broader socio-economic and environmental impacts of GPP.

Procuring entities of departments, provinces, cities, municipalities and government linked bodies

These stakeholders are an important target group for training and awareness raising efforts on GPP; they will play an important role for the nation-wide application of GPP through adhering to GPP procedures, particularly in the field of non-CSEs but also in providing feedback and records on their overall experiences with GPP. For example, educational and health-care facilities also plays a prominent role to promote green purchasing to the wider public.

Department of Energy (DOE)



The DOE aims to improve the quality of life by formulating and implementing policies and programs that ensure sustainable and reasonably-priced energy, among others. The DOE has a mandate to ensure judicious utilization of energy through utilizing energy efficient technologies; the current scope such as energy-efficient lights, refrigerators, air-conditioning units, and other fixtures will be gradually expanded. This will lower the carbon footprint in the country, thus, minimizing negative environmental impacts.

Government and Private Testing Centers

These testing centers verify the conformity of the products to green specifications. Electrical, chemical, physical, and mechanical testing of products are performed to determine compliance with the Philippine Standards Quality and Safety Marks or to acceptable international/foreign standards.

Other stakeholders and multipliers

NGOs, industrial associations, media, leaders and prominent citizens play an important role to spread the word of green purchasing. Their commitment will be essential. An example is the Philippine Center for Environmental Protection and Sustainable Development, Inc. (PCEPSDI); the non-government organization is serving as the administrator of the National Ecolabelling Program - Green Choice Philippines (NELP-GCP), a voluntary, multiple-criteria based, and third-party program that encourages clean manufacturing practices and consumption of environmentally preferable products and services. The NELP-GCP has 39 established product criteria and 42 certified products.

6 Workplan

6.1 Planning horizon

The GPP roadmap has a short to medium-term planning horizon and provides an outlook to possible long-term perspectives.

6.1.1 Short-term plan

The short-term period 2017-2018 will provide a solid foundation for a systematic GPP approach. Policy commitment will be established through a resolution that will adopt the GPP roadmap and the measures proposed herein including the mandate to kick-off the green purchasing of prioritized CSEs and non-CSEs; at the end of 2018, all prioritized items will be governed by GPP. On-the-job experiences will be gained in formulating green technical specifications and the means of verification. Capacity will be built through a train-the-trainer approach to familiarize central and decentral procuring entities with the concept of GPP and its procedures along updated guidelines and tools including updated monitoring tools fit for GPP. First, awareness activities will be conducted to get the leaders' buy-in, to inform and support suppliers and to reach out to the wider public with clear messaging that the government is irrevocably going green. In summary, the short-term period serves as a pilot phase to prepare the ground for a comprehensive roll-out of GPP in the years to come.

6.1.2 Medium-term plan

From 2019-2022, GPP will be consolidated towards the norm of public procurement in the Philippines. Potentially, all CSEs will be put under the regime of GPP; more non-CSEs will be included. All procuring entities at national, provincial and local level will be guided to practice GPP. This process will require sincere market surveys, regular communication with suppliers and systematic capacity building efforts for procuring entities. The lessons learnt in the pilot phase will ease the formulation of further green technical specifications; the procedures of verification will be adjusted as indicated by previous experiences. To keep the learning curve steep, annual reviews will be conducted including monitoring within an updated ACPCI framework. Impact monitoring will prove the value of GPP for the country's development, its industries and citizens. Awareness campaigns will be able to capitalize on success stories and a consistent narrative will evolve that green consumption is the best deal for the economy, society and environment.

Through this processes, the scope of green criteria will be widened to more comprehensive features wherever feasible, and in pace with the state-of-the-art mechanisms on the supply side. Towards the end of the medium-term plan, a review of the established system will prepare for the further advancement of public procurement beyond green considerations in the closer meaning.

6.1.3 Long-term perspectives

So far, the GPP roadmap has focused on options which are possible within the existing legislation and procedures for public procurement in the Philippines. Going beyond will require rethinking the existing legal base and procurement policy. The ambition will be to progress from GPP to SPP a process by which public authorities seek to achieve the appropriate balance between the three pillars of sustainable development — economic, social and environmental — when procuring goods, services or works at all stages of the life cycle of an item.

The inclusion of social criteria to protect human rights such as labor rights, fair wages or prevention of child labor, to name the most important, will require different means of verification of compliant supplies, which is very complex in view of global supply chains; the internationally, most frequently used testimony for social compliance are management practices proved, for example, by ISO standards certifications, as part of the suppliers' eligibility checks. This could put a burden too big for SMEs particularly. An alternative could be to emphasize the origin of supplies question and to formulate preference criteria; a practice that is used, for example, by the EU in the international projects with the intention to prioritize products of European origin. In such practices, the legal implications would have to be studied carefully as they, would open a window to preferred supplies made in the Philippines that can be trusted.

LCC and TCO are worthwhile to be systematically considered for bigger investments such as buildings. It was mentioned before that this sector would be better dealt with separately, for example, through an exclusive policy such as an energy-efficient building procurement and operation policy. It would make sense to reform the budget planning for the procurement of selected non-CSEs such as vehicles, to allow multiannual budgets that would also encompass the operation phase and not just the initial purchasing cost. Multiannual budgeting and long-term forecasts would also enable advanced procurement concepts such as forward contracting, where the government makes a binding commitment to buy after specifying distinct deadlines for products with certain innovative specifications which are not yet available in the market; pilot projects in this matter could be considered.

In summary, it is recommended to keep an eye on these aspects and observe emerging international practices that succeed or fail. Additional momentum for GPP can also be expected in the context of nationally necessary actions to mitigate climate change, following the Paris agreement of 2015; an aspect that will become virulent after 2020, at the latest; GPP could be one of the measures in this context but would require reliable impact monitoring, particularly of carbon emissions avoided through GPP.

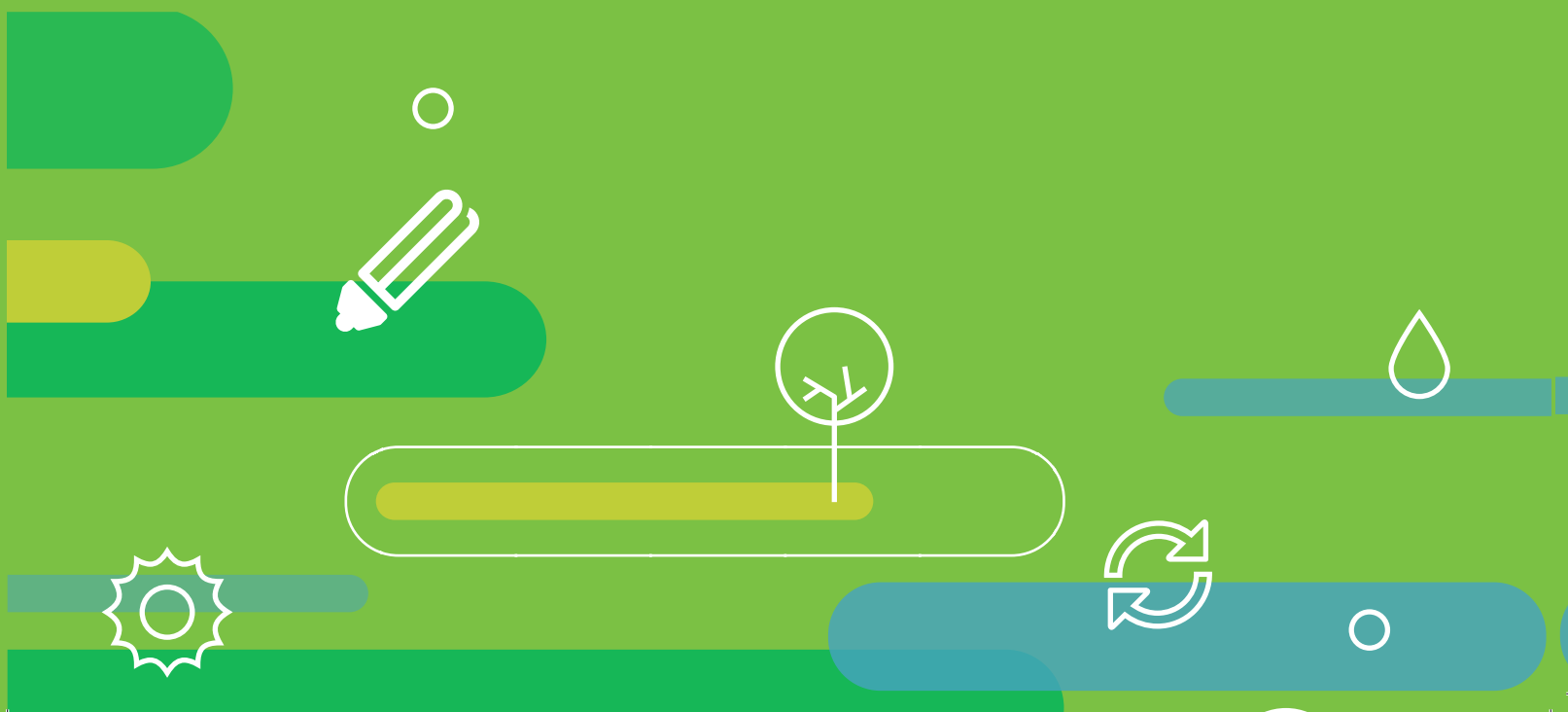
6.2 Distinct tasks and time table

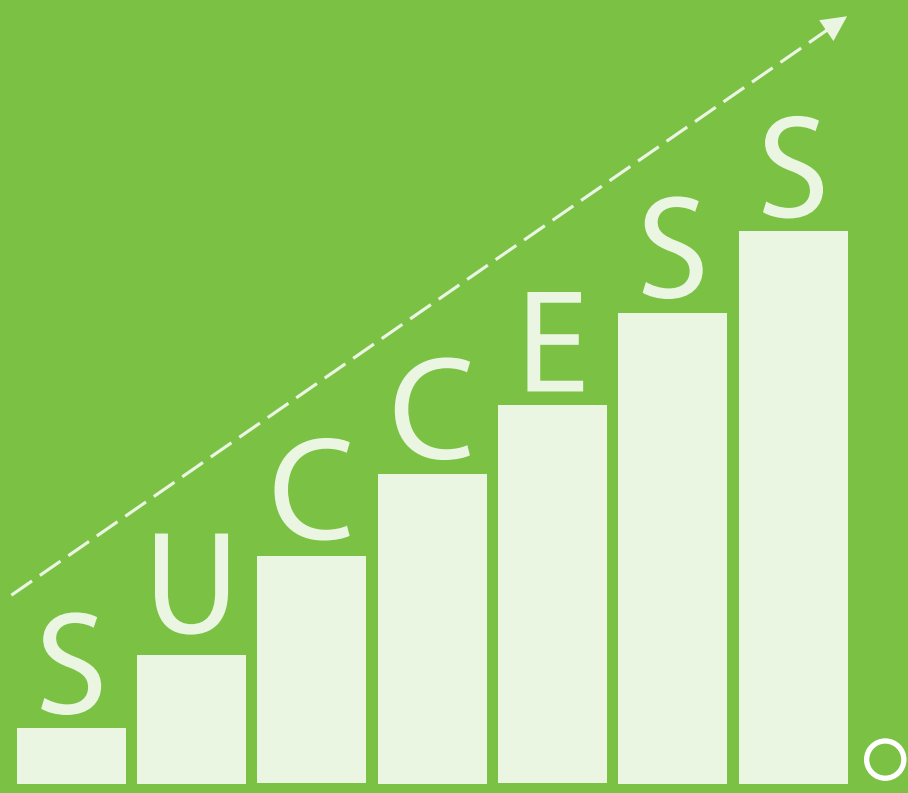
Strategies / Tasks	Responsible	
	Main	Assist
(1) Policy commitment		
1.1 Final version of GPP roadmap including annexes	GPPB-TSO	
1.2 Draft GPP resolution	GPPB-TSO	
1.3 Stakeholder consultation on resolution and roadmap	IATWG	
1.4 Adoption of resolution including GPP roadmap	GPPB	
1.5 Review resolution and update, if necessary	GPPB-TSO	
1.6 Resolution to include social aspects towards SPP	GPPB	
(2) GPP of CSEs		
2.1 Confirm first set of ten prioritised CSEs	DBM-PS	
2.2 Agree on green criteria (at least one core criterion per product)	DBM-PS	
2.3 Agree on terms of verification of green criteria	GPPB-TSO	
2.4 PhilGEPs with first green CSEs	DBM-PS	
2.5 Green procurement of first batch of prioritised CSEs	DBM-PS	
2.6 Green procurement of all prioritised CSEs	DBM-PS	
2.7 Market survey and gradually expansion of GPP scope to all CSEs	DBM-PS	
2.8 Agree technical specs, verification and update PhilGEPs	DBM-PS	
2.9 CSE procurement is green throughout	DBM-PS	
2.10 Review used criteria; update as suitable (annually)	DBM-PS	
2.11 Prepare advancement to SPP including social criteria	DBM-PS	
2.12 Implement SPP for first suitable CSEs	DBM-PS	
2.13 Full scale implementation of SPP for all CSEs	DBM-PS	
(3) GPP of non-CSEs		
3.1 Confirm first set of ten prioritised non-CSEs	DBM-PS	
3.2 Agree on green criteria (at least one core criterion per product)	DBM-PS	
3.3 Agree on terms of verification of green criteria	GPPB-TSO	
3.4 Prepare first tender documents, publish in PhilGEPs	DBM-PS	
3.5 Appoint champion stakeholders/volunteer agencies	GPPB-TSO	
3.6 Green procurement of first batch of prioritised non-CSEs	Champions	DPM-PS
3.7 Green procurement of all prioritised CSEs	Champions	
3.8 Review experiences of GPP of non-CSEs	GPPB-TSO	
3.9 Role out of GPP of prioritised non-CSEs to entire government	HOPEs	
3.10 Expand the scope of GPP of non-CSEs (more products/services)	GPPB-TSO	
3.11 Integrate non-CSEs into central procurement where suitable	DBM-PS	
3.12 Implement SPP for first suitable non-CSEs	HOPEs	
3.13 Full scale implementation of SPP for a maximum of non-CSEs	HOPEs	
(4) Communication and awareness for GPP		
4.1 Publish GPP resolution and roadmap on GPPB website	GPPB-TSO	
4.2 Review guidelines/manuals and tools	GPPB-TSO	
4.3 Training of DPM-PS staff on GPP concept and procedures	GPPB-TSO	DPM-PS
4.4 Training of champion HOPEs on GPP concept and procedures	GPPB-TSO	DPM-PS
4.5 Annual seminars on GPP concept and updates	GPPB-TSO	DPM-PS
4.6 Conduct webinars to GPP for procuring officers	GPPB-TSO	DPM-PS
4.7 Outreach to suppliers through PhilGEPs	DBM-PS	
4.8 Annual vendors' days	DBM-PS	
4.9 Outreach to suppliers through business member organisations	DTI	IAs
4.10 Organise roadshows on GPP throughout the country	GPPB-TSO	DPM-PS
4.11 Informing leaders through government channels	GPPB-TSO	Leaders
4.12 Promote GPP concept and progress at various leagues	GPPB-TSO	Leages
4.13 Regular promotion of GPP to the wider public	GPPB-TSO	
4.14 Inclusion of GPP concept into higher education	GPPB-TSO	DOEDU
4.15 Compile FAQ and publish on suitable web portals	GPPB-TSO	DPM-PS
(5) Monitoring GPP implementation		
5.1 Include GPP aspects into APCPI	GPPB-TSO	DPM-PS
5.2 Annual review of APCPI records	GPPB-TSO	DPM-PS
5.3 Establish impact monitoring with wider government stakeholders	GPPB-TSO	Agencies
5.4 Bi-annual reports on GPP progress (impacts and issues)	GPPB-TSO	Agencies

Short term		Medium term				Long term	
2017	2018	2019	2020	2021	2022	until 2025	until 2030
█ █				█	█		
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7 Conclusion

The roadmap at hand builds GPP on existing policies and procedures, involves the major players who are committed to GPP, has carefully investigated the market's capacities and the opportunities of the supply side. The harmonious integration of the green argument into the established system reduces the risk of failure significantly. By avoiding a separation of GPP from the conventional procurement mechanisms, the challenge of implementing GPP is reduced to the overall challenges of conventional public procurement: availability of supplies, value for money, feasible technical specifications and diligent verification. In contrast, the pursuit of GPP would be on risk, if a proliferation of approaches would prevail and green would be locked in as a niche. The stepwise proceeding through a short-term pilot phase over a medium-term consolidation phase will provide the experiences and lessons needed to overcome even unpredicted challenges.





Annex

GPP technical specifications for priority product groups

This document is attached to the GPP roadmap as separate file. It elaborates in support of chapters 4.2 (GPP for CSEs) and 4.3 (GPP for non-CSEs) on green technical specifications for prioritized product groups, including considerations on the verification of the compliance of supplies with the required specifications.



