

**DEMONSTRATION OF THE VIABILITY
AND REMOVAL OF BARRIERS THAT IMPEDE THE SUCCESSFUL
IMPLEMENTATION OF AVAILABLE NON-COMBUSTION TECHNOLOGIES FOR
DESTROYING PERSISTENT ORGANIC POLLUTANTS (POPS)
(PHILIPPINES/GLOBAL)**

ANNEXES

(29-March-04)

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Annex 1: INCREMENTAL COST ANALYSIS

Regional Context and Broad Development Goals

Stockpiles of POPs and accumulations of obsolete POPs in developing countries and countries with economies in transition pose a potentially serious threat to the environment and human health. They may be poorly managed and stored in facilities with inadequate measures to prevent releases to the environment and surrounding communities. PCBs, a principal subject of the Stockholm Convention and the initial targeted contaminant of this Project, are especially ubiquitous, and PCB wastes are being found in any country that has a long established power grid, and in countries that fabricated PCBs or PCB-containing equipment and products.

The removal of barriers that currently impede the deployment of non-combustion technologies will enable countries to address POPs destruction needs through the use of technologies that emphasize and result in high destruction efficiency, or DE, a measure that is almost never reported or calculated for incinerators, cement kilns and other combustion technologies because these devices typically fail to achieve high total destruction efficiencies. Even Class 4 hazardous waste incinerators of high technology combustion and equipped with sophisticated air pollution control system (APS), that can be found in some Western European countries and in North America, generate significant total releases of unintentional POPs. Even if a regulatory value of 0.1 ng TEQ/Nm³ is strictly enforced, a Class 4 facility may typically¹ 0.75 ng TEQ² into air and 30 ng TEQ into fly ash per kg of hazardous waste incinerated. Hence the demonstration of the viability of a non-combustion technology of high DE will provide an alternative not only to hazardous waste incinerators of high technology combustion and equipped with sophisticated APS that would be difficult to afford in developing countries and countries with economies in transition but different other combustion technologies that are unfortunately still applied for hazardous waste disposal in many developing and transition economy countries. Thus the creation of viable, non-incineration approaches to POPs destruction results in a global benefit through improved destruction efficiency and yields a corresponding environmental benefit.

The Non-Combustion Programme and second country specific Project in the Philippines is a Global initiative aimed at removing or reducing barriers to the deployment of Non-Combustion technologies to destroy POPs stockpiles in developing countries and countries with economies in transition, and will therefore lead to the further adoption and effective implementation of these available technologies. The Programme and Project have been significantly driven and supported by international NGOs (among others the Environmental Health Fund and the International Pesticides Elimination Network, or IPEN), the UNIDO, and UNDP. The Global Environment Facility began its Preparation support for the Programme and Project originally under Operational Programme #10, the Contaminants-Based Operational Programme. As the GEF has now been designated as the Interim Principal Financial Mechanism for the Stockholm Convention, the Programme and Project will become part of the POPs focal area.

The GEF Council approved the Programme and first Project in Slovakia in May 2003. This submission, which focuses on the Philippines, is part of the Global programme, which will result in cross-programmatic benefits for the GEF. Linkages are being established with POPs Enabling Activities in the target countries. This cross-linkage is particularly evident in the Philippines where preparation activities for this Project have been explicitly considered and where synergistic linkages have resulted. Project sustainability has been strengthened by linking the Project into the work of Enabling Activity Inventory development, and stockpiles additional to the targeted 4,547 tonne stockpile of PCBs are and will continue to be defined as part of

¹ UNEP Chemicals: Draft "Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases", January 2001.

² TEQ is defined as Toxic Equivalent which is a measure of the toxicity of a mixture of compounds that elicit dioxin-like activity, expressed as the equivalent toxicity of 2,3,7,8 dioxin

Enabling Activity work, and will be channelled as appropriate to the planned destruction unit for treatment. Last, the Programme and Project will yield an additional Regional and Global benefit by creating direct linkages with related GEF Projects such as the Africa Stockpiles Programme (ASP) and the UNEP implemented and UNIDO executed Medium-Sized Project (MSP) aimed at NGO capacity building that is under implementation. Direct linkages with other GEF Projects and related programmes will be actively sought and developed.

The barriers that have been determined to exist and have been explored during Project Preparation would likely not be overcome or even addressed were it not for the existence of a GEF Programme and Project. Lack of information and technical knowledge regarding Non-Combustion Technologies, the nature of existing regulations and standards, and the lack of a regime for public policy and institutional infrastructure, all consistent with, and arguably necessary to realization of the Stockholm Convention requirement, to encourage best available techniques, that "...priority consideration should be given to alternative processes, techniques or practices that have similar usefulness but which avoid the formation of such chemicals." Reduction or removal of the barriers listed above and described in the proposed Programme and Project would assist in realizing such a "priority consideration."

Given the very high levels of Destruction Efficiencies (DEs) of the selected alternative technologies, with DEs approaching 100%, the Programme and Project will significantly facilitate realization of the objective of Article 6, Section (d) (ii) which states, in part, that releases from stockpiles and wastes be "Disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants."

Discussions aimed at defining Best Available Techniques as referred to in Annex C (Unintentional Production) of the Stockholm Convention, are at the beginning stages. Notwithstanding the preliminary nature of these discussions, the Programme and Project will yield interesting and likely useful information in relation to the Stockholm Convention requirement in Part IV, Section B., (b), that "When considering proposals to construct new facilities or significantly modify existing facilities using processes that release chemicals listed in the is Annex, priority should be given to alternative processes, techniques or practices that have similar usefulness but which avoid the formation and release of such chemicals."

The Programme and Project are also consistent with Article 12 of the Stockholm Convention wherein the Parties recognize the need to make render timely and appropriate technical assistance to developing countries and countries with economies in transition. Most specifically the Programme and Project is responsive to Article 12, Section 4 that states, *inter alia*, that "Parties shall establish, as appropriate, arrangements for the purpose of providing technical assistance and promoting the transfer of technology to developing country Parties and Parties with economies in transition relating to the provisions of this Convention."

The proposed, extensive Civil Society consultations and other communications envisaged as part of the Programme and Project will give very broad visibility to, and enhance prospects for successful replication of, Programme and Project results at Local, National, Regional and Global levels. These extensive consultations will make possible addressing and reducing or removing the barriers that have been identified. In this sense the Programme and Project is fully consistent with all provisions that are the subject of Article 10 of the Convention, titled Public information, awareness, and education. Indeed, the Programme and Project can serve as a model for future attempts to realize the objectives of this particular Convention Article.

Baseline

The total baseline of US\$ 4,000,000 is comprised of the baseline activities, which currently involve exports of PCB equipment for incineration in Europe at an average cost of US\$ 5000 per tonne. On average 200 tonnes

are exported each year and over the project period, some 800 tonnes would have been exported without this GEF intervention.

The GEF Alternative

The GEF alternative very likely provides the only possibility that very promising and already available and demonstrated alternative technologies to incineration can be sustainably deployed. For this Global Demonstration Programme and associated Project, a substitutional (vs. complementary) Incremental Cost approach has been used. Rather than spend the US\$ 4,000,000 on exports for incineration, the Philippines will substitute the use of the selected Non-Combustion technology for this purpose, and thus this amount becomes Project co-finance. In actuality, the Philippines is contributing in excess of its legal liability of approximately US\$ 4 million; the total amount of Philippines co-finance is US\$ 6,412,380. It should be noted however that the GEF alternative allows for a significant acceleration of the plans to destroy a far larger quantity of PCBs than would be possible under the current situation, as it is unlikely that the Government would have been in a position to declare it a priority in the immediate future, were it not for the opportunity created by the GEF alternative.

Under the GEF funded alternative the environmentally sound destruction of the stockpile by using a non-combustion technology will be the dominant Programme and Project objective. Extensive Local, National, Regional and Global Civil Society participation will also receive considerable GEF funding. There would also be GEF support and co-finance for Programme and Project Coordination, Capital Equipment Purchase and associated expenditures, Effective and Specific Actions to ensure successful Project Replication and Sustainability.

More specifically, the GEF Alternative (GEF contributions and co-finance) would provide US\$ 1,130,000 for Programme and Project Coordination; US\$ 9,787,380 for Capital Equipment Purchase and Deployment and Operation of the Capital Investment; US\$ 810,000 for Effective and Specific Actions to Ensure Project Replication and Sustainability (Capacity Building); and US\$ 600,000 for promoting a regional approach on Non-combustion technologies with full civil society participation.

Summary Incremental Cost Matrix

Component	Baseline	Alternative	GEF	Co-finance	Increment
Programme	0	1,130,000	800,000	330,000	1,130,000
Equipment & Operating costs	4,000,000	9,787,380	2,995,000	6,792,380	9,787,380
Replication	0	810,000	435,000	375,000	810,000
Regional approach	0	600,000	335,000	265,000	600,000
Total	4,000,000	12,327,380	4,565,000	7,762,380	12,327,380

Incremental Costs and Project Financing

Component	Sub-component	Baseline (B)	Alternative (A)	Increment (A-B)								
				Republic of the Philippines	GEF	Private Industry	NGO	UNDP	UNIDO	TOTAL		
1. Programme and Project Co-ordination	1.1 Effective Program and Project co-ordination and support		355,000		200,000				25,000	130,000		355,000
	1.2 Recruit and hire Project CTA, NPC and Administrative Assistant		350,000		350,000							350,000
	1.3 Assure Cross GEF and other related Project coordination and communication		250,000		100,000			10,000	20,000	120,000		250,000
	1.4 Plan and Host a minimum of two (2) Programme Advisory Committee Meetings, three (3) Project Steering Committee Meetings, and two (2) Technical Advisory Group meetings		175,000		150,000			5,000	10,000	10,000		175,000
Subtotal			1,130,000		800,000			15,000	55,000	260,000		1,130,000
2. Capital Equipment Purchase, Deployment and operation to address the targeted stockpile	2.1 Preparation of detailed Terms of Reference for technology selection. Invitation of bids from selected vendors for technology and equipment and Capital equipment purchase.	4,000,000	2,450,000		2,400,000					50,000		2,450,000
	2.2 Activities necessary to meet Environmental Impact Requirements and other legal and environmental compliance activities		345,000		150,000			5,000		10,000		345,000
	2.3 Deployment, and Certify Operation of the Destruction Unit in Philippines		210,000		100,000					10,000		210,000
	2.4 Project Management Supervision, site preparation and performance tests. Training of Project Personnel and Technology Transfer Costs		220,000		120,000			5,000		50,000		220,000
	2.5 Site Preparation and storage facilities		2,617,380		200,000					2,412,380	5,000	2,617,380

Annex 1: Incremental Cost Analysis

Component	Sub-component	Baseline (B)	Alternative (A)	Increment (A-B)								
				Republic of the Philippines	GEF	Private Industry	NGO	UNDP	UNIDO	TOTAL		
	2.6 Underwriting of Operational Costs to Destroy Targeted Stockpile during Demonstration Phase		3,905,000		3,900,000					5,000		3,905,000
	2.7 Finalize Capital Equipment Transfer arrangements		40,000	5,000	25,000			5,000		5,000		40,000
Subtotal		4,000,000	9,787,380	230,000	2,995,000	6,412,380	10,000	5,000	5,000	135,000		9,787,380
3. Effective, Specific actions to ensure Project Replication and Sustainability	3.1 Develop monitoring protocols and project evaluation framework		135,000	50,000	75,000			5,000				135,000
	3.2 Monitoring and Evaluation (Standard IA Practice) during Destruction (Project Implementation) Phase		120,000	55,000	5,000			5,000		5,000		120,000
	3.3 Assure continuing Civil Society involvement in Project activities in the Philippines, including a presence in Monitoring and Evaluation		145,000	30,000	90,000		15,000			10,000		145,000
	3.4 Prepare and distribute Project Semi-Annual reports and Final Reports on project activities		70,000	20,000	40,000			5,000				70,000
	3.5 Provide technical and other information and assistance to public and private sector entities		100,000	45,000	35,000				5,000			100,000
	3.6 Assure senior level Project representation at Stockholm Convention meetings and other relevant fora		135,000	30,000	90,000					15,000		135,000
	3.7 Create and maintain a project web site		105,000	40,000	55,000				5,000		5,000	105,000
Subtotal			810,000	270,000	435,000		30,000	15,000	60,000			810,000

Annex 1: Incremental Cost Analysis

Component	Sub-component	Increment (A-B)									
		Baseline (B)	Alternative (A)	Republic of the Philippines	GEF	Private Industry	NGO	UNDP	UNIDO	TOTAL	
4. Regional approach	4.1 Develop a Regional Approach to the use of non-combustion technologies.		200,000		70,000		10,000	10,000	110,000		200,000
	4.2 Assure continuing Civil Society involvement in the regional level.		105,000		75,000		10,000	10,000	10,000		105,000
	4.3 Organize and implement two (2) Regional Workshops to disseminate information on non-combustion technologies and share lessons learned and assure continuing Civil Society participation at the global level.		135,000		100,000		5,000	5,000	25,000		135,000
	4.4 Continue assessment of additional and emerging technologies that meet Project Selection Criteria and submit findings to regional workshops and STAPs.		95,000		50,000		20,000		25,000		95,000
	4.5 Prepare and distribute Operational Manuals to other interested Stockholm Convention Signatory countries.		65,000		40,000				25,000		65,000
	Subtotal		600,000		335,000		45,000	25,000	195,000		600,000
	GRAND TOTAL	4,000,000	12,327,380	500,000	4,565,000	6,412,380	100,000	100,000	650,000		12,327,380

Annex 2: LOGICAL FRAMEWORK (LOGFRAME)

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>Overall Objective</p> <p><u>Long Term Objective:</u> Demonstrate the viability of available Non-combustion technologies to destroy POPs.</p> <p><u>Mid-Term Objective:</u> Demonstrate and remove barriers to the deployment of Non-combustion Technologies in several different country settings.</p> <p><u>Short-Term Objective:</u> Deploy an immediately available and proven Non-combustion Technology to the Philippines to destroy 4,547 tonnes of PCBs waste</p>	<ul style="list-style-type: none"> - Proven, Non-combustion Technologies identified, deployed and shown to perform in a technologically superior way and at competitive cost. - Barriers have been explicitly identified and evidence demonstrated that they have been effectively removed. - The Selected technology has been transferred to the Philippines; it has successfully destroyed the targeted stockpile. - Documentation of the experience within each of the long, mid, and short-term objectives has been carefully prepared and distributed. 	<ul style="list-style-type: none"> - PCU documents generally - PAC Meeting agendas and minutes - PSC and TAG meeting agendas and minutes - Terms of Reference - Work Plan - Targeted Stockpiles destroyed to the level of efficiency stipulated in the Project document - Technical Reviews - Monitoring and Evaluation Reports - Audits 	<ul style="list-style-type: none"> - Country, Civil Society, and Private Sector commitment to deployment of Non-combustion Technologies. - Barriers identified in the Programme and Project is capable of being successfully addressed. - Single country successes are able to translate into more globalized applications. - There is the emergence, in a growing number of countries and globally, an effective regime for the insurance of BAT and BEP.
<p>Outcome 1: Improved capacity for environmentally sound management of POPs</p> <p><i>Activities for Outcome 1: Establishment and Maintenance of a Project Coordination Unit located in the Philippines</i></p>			
<ul style="list-style-type: none"> - Continue support to Programme Coordinator and establish Project Coordination Unit. - Recruit the Project CTA and secure resources for international and national consultancies. 	<ul style="list-style-type: none"> - PC contract extended - PCU created - Project CTA recruited - Necessary international and national consultants identified and recruited. - Project plan to effectively interact with 	<ul style="list-style-type: none"> - Programme Coordinator, CTA and other PCU staff employed/contracts issued/terms of reference defined. - PAC meeting agendas and minutes. - PSC meeting agendas and minutes. - TAG meeting agendas and minutes. 	<ul style="list-style-type: none"> - The PCU will facilitate the work programme of the Project and the PC will create necessary linkages at national, regional and global levels.

<ul style="list-style-type: none"> - Assure cross-GEF and other project coordination. - Plan and host needed Project Meetings. 	<p>related, regional GEF International Waters (IW) projects and POPs projects globally.</p> <ul style="list-style-type: none"> - Successful communication with GEF and other related programmes, conventions, and other relevant mechanisms verified. - Country Lead Agencies and senior lead officials identified and designated. - Establishment of the PSC. 	<ul style="list-style-type: none"> - Purchase orders/ contractual agreements/ and training records. - Documented increased level of governmental participation in regional fora. - Increased extent to which explicit cross project and programme linkages are created and joint activities and cooperative arrangements documented. - Written records and reports of inter-project communications, workshops and cross-project field trips. 	<ul style="list-style-type: none"> - The Executing Agency will move quickly to hire the Programme Coordinator, the CTA and other requisite staff. - Delay in these recruitments will have a cascading effect of delays for the hire of support staff and the formulation of work plans. - IAs, other members of the various committees and cross-project country representatives will see it in their best interests to participate in inter-project coordination and co-operative activities.
<p>Outcome 2: Transfer of non-combustion POPs destruction technology to the Philippines and destruction of 4,547 tonnes of PCB equipment <i>Activities for Outcome 2: Purchase, Construction, Deployment, Testing, and Operation of Non-combustion Technology Leading to Destruction of the Targeted Stockpile and associated waste matrices in the Demonstration area</i></p>			
<ul style="list-style-type: none"> - Purchase Capital Equipment by international bidding. - Undertake EIA to satisfy Government legal requirements. - Design, Construct, Deploy and test Destruction Unit. - Redeployment, Reconstruct and Test Operate of the destruction unit in the Philippines. - Selection of operating entity through local bidding process. 	<ul style="list-style-type: none"> - After bids evaluated, vendor selected, contracts prepared and processed. - Country-driven environmental impact studies. - Documented evidence that the Destruction Unit has successfully been designed, constructed, and shown to operate according to design specifications. - After bids evaluated, vendor selected, contracts prepared and processed. - Documented evidence that the Unit has been successfully re-deployed to the Philippines and is operating consistent with design expectations. 	<ul style="list-style-type: none"> - Copies of contracts with UNIDO and PCU. - Approved work plan for the EIA and documentation of the process leading to satisfaction of Government requirements. - Written report by Project Management Supervisory personnel documenting the process of design, construction, testing, deployment and successful operation of the Destruction Unit both at the Vendor site and in the Philippines. - Copies of contracts with UNIDO and PCU. - Existence of training manuals and records of training sessions in the PCU. 	<ul style="list-style-type: none"> - Necessary contracts have been successfully negotiated and signed. - EIA fully satisfies the Government requirements. - Necessary contracts successfully negotiated and signed. - The selected technology operates according to design specifications.

<ul style="list-style-type: none"> - Project Management supervision (monitoring) of Design, Construction, Deployment, Shipping and re-deployment of Capital Equipment. - Ensure necessary training of Project operational and managerial personnel (must be done in the Philippines) and effect technology transfer to the Philippines. - Site preparation - Selection of transport company through local bidding process. - Provide on-site management, labour and raw materials necessary to destruction activities. - Finalize Capital Equipment Transfer through bidding. 	<ul style="list-style-type: none"> - Certification by the Vendor and by Project Management Supervisory personnel that training has been successfully undertaken and that a trained managerial and labour force is prepared to run the Unit. - Vendor approval of and Project Management Supervisory personnel verification of successful site preparation consistent with operating needs. - Transport contract prepared. - Documented evidence that the necessary raw materials are or will be made available to the project. - After bids evaluated, owner of equipment selected, documentation of Capital transfer arrangements. 	<ul style="list-style-type: none"> - Site preparation plans and needs, as well as descriptions of site preparation activities maintained in the offices of the PCU. - Records of management and labour hours worked, raw materials used, and results achieved. - Transport contract copies with UNIDO and PCU. - Agreements leading to the final transfer of the Capital Equipment, and records of discussions and decisions leading to those agreements, kept in the offices of the PCU. 	<ul style="list-style-type: none"> - The elements of sustainability described in the Sustainability section of this Proposal have been successfully met. - Interest to own capital equipment locally or regionally.
<p>Outcome 3: Project effectively monitored, evaluated, disseminated and mechanisms in place to facilitate project replication and sustainability <i>Activities for Outcome 3: Effective, Specific, and Documented Actions Taken to Ensure Project Replication and Sustainability</i></p>			
<ul style="list-style-type: none"> - Develop Monitoring Protocols and Evaluation framework and perform preliminary chemical analysis testing. 	<ul style="list-style-type: none"> - Monitoring and Evaluation protocols approved and operational. - Monitoring and Evaluation timetable established and approved. 	<ul style="list-style-type: none"> - Texts of M&E protocols and an Evaluation Framework on file at the PCU. 	

<ul style="list-style-type: none"> - Ensure requisite level of Monitoring and Evaluation. - Develop Monitoring and evaluation protocols. - Prepare and distribute operational manuals and full range of Project Reports as well as other technical information. - Assure senior level Programme/Project representation at Stockholm and other related meetings and for a. - Project Web Site created and maintained. 	<ul style="list-style-type: none"> - Working committees comprised of Project Supervisory personnel, PPDC officials and others as necessary to write Operational manuals. - Clear deadlines and responsibilities developed to ensure development. Production and distribution of Programme and Project reports. - Calendar of relevant and important Programme and Project related meetings and other for a developed and maintained as a means of determining venues to be visited. - Physical evidence of the existence of a dedicated project Web site. 	<ul style="list-style-type: none"> - Records of M&E activities undertaken, people involved, and results defined kept at the offices of the PCU and made available upon request. - Plans and records of activities developed, distributed and maintained in the offices of the PCU. - Materials developed for and maintained in/on the Project Web site available publicly through the website. 	<ul style="list-style-type: none"> - As barriers are reduced or eliminated new technologies will be developed and enter the marketplace to compete with both traditional combustion alternatives and the relatively limited number of alternative technologies currently available.
<p>Outcome 4: Increased regional cooperation in implementation of Stockholm Convention</p> <p><i>Activities for Outcome 4: Development of a regional approach for POPs management with full civil society involvement</i></p>			
<ul style="list-style-type: none"> - Assure a continuing and effective Asia and Pacific regional level approach to Non-combustion technologies. - Assure continuing and effective Asia and Pacific regional level Civil Society representation in Project activities. - Organize and Implement two additional regional workshops. - Continue assessment of existing and emerging technologies that meet programme selection criteria. 	<ul style="list-style-type: none"> - Regional initiatives developed and implemented. - Civil Society initiatives developed and clear execution modalities defined. - Civil Society committees established. Plans described for the two additional regional Civil Society Workshops. - Technical Advisory Group Terms of reference contain clear responsibility for and guidelines to continue technology evaluation. 	<ul style="list-style-type: none"> - Plans for and records of Civil Society participation in Programme and project. - Minutes of the Technical Advisory Group and relevant reports compiled, distributed and maintained. - Copies of all other relevant Programme and Project Reports distributed. 	<ul style="list-style-type: none"> - The approach represented by the Non-combustion Project has proven highly popular with significant elements of Civil Society.

Annex 2A: MONITORING AND EVALUATION SCHEDULE

Project Name: Demonstration of the Viability and Removal of Barriers that Impede Adoption and Successful Implementation of Available, Non-Combustion Technologies for Destroying Persistent Organic Pollutants (POPs).

Requesting Country: The Philippines

REPORTING ACTIVITY DESCRIPTION	Planned Dates
1. Project Steering Committee	October 2004
2. Technical Advisory Group	December 2004
3. Programme Advisory Committee	May 2005
4. Tripartite Review	October 2005
5. Mid-term Evaluation	May 2006
6. Project Steering Committee	September 2006
7. Tripartite Review	December 2006
8. Technical Advisory Group	July 2007
9. Tripartite Review	October 2007
10. Programme Advisory Committee	December 2007
11. Project Steering Committee	February 2008
12. Final Evaluation	September 2008
13. Final Tripartite Review	October 2008

**Annex 3b: PHILIPPINE RATIFICATION OF THE STOCKHOLM CONVENTION
SENATE RESOLUTION NO. 106**

**Republic of the Philippines
Congress of the Philippines
Senate
Pasay City**

Twelfth Congress

Third Regular Session



RESOLUTION NO. 106

**RESOLUTION CONCURRING IN THE RATIFICATION OF THE
STOCKHOLM CONVENTION ON PERSISTENT ORGANIC
POLLUTANTS**

WHEREAS, the Stockholm Convention on Persistent Organic Pollutants was done in Stockholm on 22 May 2001;

WHEREAS, the Convention, consisting of thirty (30) articles, aims to protect human health and the environment through measures that reduce and/or eliminate the emissions and discharges of Persistent Organic Pollutants (POPs);

WHEREAS, the Convention recognizes that POPs possess toxic properties, resist degradation, bioaccumulate and are transported, through air, water and migratory species, across international boundaries and are deposited far from their place of release, where they accumulate in terrestrial and aquatic ecosystems;

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WHEREAS, under the Convention, Parties are obliged to take measures to reduce or eliminate releases from intentional production and use; unintentional production; and stockpiles and wastes of POPs;

WHEREAS, the Convention further provides that developing nations will receive financial assistance in order to meet treaty obligations. Parties to the Convention will also be required to submit national action plan, detailing the steps to be undertaken to implement the Convention;

WHEREAS, the Department of Environment and Natural Resources (DENR), Department of Health (DOH) and the Department of Agriculture (DA) strongly recommend the ratification of the Convention;

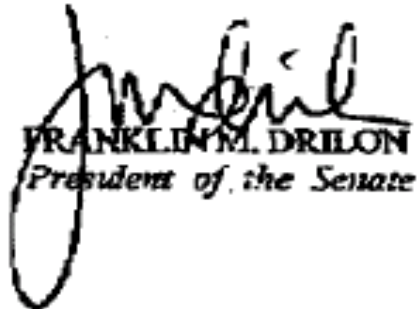
WHEREAS, during the public hearing conducted by the Senate Committee on Foreign Relations, the Protocol received strong support and endorsement by non-governmental organizations as a milestone in global efforts to protect the environment and achieve sustainable development;

WHEREAS, Article 26, Paragraph 1 of the Convention provides that it "shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession." Paragraph 2 further provides that "for each State or regional economic integration organization that ratifies, accepts or approves this Convention or accedes thereto after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.";

WHEREAS, pursuant to Section 21, Article VII of the 1987 Philippine Constitution, "No treaty or international agreement shall be valid and effective unless concurred in by at least two-thirds of all the Members of the Senate": Now, therefore, be it

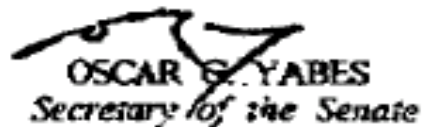
Resolved. That the Senate of the Philippines concur, as it hereby concurs, in the ratification of the Stockholm Convention on Persistent Organic Pollutants.

Adopted,



FRANKLIN M. DRILON
President of the Senate

This Resolution was adopted by the Senate on February 2, 2004.



OSCAR G. YABES
Secretary of the Senate

Annex 4: RESPONSE TO EXTERNAL REVIEWS

- a) Convention Secretariat
Not applicable
- b) Review by expert from STAP Roster

STAP Technical Review of GEF Project Proposal and UNIDO response

Subject of the Review:

Project name: Global Programme to Demonstrate the Viability and Removal of Barriers that Impede Adoption and Successful Implementation of Available, Non-combustion Technologies for Destroying Persistent Organic Pollutants (POPs)

Requesting country: The Philippines (second phase)

Project number:

Scientific and technical soundness of the project:

Specific problem of all this demonstration projects is a limited number of vendors of suitable and commercially available technology. Project was focused on the technologies themselves and also on criteria that might be used in their evaluation, selection and deployment. The first topic of interest of had to be the commercial availability, especially for this phase of demonstration project.

Based on the Technical Advisory Group (TAG) evaluation meetings and with using of results of STAP expert evaluation of existing technologies, the Philippines project was able to identify several acceptable vendors for stockpiles with basic characteristics in Philippines. Final selection of the technology most suitable to address stockpile in Philippines will be selected by the open bidding process at the very beginning of the full project.

Based on these evaluations with the respect of criteria of GEF Project Preparation documents, the initially screening the range of currently available non-combustion technologies was performed. On the basis of application of these criteria and results of all evaluations, three technologies were identified for further consideration - Gas Phase Chemical Reduction, Based Catalyzed Decomposition and Sodium Reduction Process.

The final of appropriate technology would be driven by the nature of the Philippines stockpile.

Project illustrates the basic differences between up-to-date more spread and preferably use combustion technologies and non-combustion technologies. The total destruction of chemicals in non-combustion technologies without secondary production of wastes and releases to the other compartments such as waters, soils or products is very important advantages of this type of technology and from the point of view of Stockholm convention very hope and promising. This type of technology is a nice example of environmental acceptable destruction technology without additional harmful effects.

Background and justification:

The basic goal of the project is the using of successful and effective technology for destruction of obsolete POPs stockpiles in countries with developing economies and economies in transition. Project is based on the lacking of adequate and appropriate technical capacities to properly destroy obsolete stocks of POPs and/or to remediate POPs-contaminated environmental reservoirs in the countries with developing economies and economies in transition. This specific project is located in the Philippines as

a country which was user of PCBs mixtures and which has a relatively actual inventory of stockpiles with contaminated equipments.

Using of good experiences from Australia and other countries and good acceptance by public in the comparison with other technologies is a good advertisement of this technology, on the other hand it will be perceived by the lobby of combustion and other technologies as abuse of Stockholm Convention for preference of other lobby. This project is the second non-combustion demonstration project and can serve as a pilot project for the countries with developing economies.

Identification of the global environmental benefits and/or drawbacks of the project:

Project is focused to the help with removing barriers to the further adoption and effective implementation of available non-combustion technologies.

This project is also very important for the developing of market with waste treatment technologies and broader competition.

Fitting of project within the context of the goals of GEF:

Project supports the Stockholm Convention requirements to ensure the use of non-combustion technologies and Best Available Technologies (BAT) and ensure Best Environmental Practices (BEP). Project is in good agreement with the basic conclusions of SC especially concerning to the developing of strategies for identifying of stockpiles, products and articles in use and wastes covered by the treaty, after which they must manage the stockpiles in a safe, efficient, and environmentally sound manner. SC defines the ultimate elimination of the total releases. From this point of view is the evaluated project good example of this approach, which respects all basic conclusions and approaches of SC.

The Stockholm Convention proposed for POPs destruction technologies that they should prevent the formation of dioxins, furans and other by-product POPs, prevent the release of dioxins/furans and other by-product POPs, not generate any wastes with POPs characteristics, avoid POPs disposal methods which are non-destructive (e.g. landfilling, recycling, deep-well injection, etc.).

Regional and/or global context:

Similarly as in the case of Slovakia, also this project is example of potential joint and useful collaboration between international bodies such as GEF and national authorities (local Government) and local private sector for future efforts, which will be undertaken pursuant to the Stockholm Convention.

Demonstration of this technology in the region is very suitable, because a lot of countries in this part of Asia have huge amount of obsolete POPs mainly chlorinated pesticides and PCBs and this project can serve as example of effective method for solution of this problem similarly as it the case of Central and Eastern European countries).

Project Design:

Project briefly describes potential barriers and risks of project realization - lack of sufficient infrastructure, needs for capacity building. But there is no specific information concerning to real problems such as possibilities and capabilities of safety transport to destruction facility, existing storage system, storage system during project realization. There is only one sentence, which describes that problem maybe considerably greater than was anticipated. More detailed description of potential risks for project realization will be suitable.

Project describes the problems connected with nature of existing regulations and standards/markets including the description of actual situation concerning to new companies associated with non-combustion technologies (not real sales forces, no political connections, not well capitalized).

Presence of non-technological/non-market barriers (problems with the operation of appropriate facility to clean-up, dispose of and destroy of toxic wastes) and lack of a regime for public policy and institutional infrastructure, are also describe. Country was/is not a producer of PCBs, but PCBs mixtures were frequently used. Country has appropriate legislative base for management of PCBs problem. The Government of Philippines has taken the initiative to improve upon this emerging regime as it has participated as a full partner in preparation. Project proposed that one product of Project will be a Final Report dedicated the experiences and results of Project.

All this parts are very general, similarly as in the case of Slovak project, the more detailed and concrete description of status of waste markets with detailed analysis of waste disposal services, regulations in this field, list of licensed companies, will be much more usefulness.

Evidence for government commitment and sustainability:

Lack of adequate alternatives for destruction of POPs (mainly PCBs equipment and wastes) resulted into problematic management in the country similarly as in the many other countries.

Financial sustainability is based on the contribution of Philippines Government and private sector. This commitment undertakes a minimum of a four-year program of operations for this technology. Project supposes realization of EIA procedure based on the Philippines legislature. It is not clearly describes if this procedure is obligatory or not, if it must be done before project starting.

Replicability of the project:

Experiences gained during the project realization in Philippines can be very helpful for other countries especially as far as the better understanding of potential barriers during project implementation in other countries. This project can lead to optimum procedure with using of all experiences and results, what can be important especially as far as the applications in other countries of region.

Project funding:

Project will be funding by GEF, the Government of Philippines and private sector during the period of four year and will continue to 2013. Based on experiences from Slovak project, the guarantee of national partners should be suitable if will be done officially as soon as possible.

Time frame:

The time plan looks as a realistic.

Time frame depends on the financial covering and official acceptance of the project including the EIA procedure, which can be time-consuming part of realization.

Other beneficial or damaging environmental effects:

Projects also briefly summarize global benefits for other GEF projects such conservation of biological diversity or improved water quality and explain the potential effects of environmental present POPs for these global problems.

Degree of involvement of stakeholders in the project:

Philippines are one of the countries with serious interest to adequately address POPs problems with strong public involvement. Full civil society involvement has been practiced during project preparation and project supposes that will continue during the all project phases. One important barrier was also lack of information about non combustion technologies at all levels of Civic Society, including among elected and appointed government officials.

The role of stakeholders in the phase of Project preparation is described as a unique and can be very helpful during the future steps of project implementation and realization. Project will organize and covered some additional workshops and activities for better public understanding of the project.

Summary:

The Project “Global program to demonstrate the viability and removal of barriers that impede adoption and successful implementation of available, non-combustion technologies for destroying persistent organic pollutants (POPs)” has a great relevance to global and regional solution of POPs problems as far as the destruction of obsolete POPs stocks, wastes and contaminated environmental matrices such as soil or sediments.

The evaluated technology fully respects the requirements of Stockholm Convention as far as the technologies suitable for the solving of POPs containing stocks and wastes. The project application for four regionally distributed model countries is reasonable and good experiences from these model realizations can be a good example for other countries from these regions.

Project for Philippines as requesting country defines expected risks and barriers, which can be limited steps for application in the developing countries and in the countries with economy in transition.

Based on my professional experiences, I consider this project as well prepared and selection of non-combustion technology as suitable for the destruction on POPs stocks and wastes without additional harmful environmental releases.

I recommend this project to accept.

Brno, 01/01/2004

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Response to the STAP Review

The STAP review is overall very positive regarding every relevant technical and scientific aspect of the Project. The STAP review does reference several sections that could be strengthened and these comments have been taken into account. Specifically:

STAP Reviewer Comment on Project Design:

a) Lack of specific information on safe transport to destruction facility, existing storage system, storage system during project realization.

Project Response:

Transport of hazardous wastes in the Philippines is governed by DAO No. 29, which provides Implementing Rules and Regulations of Republic Act 6969. According to this DAO, which is appended to this Project Brief as Annex 7, a transporter of hazardous wastes must secure a permit issued by DENR. The DAO specifies action and requirements for the waste transporter so as to ensure safe transportation of hazardous materials in the country. The DAO also specifies actions required in respect of hazardous waste storage and labelling. The DAO is enforced by the DENR and therefore the risk with regard to safe transportation and storage of PCBs in the Philippines is limited only by the enforcement capacity. DENR has also issued the Philippine Chemical Control Order for PCBs (DAO No. 1, Series 2004), which will specifically address the problem of PCBs (see Annex 6). The project will assist the Government in operationalizing the CCO particularly with respect to safe transportation and storage of PCBs.

STAP Reviewer Comment on Project Design:

b) There is need of more detailed and concrete description of status of waste markets with detailed analysis of waste disposal services, regulations in this field, list of licensed companies.

Project Response:

There are no PCB disposal facilities in the Philippines. In the past there are records of disposal by landfilling but this approach has been abandoned. There are no incineration or non-combustion POPs destruction facilities. A few small companies are involved in retrofitting transformers. Small quantities of PCB equipment are exported to incineration facilities in Europe. Republic Act 6969 and the DAO No. 29 cover the regulatory framework. The CCO DAO No. 1 Series 2004 cover specific issues regarding PCBs. DENR maintains a list of companies licensed to handle hazardous wastes. The companies are required to abide by provisions of the DAO No. 29.

STAP Reviewer Comment:

To indicate whether Environmental Impact Assessment is obligatory

Project Response:

EIA is a requirement enforced by DENR as per DAO No. 37 of 1996 (DAO 96-37) and has been included in the Project Brief.

c) Response to comments from Secretariat and other Agencies

Response to GEFSEC Review of 24 March 2004

All comments and recommendations of the GEFSEC review dated 24 March 2004 have been considered and duly taken into account.

Using of a very similar language in the Slovakia and the Philippines project briefs can be justified by the fact that both are based on the deliberations of the TAG meetings and during the preparatory stage of preparing the National Implementation Plan for the Stockholm Convention in the respective countries. More recently the STAP technical workshop also discussed and reviewed both projects based on the presentation of UNIDO. But it should also be noted that this presentation of the projects led to the complete revision of the chapter on “Application of technology to developing countries” of the STAP report on “Review of emerging, innovative technologies for the destruction and decontamination of POPs and the identification of promising technologies for use in developing countries”.

The impression that no progress has been made conceptually is might be true, but it should not be taken negatively. Since the submission of the first project brief in Slovakia to the GEF Council one year ago significant progress has been achieved in understanding the nature and, based on this understanding, successfully developing public private partnerships for project execution, in successfully mobilizing significant private sector co-financing in cash, and in attracting new stakeholders that would contribute to the project. These achievements, and particularly the public private partnerships, have very positively impacted the project development and formulation and have been imbedded in the Executive Summary and the Project Brief, e.g. the envisaged exit strategy to use a bidding process for transfer of ownership of equipment; using international tendering for the technology selection and national bidding for the selection operating entity and the local shipping company; adaptation of the technology for selected hazardous wastes other than PCBs; and regional diffusion and possible transfer of the technology.

Comments from the World Bank dated 25 March 2004 on Project Brief for UNDP/UNIDO on Non-Combustion Technologies for Destroying POPs in the Philippines

We have four general areas of concern about this project:

- (1) **Regulatory Framework.** It is not clear from the Project Brief and Annexes that the Philippines has in place the regulatory and institutional framework necessary to ensure the success of this project. The Project Brief cites (Paragraph 7) favourably “the Australian experience where public policy is to avoid the use of incinerators for the destruction of hazardous wastes.” Our understanding is that Australia prohibits both incineration and export, thus forcing the use of domestic non-incineration alternatives. While the Project Brief asserts (Paragraph 39) that incineration and imports of PCBs are banned in the Philippines,” we did not see in either the Chemical Control Order or the Act 6969 (Annex 7) such a ban on incineration, and suggest that if the statement is accurate, the appropriate citation be added or clarified. Equally important, we noted no prohibition on export; to the contrary, the Chemical Control Order refers (Section 6.2) to export “if necessary,” thus allowing generators to continue to send PCBs abroad for incineration instead of using whatever non-incineration technology this project might ultimately offer.
- (2) **Lack of Inventory.** As far as we know, the Philippines does not yet have a full and current inventory of PCBs and PCB-containing equipment and oils, but we do not see how a reasonable characterization of the PCB situation can be constructed without knowing the scale and distribution of the problem within the country. Paragraphs 18 and 52 state that the Philippines has now issued the Chemical Control Order attached as Annex 6; although that Order requires registrants to submit inventory information, it seems unlikely that the full inventory could be compiled this year, in part

because most registrants are given until at least early 2005 to report, and in part because of the need to follow up and verify submitted information.

- (3) **Cost.** Our concern about cost relates also to the need for an adequate regulatory framework. The Project Brief appropriately, and accurately, notes (Paragraph 46) that generators “can still be expected to purchase the least costly service that satisfies legal and regulatory requirements.” Our understanding is that PCB incineration costs in Europe are currently at most around \$3,000-4,000 per tonne, notwithstanding the higher figures cited in Paragraphs 18 and 88. The Project Brief estimates (Paragraphs 84 and 88) that the proposed non-combustion alternative will cost \$3,500 per tonne. Consequently, we are concerned that the proposed project would be unlikely to succeed where export for incineration remained both legal and the cheaper alternative. We suggest that UNDP/UNIDO verify the relevant costs, as well as clarifying the implications for the project of export remaining a legal alternative for generators and owners of PCBs in the Philippines.
- (4) **Replicability.** It is not clear to us from the Project Brief what lessons are expected from the Philippine experience that can’t be gleaned from the Slovakian experience. We suggest that the Project Brief be clearer on the need for the Philippines project in light of the apparently similar work being funded in Slovakia and, even more importantly, on the need to move ahead before enough progress has been made in Slovakia to allow UNDP/UNIDO to evaluate that experience and make any necessary corrections before proceeding in the Philippines.

Project response to the World Bank comments:

1) Regulatory Framework

The "Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990" that is the DENR Administrative Order No. 29 Series 1992, Implementing Rules and Regulations (IRR) of Republic Act 6969 (Annex 7 of the Project Brief) and the "Chemical Control Order (CCO) for polychlorinated biphenyls (PCBs)" that is the Philippine Chemical Control Order, DENR Administrative Order No. 1 Series 2004 (Annex 6 of the Project Brief) in fact ban the incineration and import of PCBs in the Philippines. The relevant sections of the legislation are as follows:

- The CCO in Section IV, Item 3 stated that "*The commercial and industrial owners and operators must comply with the requirements for transport, storage and disposal specified under Title III of the IRR for transportation, storage and disposal of PCB wastes.*"
- The IRR under Title III, Section 30, in Table 3 lists "*commercial or industrial hazardous waste incinerator*", but these are not exist in the Philippines.
- The CCO in Section IV, Item 6.1b. stated that "*All treatments and disposals must be approved by the Bureau and should be in conformance with RA 8749 otherwise known as the "Clean Air Act of the Philippines".* The referred Section 20 of RA No. 8749 bans the use of incineration, which process emits poisonous and toxic fumes (see in Annex 8 of the Project Brief: Memorandum of Understanding between DENR and stakeholders).
- The CCO in Section V, Item 1b. states that "*All importation, sale, transfer or distribution of PCBs, PCB equipment, PCB-contaminated equipment, PCB wastes, PCB articles or PCB packaging shall no longer be allowed*".
- The CCO in Section IV, paragraph 6.2 states that "*If necessary, wastes containing high levels of PCBs must be exported in accordance with the provisions of Section IV Item 6.1b of this Order and must meet the requirements for transboundary movement of wastes under the Basel Convention*".

From the above citations it is clear than in fact incineration of PCBs is banned in the Philippines because the combustion technologies that exist in the country are using processes that emit poisonous and toxic fumes. Export is allowed as an option but it is an expensive proposition because the export costs are unreasonably high. The costs of export are more expensive than in Europe due to the packaging, sanitation and shipping costs and averaging US\$ 5,000 per tonne. That is why it is limited to about 200 tonnes of PCBs export per year.

The Australian experience (paragraph 7 of the Project Brief) is only given to show the successful application of the non-combustion technologies in the region. It does not imply that the Government of the Philippines should follow the Australian legislation but rather should make its decision based on the EIA and market prices. In other words UNIDO's argument is that non-combustion technologies should compete with incineration technologies and none of them should be forced by the Government.

2) Lack of Inventory

The PCBs inventory figures of the Project Brief have been certified by the Government. But as the inventory work is an ongoing activity the final figures would presumably be higher. As a consequence such a higher inventory will have a positive impact on the sustainability of the selected technology.

3) Cost

The costs figures quoted in the Project Brief are real figures. The actual PCBs export figures for incineration are sometimes prohibitive. The Project Brief using an estimate of US\$ 5,000, that is the average costs of PCBs export per tonne for the baseline calculation. The cited figure of US\$ 3,500 per tonne in the comments of the World Bank refers to the experts' estimate for the PCBs destruction by a selected non-combustion technology. According to this estimate the non-combustion technology will be able to compete with PCBs exports for incineration.

The actual situation is that UNIDO did not want to base the baseline calculation on the unreasonably high export prices that limit the export to about 200 tonnes per year. That is the reason that the US\$ 5,000 per tonne export price as average has been "invented". The real average would be significantly higher!

4) Replicability

UNIDO appreciate this comment that underlines the global importance of this project. On the other hand the GEF Council approved in principle to proceed with the demonstration projects in four selected countries. The basis for this is that the situation in Slovakia and in the Philippines is very different and one cannot compare. Slovakia is a country with its economy in transition. Slovakia had up to 1984 one of the largest PCBs manufacturing operations in Europe. As an immediate result of this is that the PCBs waste matrices are significantly different between Slovakia and the Philippines. Due to the fact that the Philippines is a developing country the infrastructure and logistics for the application of a selected non-combustion technology has a completely different set of premises and requirements. As the non-combustion technology seems to be less expensive than PCBs export for incineration in the Philippines, such an alternative technology that can compete with the export should be considered. Hence this project in the Philippines is very timely.

The successful execution of the demonstration project in the Philippines could be easily replicated in the region as early information shows that countries in the region show great interest in alternative technologies, e.g. Vietnam.

Annex 5: MINUTES OF THE 1st and 2nd TECHNICAL ADVISORY GROUP (TAG) MEETINGS

**Report of First TAG Meeting
UNDP/UNIDO/GEF Project**

The first meetings of the Technical Advisory Group (TAG) of the UNDP/UNIDO GEF project on alternatives to combustion technologies was held in Vienna, Austria on October 17, 2001.

The meeting considered an Overview Paper prepared in advance of the meeting based primarily on information that is freely available in the public realm from sources such as the United States Environment Protection Agency (USEPA), United Nations Environment Programme (UNEP), US Department of Energy (USDOE), NATO Committee on Challenges in Modern Society (CCMS), and freely available information from Technology Vendors.

The paper surveyed a range of destruction and disposal technologies, and it identified nine of them that might be consistent with criteria contained in the GEF approved PDF-B.

The meeting interpreted the requirement in the PDF-B that the technology be “commercially available” to mean that the technology has already been successfully operated in a full scale, commercial (or other institutional) setting; and that a vendor or vendors are available who can provide not only the technology itself, but also can provide the know-how and support needed to successfully set up and operate the technology under circumstances such as those likely to be encountered in the Philippines and/or Slovakia.

On the basis of these screening criteria, the meeting further reduced the number of technologies still under consideration for deployment under this project to a list of three:

1. Gas Phase Chemical Reduction
2. Base Catalyzed Dechlorination
3. Sodium Reduction Process

The meeting considered a detailed presentation of the Gas Phase Chemical Reduction technology, and it found the presentation extremely useful in assisting the TAG to evaluate this technology in relation to the needs of the respective countries (Philippines/Slovakia). There was broad agreement that this technology should be able to meet both the technical selection criteria contained in the PDF B, and should also be able to meet the requirement of “commercial availability” as this requirement was interpreted by the TAG.

Less detailed information was available to the meeting on Base Catalyzed Dechlorination, and on the Sodium Reduction Process. The meeting requested that more detailed information on these be made available to the TAG. It was agreed that a similar body of information on Base Catalyzed Dechlorination be made available to the TAG for review and comment by mid-December, if all possible.

The meeting felt it did not possess the information to conclude whether or not the Sodium Reduction Process had the capability to address the contaminant that has been targeted under this project: PCBs, including highly concentrated PCBs. It was agreed that this would be explored.

It was agreed that if an initial determination was made concluding that the Sodium Reduction Process had this capability, and if it appears this technology could be used to ensure, what the meeting called a

“cradle to grave” approach in addressing the targeted contaminant (PCB), then a detailed presentation of this technology would also be prepared to be shared with members of the TAG for review and comment. Again, a mid-December date was proposed for the completion of this work.

It was agreed that meeting Overview Paper was generally well prepared, but would be edited to reflect more clearly that candidate technologies for application during project implementation were initially chosen consistent with criteria spelled out in the PDF B.

It was further agreed that a new draft of the Overview Paper would be available for circulation in the first part of December.

**Technical Advisory Group (TAG) meeting on POPs Non-combustion technology
17 October 2001, Vienna, Austria**

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2nd meeting of the Technical Advisory Group
Manila, The Philippines, 25th and 26th September 2003

Meeting Report

Opening and welcome

The meeting opened at 09:50 with Mr. Andy Hudson, UNDP, in the Chair.

Mr. Rolando Metin, Undersecretary for Management and Technical Services of the Department of Environment and Natural Resources, Government of the Philippines, welcomed delegates to the meeting on behalf of State Secretary Gozun.

Mr. Geoffrey Mariki, Chief of the POPs unit within UNIDO, responded by thanking, through Undersecretary Metin, State Secretary Gozun and her DENR colleagues for their continued support for the Non-combustion programme and its activities in the Philippines; and for their assistance and hospitality in organising and hosting this second meeting of the Technical Advisory Group.

Adoption of provisional agenda

The provisional agenda was *adopted*.

Progress of the non-combustion programme; role of the TAG

The TAG *noted* paper 02.02 setting out a brief description of the progress of the programme and *invited* UNIDO to present programme activities and future plans.

Mr. Mariki set out the need to develop environmentally sound alternative technologies to existing destruction and disposal methods that did not meet the obligations of the Stockholm Convention and gave rise to widespread public concern. He presented a brief history of the UNIDO non-combustion programme to address perceived barriers to wider take up of these technologies and reported the approval of the first country project and programme proposal at the GEF Council meeting in May 2003. He noted the review comments provided by Council members and the work now going on to address those comments in the project document for submission to the GEF CEO. He set out a brief forward look for the programme with the planned submission of a project brief for the Philippines country project for the GEF inter-sessional meeting in January, with project briefs for China and a country in Africa during 2004.

Terms of Reference and technology selection criteria

The TAG *reviewed* its Terms of Reference prepared for the first TAG meeting (given in NC/TAG/02.03 Annex 1) and *determined* that they remain suitable.

The TAG *reviewed* the technology overview and project selection criteria, prepared for the first TAG meeting (given in NC/TAG/02.03 Annex 2) and *confirmed* that these criteria remain appropriate to the Programme subject to the following amendment;

The third criterion – that the technology should be ‘commercially available’ be amended to ‘commercially available for technology transfer’.

Further, the TAG *concluded* that a series of indicators, reflecting the objectives of the Stockholm Convention and other international agreements, were required for the assessment and evaluation of technologies against the selection criteria at the programme level but that, for any given country project, the final selection of a technology would also require detailed consideration of the wastes to be destroyed.

The TAG **determined** that these indicators might usefully distinguish between technology performance (a) in dealing with different POPs and POPs matrices; (b) at different stages within the overall destruction system; and (c) under commercial conditions and scales likely to be encountered in developing and transition economy countries.

The TAG **noted** the continuing work of the Open-Ended Working Group (OEWG) of the Basel Convention to develop guidance in relation to POPs wastes and **recommended** close collaboration between the TAG and the OEWG.

It was **agreed** that the secretariat would develop a draft paper on indicators for circulation to the TAG following the submission to the secretariat of suggested indicators by TAG members.

Commercially available technologies: Responses from Technology providers

The TAG **noted** reviews and correspondence prepared by TAG members and related to technologies short listed, or recognized as potentially meeting project criteria at TAG1, and included in NC/TAG/02.Inf 4.

The TAG **noted** document NC/TAG/02.Inf 5 setting out (a) the Secretariat's letter to five commercial entities seeking structured information of the non-combustion technologies they provide for the destructions of POPs; (b) the responses from 4 technologies providers – ABB Transformatoren GmbH, BCD Group Inc., ELI Ecologic International, and Toshiba Corporation; and (c) the lack of response from Commodore Applied Technologies in relation to the Solvated Electron Process.

The TAG **welcomed** the positive responses from technology providers and **thanked** them for the keen interest they display in meeting the requirements of the non-combustion programme and the wider needs of developing and transition economy countries.

Presentations from technology providers

The TAG **received** presentations, in alphabetic order by company, from ABB Transformatoren GmbH, BCD Group Inc., ELI Ecologic International.

The TAG **received** apologies from Toshiba Corporation that it was unable to make a presentation.

The presentation from ABB Transformatoren GmbH highlighted the **LTR² (Low Temperature Rinsing and Re-use)** system that marries ABB's considerable experience in transformer maintenance and recycling (used commercially for more than 15 years on over 30 000 transformers to date) with Sodium Reduction (NaR) technology for the non-combustion destruction of PCBs and mineral oils contaminated with PCBs.

ABB Transformatoren GmbH reported the principal advantages of its system as:

- the factoring-in of costs for new or recycled equipment for the equipment owner;
- its operation at low temperatures and pressures minimising attendance risks and input costs;
- its ability to work with low-contaminated transformers *in situ*;
- the use of an effective solvent (tetrachloroethylene) to rinse PCBs from highly contaminated transformers;
- the mobility and scalability of the NaR technology.

BCD Group reported development of the **Base Catalysed Decomposition (BCD)** technology to provide a mechanically and chemically simple process that was considered safe to operate and represented a low-cost destruction option. An improved and proprietary reaction accelerator and the use of mechanical stirring were cited as important considerations in recent improvements in performance and reductions in operational costs. Recent plants commissioned in Mexico and Japan handled PCBs liquids

and POPs solids such as pesticide powders and pellets. Pre-treatment and size reduction was requirement for transformers and other solids. Pre-treatment regimes could include, for example, thermal desorption apparatus to extract POPs ‘liquors’ from contaminated soils.

ELI Ecologic International reported the principal advantage of its ***Gas-Phase Chemical Reduction (GPCR)*** system as providing a complete destruction solution - combining licensing, engineering and technology transfer to deal with a wide variety of halogenated materials. The system utilizes a reduction-based chemical approach that does not create heavy molecules. Pre-treatment elements (varying according to matrix) facilitate the release of matrix organics to the gas phase for destruction. The use of a Thermal Reduction Batch Processor (TRBP) that can accommodate up to 15 t.batch⁻¹ minimizes the size reduction and handling necessary in dealing with contaminated solid components. Destruction is achieved at high temperature in the gas phase through the introduction of hydrogen.

Discussion of technologies and recommendations

The TAG ***invited*** Mr. N Harjee to report on his visit to evaluate BCD technology at a modern plant in Mexico (NC/TAG/02.Inf 6). Mr. Harjee reported that:

- the plant had been operating for 7 years but modifications in the last 3 years had considerably improved its performance;
- the technology handled only PCBs liquids arising from the solvent washing and dismantling of transformers and capacitors;
- plant capacity was approximately 3 000 l.d⁻¹ and resulted in about 7 000 l.d⁻¹ of oil with \leq 4 ppm PCBs;
- the plant had provided amongst the lowest tender prices for PCBs destruction and was contracted by Government at US\$ 2.3 – 2.76 kg⁻¹ depending on the PCBs concentration of the wastes; and
- the plant appeared simple to operate, was essentially closed with on-line sampling and QC (but no monitoring of gaseous releases?), and with external performance auditing for which data was available.

In discussion, the TAG sought clarification regarding the nature of the large volume of oil resulting from the process. The use of a ‘donor’ mineral oil as an input was noted. If this remained unchanged during reaction then presumably it could be recycled, however, if it was chemically transformed during reaction, its final composition needs to be known.

Furthermore, the TAG questioned quoted destruction efficiencies, as it was not clear that these considered all process outputs. There was concern that the chemical reactions were not fully characterised and may be complex, resulting in some reactions not reaching completion and giving rise to chemicals of concern in releases that were not fully tested.

The TAG ***noted*** the presentation setting out Australian experiences in the management of scheduled wastes (NC/TAG/02.Inf 7) and ***thanked*** Mr. T. Bridle for submitting it.

The TAG ***invited*** Mr. J Skaarup to report on the work undertaken by COWI on behalf of DANCEE to review POPs elimination technologies (NC/TAG/02.Inf 8). Mr. Skaarup reported that the review:

- considered both incineration and non-combustion technologies within the context of regulatory, cultural, technical and economic conditions prevalent in CEE;
- concluded that GPCR technology was highly reliable with commercial appeal and immediate market availability but with high operational expenditures

- concluded that BCD technology as developed in Australia was of limited capacity, lacked documentation of handling of residues and was less cost effective than some other systems³;

In discussion, the TAG noted the close grouping of ‘final scores’ with GPCR and the incineration systems all scoring essentially the same. This was felt to be a difficulty in reducing complex multivariate data to a simple assessment system. While all the systems might meet existing regulatory systems it was not clear that they would be compatible with the Stockholm Convention.

The TAG **welcomed** the approach taken by ABB, in developing the **LTR²** system, to recycle and re-use as much of the equipment as possible so as to reduce the overall costs of removing and destroying PCBs wastes.

The TAG **considered** that the system might meet programme criteria for technology selection but that further information was required to assess this in detail.

Following questions to the technology provider, the TAG **requested** the secretariat to gather from ABB, and circulate to TAG members, information on the following topics:

- the nature and volume of organic by-products and the disposal methods used;
- the risks of fugitive release, particularly during solvent washing, and measures taken to counter them;
- 3rd party validated performance data from commercial operation of the system;
- ABB’s experience and performance in the treatment of contaminated soils;
- the quantities of solvent used and measures taken to avoid its release; and
- the risks related to all inputs, including the use of sodium metal, and an assessment of the replicability of the system to developing and transition economy countries.

The TAG **welcomed** the latest advances in the BCD technology reported by the BCD Group and **considered** that the system might meet programme criteria for technology selection but that further information was required to assess this in detail, particularly as various plants around the world had been engineered independently and operated in different ways.

The TAG **noted** the use of a proprietary ‘reaction accelerant’ that appeared to be consumed in the reaction and was thus not a conventional catalyst.

Following questions to the technology provider, the TAG **requested** the secretariat to gather from BCD Group, and circulate to TAG members, information on the following topics:

- chemical characterisation and details of reactions;
- the quantities of mineral oils used in pre-treatment and destruction phases of the system, and the use or disposal of residues from this material;
- materials balance including all inputs and reaction products;
- details assessment of destruction efficiencies taking into account all releases and products;
- the nature of systems required ensuring no releases of contaminated material via reaction products – including chemical water and salt
- the risks of forming and releasing other chemicals of concern not yet included in monitoring regimes; and
- breakdown of costs estimates and clarification of whether pre-treatment and waste streams monitoring and treatment were included in costs provided.

³ BCD technology was reviewed at an operating plant in Australia. There may be engineering and performance differences between this plant and other operations employing BCD technology.

The TAG *welcomed* the latest advances in the GPCR technology reported by ELI Ecologic International and the degree of independent reporting and data related to commercial operations provided in the submission.

The TAG *questioned* the technology provider in relation to (a) the monitoring of outputs and verification of reaction completion; (b) pre-treatment systems and costs; (c) risks associated with the use of hydrogen; (d) scalability of the technology; (e) the economics of high-temperature, gas-based destruction; and (f) the availability of the system for technology transfer.

ELI Ecologic provided the following responses:

Outputs monitoring and verification: *Gas streams* are monitored continuously for monochlorobenzene as an indicator of incomplete reaction, monitoring is supported by periodic direct laboratory analysis of gas products. Contaminated *solid components* are wipe tested after treatment to ensure compliance. *Water* is filtered then tested on site prior to release. *Carbon filters* are cleansed and reactivated in the GPCR system. Monitoring costs are incorporated as part of the technology package and form a component of the standard operating system and procedures.

The Pre-treatment system has been designed to (i) minimise handling and size reduction necessary, (ii) maximise release of target organics from contaminated equipment. Proprietary systems are used, for example, in generating ‘liquors’ from contaminated soils. Other approaches, such as solvent washing, could be incorporated to meet customer demands and would alter capital and operating cost structure.

Hydrogen is an industrial gas commonly used in industry and a basic component of petrochemical sector chemistry. Recommendations of a 3rd party risk assessment of GPCR have been incorporated in their entirety. The system has demonstrated approximately 30 000 hours of safe operation. Continuous monitoring and automatic shutdown devices are part of standard operating systems and procedures.

The scalability of the technology relates directly to commercial viability. Capital and operating costs are not linear; a 100 t.y⁻¹ plant would have capital costs representing 25% of a 1000 t.y⁻¹ plant. Pretreatment and ancillary equipment costs would also not be linearly related.

Economic viability is demonstrated by the commercial take up of the technology – those that are not viable do not survive. Assuming a ‘level playing field’, relating to the control of all releases and all costs, then destruction via GPCR can be provided at costs equivalent to those of incineration. Unfortunately, current performance and costing regimes favour incineration.

The Technology is transferred as a package to the purchaser comprising licensing, design, engineering, pretesting, construction, performance testing and permitting, operating procedures, training and internet-based remote monitoring.

The TAG considered the technology [likely] to meet the selection criteria and *requested* the secretariat to include the presentation from ELI Ecologic International in the meeting papers.

The TAG *welcomed* the submission by Toshiba Corporation of its innovative approach to non-combustion destruction combining ultra-violet irradiation and catalytic dechlorination (UVCD) technology.

The TAG *considered* that the Toshiba submission indicated that the technology was not yet commercially available and looked forward to its continued development and validation under conditions of commercial operation.

The TAG *requested* the secretariat to write to all the technology providers thanking them for the information and presentation they had provided and for their continued interest to develop non-combustion technologies for POPs destruction appropriate to the needs of developing and transition economy countries.

The status of PCBs and other POPs in the Philippines

Mr. J. Amador, Director of the Environment Management Bureau of the Department of Environment and Natural Resources gave a presentation setting out the progress made by the Philippines to date in controlling hazardous chemicals within the context of the Toxic substances, Hazardous and Nuclear Waste Control Act (1990; RA6969), and its attendant implementing rules and regulations, and the draft Chemical Control Order (NC/TAG/02.Inf 9).

He set out the priorities for the country as follows:

- enacting the Chemical Control Order
- supporting the implementation of the Non-combustion project to destroy the POPs burden in the Philippines
- preparing PCBs management plans and gaining assistance for such plans at utility and enterprise levels
- reiterating the ban on imports of hazardous wastes, including POPs wastes
- raising awareness of officials engaged in technology procurement and customs to avoid the unwitting importation of hazardous materials.

Mrs. A. Brabante, Chief of the Chemicals Management Section, presented the status of POPs chemicals in the Philippines as follows:

Endrin: banned in the Philippines, 1983

Aldrin, dieldrin, heptachlor, toxaphene: banned in the Philippines, 1989, wastes of some may still exist

Chlordane: banned in the Philippines, 1999

DDT: restricted to disease vector control since 1978, use banned by Dept of Health in 1992

Mirex: never registered and no documented use in the Philippines

Hexachlorobenzene: never registered; import, manufacture and use banned

PCBs: present in electrical equipment; wastes regulated under Republic Act 6969 and subject of the draft Chemical Control Order.

Dioxins & furans: considered within the remit of the Clean Air Act

She reported relevant laws and regulations as PD1144, which created the Fertilizers and Pesticides Authority (FPA) with regulatory powers; RA6969 – Toxic Substances, Hazardous and Nuclear Wastes Control Act; and RA8749 The Philippine Clean Air Act.

Further, she reported that while national inventory work on POPs was only just beginning as part of the enabling activities funded by the GEF, an early inventory, conducted by Dr. Silverio for UNIDO, had identified almost 1000 t of PCBs equipment containing over 200 t of PCBs (NC/TAG/02.Inf 10). [She anticipated a likely national POPs burden of the order of 10 000 t].

Dr. Silverio noted the partial nature of his inventory that, for some categories, provides only an indication that PCBs equipment is in use.

A UNIDO commentary to Dr. Silverio's inventory (NC/TAG/02.Inf 11) noted the careful attention to detail of that work. The commentary provides further indications of where so far un-accounted materials might reside but also identifies POPs source categories where anecdotal evidence may overestimate the POPs wastes that might arise.

The TAG *considered* that the development of well-constrained estimates of the POPs burden, and its form, were essential for good business planning for the non-combustion country project. While that business model should seek to demonstrate long-term commercial viability, it is recognised that it would likely be based on best estimates of quantities of different materials. Different confidence limits might apply to each of these estimates. While PCBs represents the principal or initial priority, business planning should consider the wider burden of POPs materials that may be present in the country.

The TAG *recognised* the continuing process of developing national inventories and *considered* that business planning could not wait for the completion of the enabling activities inventory work.

Mr. Amador reported agreement with the principal electric utility entities to provide further information on their holdings of PCBs, PCBs-containing equipment and PCBs contaminated oils ahead of the Project Steering Committee meeting to be held during the week beginning 20 October.

Matching available technologies to the real problem in the Philippines

The TAG *recommended* that, in preparing for final technology selection, the Project Steering Committee should consider:

- the flexibility of any destruction system to deal with the range of POPs and POPs matrices likely to be encountered in the Philippines – and possibly other materials exhibiting POPs characteristics, or giving rise to wastes or releases exhibiting POPs characteristics;
- the commercial viability of any destruction system, taking into account both its capital and operating costs in providing a service meeting local market needs; and
- the transferability of any destruction system, taking into account the range of services – licensing, engineering, training, compliance testing etc., available from the technology provider.

The TAG *considered* that final selection should be based on the consideration of submissions from technology providers in response to a published detailed specification prepared by the Project Steering Committee. Such a specification would need to consider both the programme criteria and related indicators, and the nature of the wastes to be destroyed in the Philippines. It would also need to provide guidance on local costs – for example, unit charges for inputs, and an explicit statement of how any prequalification or tendering exercises would be assessed.

The TAG *recognised* that final technology selection via a formal tender exercise and contracting exercise could only take place after GEF CEO approval of the Project Document when funds had been transferred to UNIDO.

The following possible process was outlined:

- the Project Steering Committee meeting in late October to consider assessments of the waste materials to be destroyed in order to build an outline business model;
- the Project Brief to contain (i) an outline business model comprising advice from the TAG concerning the technology and an appraisal of the waste materials to be destroyed in the Philippines; and (ii) criteria and indicators for a prequalification exercise;
- a prequalification exercise amongst technology providers recognised as likely to meet the technology selection criteria of the programme and based on the outline business model;
- the Project Document to contain (i) a detailed technical specification of the services to be required in the country project; (ii) a shortlist of technology providers considered to have prequalified; and (iii) an explicit statement of how the tendering exercise would be assessed; and
- a competitive tendering exercise following approval of the Project Document, conducted according to UNIDO procurement rules and amongst prequalifying providers using the technical specification and assessment procedure included in the project document. Where possible the technical evaluation of the tenders to include representatives of the Project Steering Committee.

The TAG *noted* the requirement, set by the GEF, for firm co-financing commitments to be submitted with the project brief. This was *recognised* as incompatible with a competitive tender exercise at the start of the full country project. The TAG *considered* that firm commitments would be unlikely to arise before detailed costs were known.

The TAG *requested* UNDP, as Implementing Agency for the programme, to approach the GEF Secretariat to assist in formulating an acceptable procedure to take the country project forward, given the need to maintain the open and transparent process of technology selection.

The TAG *requested* UNIDO, as Executing Agency for the programme, to provide advice to the next meeting of the Project Steering Committee on its procurement procedures as these would govern the final technology selection based on a contracting exercise.

Applicability of non-combustion technologies to different situations in developing countries

The TAG *considered* that the approaches and findings from the different country projects of the non-combustion programme would prove valuable for many developing country Parties to the Stockholm Convention. While the TAG considered the programme not yet sufficiently advanced to consider a formal publication, it *recommended* the establishment by UNIDO of a web-based information resource. This could be done on approval of the Project Document for the non-combustion programme and the first (Slovakia) country project.

The TAG *recommended* that its meetings should continue as part of the global programme. Further, the TAG *recommended* that an e-group be established by UNIDO to allow consultation amongst the group between the formal meetings.

The TAG *requested* that its papers and summary meeting reports be made widely available, perhaps on dedicated public 'pages' of the UNIDO website. The TAG *requested* that information submitted by the technology providers should be included, subject to their permission to publish.

Any other business

GEF STAP meeting on Non-combustion technologies, (1-3 October, Washington DC); The TAG expressed disappointment at the lack of contact with the STAP group and *requested* that the summary report of this meeting be forwarded via the UNIDO representative to the meeting (Mr. Z. Csizer).

Closure

On behalf of the TAG, Mr Andy Hudson *thanked* the DENR-EMB and the Philippines Government, for their continuing commitment to the non-combustion programme and for their considerable efforts and hard work in preparing for the TAG meeting; the local UNIDO and UNDP offices for their logistical support for the meeting; and the technology providers for their detailed submissions, the presentations to the meeting, and their willingness to participate fully in the meeting.

On behalf of DENR-EMB and the Philippines Government, Mrs. A. Brabante, thanked the international TAG members for travelling to Manila for the meeting and for their advice and support in moving forward with the non-com programme and its Philippines country project. Mr. A. Hudson declared the meeting closed at 16:45.

Annex 6: PHILIPPINE CHEMICAL CONTROL ORDER (CCO)

**DENR Administrative Order No. 1
Series of 2004**

Subject: Chemical Control Order (CCO) for Polychlorinated Biphenyls (PCBs)

Pursuant to the provisions of Republic Act No. 6969, otherwise known as the “Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990” (“RA 6969”), DENR Administrative Order No. 29, Series of 1992, otherwise known as the “Implementing Rules and Regulations of RA 6969”⁴ (“IRR”), and other applicable laws, rules and regulations, the following Chemical Control Order (“CCO”) for Polychlorinated Biphenyls (“PCBs”), is hereby promulgated:

Section I. Policy Objectives. It is the policy of the State to accomplish the following objectives:

1. Reduce and eliminate the importation, manufacture, sale, transfer, distribution and use of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and PCB packaging, and to regulate the transport, treatment and disposal of PCBs and PCB wastes, to protect human health and the environment.
2. Reduce the hazards and unreasonable risks posed to human health and the environment from improper use and management of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB-equipment, PCB articles and PCB packaging, and the subsequent release of PCBs and PCB wastes.
3. Establish responsibilities for the management and handling of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and PCB packaging, and the subsequent release of PCBs and PCB wastes.
4. Establish requirements, procedures and limitations for the importation, manufacture, use, and proper treatment, storage and disposal of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and PCB packaging, and subsequent release of PCBs and PCB wastes.
5. Establish a compliance monitoring program to enforce the provisions of this CCO.
6. Increase public awareness and education on the effects of PCBs to human health and the environment.

Section II. Definition of Terms. For purposes of this CCO, unless inconsistent with the context or subject matter, the following definitions shall apply:

1. **IRR** means DENR DAO 92-29, which is the Implementing Rules and Regulations of RA 6969.
2. **Department** means the Department of Environment and Natural Resources.
3. **Bureau** means the central office of the Environmental Management Bureau.
4. **Polychlorinated Biphenyls (PCBs)** means aromatic compounds formed in such a manner that the hydrogen atoms on the biphenyl molecule (two benzene rings bonded together by a single carbon-carbon bond) may be replaced by up to ten chlorine atoms. The compound

⁴ Also in addition to all the other requirement of Title II and Title III of the IRR.

has the CAS Number 1336-36-3 and the DENR Hazardous number L 406. The term includes, but is not limited to all the synonyms as listed in Annex A of this CCO.

5. **Dielectric fluid** is an oily substance that is used to provide an insulating barrier in electrical equipment due to its excellent thermal stability and fire resistance.
6. **Capacitor** means a device for accumulating and holding a charge of electricity, and consisting of conducting surfaces separated by a dielectric fluid.
7. **Transformer** is a device that stabilizes or regulates the supply of electricity.
8. **PCB equipment** means any equipment that contain 500 ppm PCB or greater ($\text{PCB} \geq 500$ ppm).
9. **PCB-contaminated equipment** means any equipment that contains 50 ppm PCB and higher but less than 500 ppm PCB ($50 \text{ ppm} \leq \text{PCB} < 500 \text{ ppm}$).
10. **Non-PCB equipment** means any equipment that contains PCB concentration of less than 50 ppm ($\text{PCB} < 50 \text{ ppm}$)
11. **PCB-Free material** means any solid or liquid that does not contain any PCB.
12. **PCB wastes** means discarded materials that contain PCBs or have been contaminated with PCBs that are without any safe commercial industrial, agricultural or economic usage.
13. **PCB article** means any material, other than PCB wastes, whose surface has been in direct contact with PCBs.
14. **PCB packaging** means any container or pressurized receptacle such as can, bottle, bag, barrel, drum, tank, or other device that contains and secures PCB articles and PCB wastes, respectively.
15. **Name-plated** means any equipment, article or packaging that has an attached manufacturer's plate, label or plaque that bears information not limited to the following; name of manufacturer, date of manufacture, serial number, brand or model, origin, contents and dimension.
16. **Non-plated** means any equipment, article or packaging that has no attached manufacturer's plate, label or plaque.
17. **Commercial Building** means a more or less enclosed structure that is open to the public and which includes, but is not limited to malls, restaurants, schools, hotels, offices, including government buildings and the like.
18. **Industrial Facilities** means facilities such as, but not limited to, factories, power generation or distribution stations or sub-stations, assembly plants, feed mills and other buildings and structures used in general industrial assembly.
19. **Retro-fill** means the replacement or substitution of PCB fluids in transformers with mineral oils or any other suitable dielectric fluid.
20. **Storage** means the facility where supply or stock is stored for future use, safekeeping or disposal.
21. **Disposal** means the collection, sorting, transport and treatment of wastes, as well as its storage.
22. **Retirement** means removal or decommissioning from service of any equipment for the purpose of disposing, without any intention of reuse.

Section III. Scope and Coverage. This CCO applies to the *importation, manufacture, sale, transfer, distribution* and the *use* of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and PCB packaging in commercial buildings and industrial facilities, including the use and possession by electric utilities and suppliers, in accordance with the terms hereof. For this CCO, use includes those for enclosed applications, partially enclosed applications, and open-ended applications. This CCO also applies to the generation, storage, transport, treatment and disposal of PCB wastes, including those done by contractors, transporters and disposers.

1. **The following Enclosed Applications are covered:**
 - a. Transformers
 - b. Capacitors
 - c. Voltage regulators
 - d. Liquid filled circuit breakers
 - e. Other electrical equipment containing dielectric fluids
2. **The following Partially Enclosed Applications are covered:**
 - a. Hydraulic fluids
 - b. Heat transfer fluids
3. **The following Open- Ended Applications are covered:**
 - a. Lubricants
 - b. Casting waxes
 - c. Surface coatings
 - d. Adhesives
 - e. Plasticizers
 - f. Inks
 - g. Other uses
4. **The following PCB Wastes are covered:**
 - a. Contaminated solvents/waters
 - b. Used oil and waste oil
 - c. Sludges and slurries
 - d. Dredged spoils
 - e. Contaminated soils/sediments
 - f. By products
 - g. Scraps
 - h. Ballasts and capacitors
 - i. Other materials contaminated with PCBs as a result of spills, decommissioning and other demolition activities.

Section IV. Requirements and Procedures

1. Registration

- 1.1 The following persons/entities shall register with the Bureau not later than the first quarter of 2004:
 - a. Owners or operators of industrial facilities/installations, electric utilities and suppliers who are in possession or involved in the use of any PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB wastes, PCB article or PCB packaging.

- b. Owners of commercial buildings installed with or containing any PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB wastes, PCB article, or PCB packaging.
 - c. Electric utilities, suppliers and waste service providers involved in the treatment and disposal of PCB wastes.
 - d. Owners of industrial facilities and commercial buildings containing suspected PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB wastes, PCB article, or PCB packaging.
 - e. Owners or possessors of storage facilities containing PCBs, PCB wastes, PCB articles, or PCB packaging.
- 1.2 The PCB registration certificate(s) and all permit(s) issued by the Bureau, along with applications and attachments, shall be retained at the premises of the registrant for at least five (5) years and be available for inspection at any time by proper officials of the Department and/or the Bureau.
- 1.3 The Department may generate listings of lands or buildings containing PCB articles, PCB wastes or PCB packaging, as may be established through proper inspection, whether or not said PCB articles, PCB wastes or PCB packaging are being properly managed, including those lands or buildings which had history of containing PCB articles, PCB wastes or PCB packaging, in order to safeguard human health and the environment.

2. Annual Reports and Inventory Reports

- 2.1 All persons/entities required to be registered must submit to the Bureau a duly accomplished Annual Report Form provided by the Bureau, which must contain the following information:
- a. General Information
 - i. Type of business activity (manufacturer, industrial user, importer, exporter, waste treater, waste transporters);
 - ii. Name, address and location of commercial building, industrial facility, storage facility or location of treatment and/or disposal activity;
 - iii. Name, address and telephone number of contact person
 - b. Management Information
 - i. Number and category of employees directly and indirectly responsible for the management of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment and PCB articles in service, and PCB wastes, PCB articles and PCB packaging in storage, and their respective qualifications and training for the job;
 - ii. Number of persons with potential risk of exposure to PCBs, and exposure duration;
 - iii. Program for storage, if any, including operators and location of storage facilities; and
 - iv. Program for treatment and disposal, including schedule, contractor, disposal method and facilities, their premises and locations, and such other information, which the Bureau may require.
 - c. The first Annual Report shall be submitted not later than the second quarter of 2004, and subsequent Annual Reports shall be submitted at the end of June of every calendar year.

- d. The registrant must also retain records of manufacture, distribution, and use, in accordance with this CCO.
- 2.2 All registrants shall submit an Inventory Report of all PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and PCB packaging stored and used, and PCB wastes generated and/or stored, in their buildings/facilities/possession, in accordance with the following:
- a. **For name-plated PCB equipment, PCB contaminated equipment, non-PCB equipment, PCB articles and labelled PCB packaging:**
- i. Registrants shall conduct a survey of PCB equipment, PCB-contaminated equipment, non-PCB equipment, and PCB articles in service, idle or unserviceable, including those PCB wastes and PCB packaging in storage, and submit an Inventory Report as part of the First Annual Report due on the second quarter of 2004; and
 - ii. Power generation or distribution companies that operate more than twenty (20) industrial facilities shall be given one (1) year to complete the inventory. However, partial inventory reports should be submitted within the second quarter of 2004.
- b. **For non-plated PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and suspected PCB packaging**
- i. Registrants are required to undertake testing and analysis of non-plated PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and suspected PCB packaging and submit an Inventory Report within one (1) year from effective date hereof, provided that a partial inventory shall be submitted within the second quarter of 2004. Provided further that anything, which is not proven by the registrant to be non-PCB material shall be deemed to contain PCB and is subject to the regulatory measures provided in this CCO.
 - ii. PCB analysis shall be carried out by laboratories duly recognized by the Bureau for the purpose of specifying the analytical method that will be applied.
- c. For both a. and b., the Inventory Report, which must be signed under oath, shall include the following information:
- i. Volume and concentration of PCBs, and the weight and volume of PCB packaging in the possession of the registrant;
 - ii. Detailed identification which includes specific model (label codes), type of equipment, serial number, name of manufacturer, date of manufacture, electrical/industrial rating, projected retirement period, capacity, and dimensions of each unit of PCB equipment, PCB-contaminated equipment, non-PCB equipment, and PCB articles in use, storage, or intended for disposal;
 - iii. The historical movement of a PCB equipment, PCB-contaminated equipment, non-PCB equipment or PCB article, prior to its present location whether serviceable or unserviceable shall be indicated, including the activities conducted (i.e. retro-filled, repaired, replaced or decommissioned, among others).

- iv. Quantity of PCB wastes generated (fluids, sludge, slurry, scraps, contaminated equipment, soil, and others) per unit time, and the total quantity at the time of the inventory; and
 - v. Dates of inventory, testing label codes, and type of materials and methods used. The Certificate of Analysis must be attached to the Inventory Report.
- d. An updated Inventory Report shall be submitted as part of the subsequent annual reports.

3. Handling Requirements

The commercial and industrial owners and operators must comply with the requirements for transport, storage and disposal specified under Title III of the IRR for transportation, storage and disposal of PCB wastes.

4. Labelling Requirements

- 4.1 All PCB equipments, PCB-contaminated equipments, non-PCB equipment, PCB articles and PCB packaging, such as the following, are required to have clear, visible and readable markings in the English language:
- a. Transformers and capacitors using PCBs;
 - b. Electric motors using PCB-containing coolants and hydraulic systems using PCB containing hydraulic fluid;
 - c. Other heat transfer systems using PCBs; and
 - d. PCB packaging in storage for treatment and disposal.
- 4.2 Information on the label should include: a hazard warning or symbol, name of the company, serial number of the unit, other identifying information, contact person, address and telephone number.
- 4.3 Installations and storage areas for PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB wastes, PCB articles, PCB packaging, must have a signage with the following information:
- a. “Contains PCBs” in large letters including total volume and total weight of PCBs, total volume and total weight of PCB waste, total volume and total number of PCB packaging, the number and type of PCB equipment, PCB-contaminated equipment, non-PCB equipment and PCB articles;
 - b. Warning that it contains toxic chemical and that it must be handled by authorized personnel only; and
 - c. Contact person, including address and telephone number.

5. Storage Requirements

- 5.1 Storage areas for PCBs, PCB wastes, PCB articles and PCB packaging, must meet the following minimum conditions:
- a. The storage area must be marked clearly, by putting fences, posts or walls in order to limit access to the storage area;

- b. The storage area must be inspected at 30-day intervals. Observations must be recorded in a logbook, indicating the name of the inspector and the date of inspection. Inspection records must be retained;
- c. The date when stored items are placed in the storage area must be recorded;
- d. Roof and walls must be adequate to prevent rainwater from reaching stored items;
- e. Floors of the storage areas must be constructed from impervious materials such as concrete or steel to prevent the PCBs and PCB wastes from leaching into the ground;
- f. A spill containment system, such as a continuous curbing with adequate height to accommodate at least twice the volume of the stored PCBs and PCB wastes, must be constructed along the perimeter of the storage area to prevent any spilled material from flowing out;
- g. The storage area must be accessible to material handling equipment such as forklift and drum lifters;
- h. There should be no cracks or openings of any kind in the containment floor or walls that could allow the flow of PCBs or PCB wastes outside the area;
- i. Adequate ventilation must be provided to safeguard the health of workers and handlers.
- j. The storage area must be located far from residential communities, storm drains, and bodies of water, flood-prone areas and other environmentally critical areas.

Storage Period

- a. Maximum of three (3) years from effective date of this Order:
 - i. PCB equipment, PCB-contaminated equipment and non-PCB equipment that have been drained of PCB fluids;
 - ii. Sealed PCB equipment, PCB-contaminated equipment and non-PCB equipment with absolutely no leaks; and
 - iii. PCB articles and PCB wastes placed in a leak-proof PCB packaging.
- b. Maximum of two (2) years after the end of the retirement period or date of determination that the equipment must be disposed, but not later than the phase out period as provided for in this CCO:
 - i. PCBs or PCB-contaminated liquids that are in PCB packaging held as reserve, or which have been drained from PCB equipment, PCB-contaminated equipment, or non-PCB equipment.
 - ii. Leaking PCB equipment, PCB-contaminated equipment, non-PCB equipment, and PCB articles, provided that leaking capacitors must immediately and adequately be packed during storage.
 - iii. Other PCB equipment, PCB-contaminated equipment, non-PCB equipment and PCB articles that are not sealed.
- c. Notwithstanding the foregoing, the Department may direct the owner or possessor to immediately dispose PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB wastes, PCB articles and PCB packaging, to undertake clean up of contaminated sites, to safeguard public health and the environment.

6. Treatment and Disposal Requirements

- 6.1 The general requirements for treatment, storage, and disposal of PCBs and PCB wastes are as follows:
- a. Preparatory and remedial work plan (i.e. PCB packaging, isolation draining, and treatment of PCB equipment, PCB-contaminated equipment, non-PCB equipment and PCB articles, prior to disposal);
 - b. All treatments and disposals must be approved by the Bureau and should be in conformance with RA 8749 otherwise known as the “Clean Air Act of the Philippines” and other applicable environmental laws and regulations; and
- 6.2 If necessary, wastes containing high levels of PCBs must be exported in accordance with the provisions of Section IV Item 6.1b of this Order and must meet the requirements for trans-boundary movement of wastes under the Basel Convention.

7. PCB Spill Prevention and Clean-up Plan

Registrants must prepare and retain in an accessible location at the premise, a spill prevention and clean-up plan. The plan must contain detailed descriptions of all of the following:

- a. Personnel Training Plan;
- b. Markings and Labelling;
- c. Assignments of Responsibilities of Response Team;
- d. Emergency Plans;
- e. Decontamination Procedures;
- f. Disposal of contaminated debris and materials;
- g. Reporting and Record keeping; and
- h. Persons/Institutions to Contact in case of Emergency.

8. PCB Storage Closure Plan

Each owner and operator of a PCB storage facility must prepare and retain in an accessible location at the premise a PCB storage closure plan. The plan must contain detailed descriptions of all of the following:

- a. Certification of financial liability approved by the Bureau;
- b. Steps and procedures for closure;
- c. Post closure conditions and monitoring; and
- d. Cost estimates approved by the Bureau.

9. PCB Management Plan Requirement

A PCB Management Plan must be submitted to the Department within six (6) months after registration to ensure that PCBs are managed in a manner that will eliminate or minimize its release to the environment. The registrant shall be responsible for all costs of managing PCBs including storage, disposal and clean-ups. The details of the management plan will vary depending on the type of premises and the type of activity that is being conducted with a timetable for completion of particular actions. Review and revisions of the management plan should be done at least once every five (5) years.

Below is a general outline for the PCB Management Plan:

a. General Description

- i. Name of owner and operator;
- ii. Location of the facility or the PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB article, PCB packaging or PCB wastes (site specific);
- iii. Industrial activities at the premises; and
- iv. Number of employees.

b. Uses of PCBs at the Premise

- i. Description of the uses of PCBs at the premises;
- ii. Listing of PCB equipment, PCB contaminated equipment, non-PCB equipment and PCB articles;
- iii. Listing of PCB wastes generated at the premises;
- iv. Mass balance of PCBs through the premises;
- v. Description of pollution control devices in use at the premise;
- vi. Description of compliance with the environmental laws and regulations; and
- vii. Description of emergency procedures and contingency plan in case of accidents.

c. Pollution Prevention Program

- i. Pollution prevention/control devices;
- ii. Inspection schedule and checklist; and
- iii. Equipment and/or materials to be used during spills and/or emergencies.

d. Training Program

- i. Scope or coverage of training or a copy of the Training Manual.
- ii. List of personnel trained, particularly those workers in contact with PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB wastes, PCB articles or PCB packaging

10. Insurance and Surety Bond Requirements

All entities required to be registered under the provisions of this CCO are required to provide pollution liability insurance coverage separate from any existing general or public liability insurance to guarantee payment for clean-up, damage claims and other environmental liabilities that may arise in case of accidents (i.e. PCB spills, fires), in an amount determined as sufficient by the Department, and post an annual surety bond equivalent to 150% of the current cost of proper PCB disposal to guarantee payment of the same in case of untimely closure and abandonment. The insurance and the surety bond shall be submitted yearly, together with the annual report.

Section V. Ban and Phase-out on Importation, Sale, Transfer and Use of PCBs

1. Upon the effective date of this Order:

- a. The local/domestic manufacture or production of PCBs, PCB equipment, PCB contaminated equipment and non-PCB equipment, or the use of such, including PCB articles and PCB wastes, as raw materials, shall be strictly prohibited.
 - b. All importation, sale, transfer or distribution of PCBs, PCB equipment, PCB-contaminated equipment, PCB wastes, PCB articles, or PCB packaging shall no longer be allowed.
 - c. The use of PCBs in open-ended applications and partially enclosed applications shall no longer be allowed.
 - d. All existing PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB packaging, PCB articles and PCB wastes other than in a totally enclosed, intact, non-leaking and serviceable system shall be considered as hazardous wastes and shall be handled, stored and treated in accordance with Title III of the IRR.
 - e. A PCB equipment, PCB-contaminated equipment or non-PCB equipment may only be replaced with equipment that contains and uses only, PCB-Free materials, as certified by the manufacturer.
2. Three (3) years after the effective date of this Order, the importation, sale, transfer or distribution of non-PCB equipment as defined under this CCO shall no longer be permitted.
 3. Ten (10) years after the effective date of this Order the use or storage for reuse of any PCBs, PCB equipment, PCB – contaminated equipment, or PCB article, including those in totally enclosed applications, shall no longer be allowed. Likewise, on the same date, the storage of PCB packaging and PCB wastes shall no longer be allowed.
 4. Notwithstanding the foregoing, however, PCBs may, for an indefinite period, be imported, sold, transferred or used in small quantities, for research and development, in a manner other than totally enclosed, provided proper authorization is obtained from the Department. Authorized research and development activities include, but are not limited to: the chemical analysis of PCBs; determination of the physical properties of PCBs; studies of environmental transport properties; studies of biochemical transport processes; studies of the effects of PCBs on the environment; and studies on the effects of PCBs on human health.

Section VI. Information, Education, Communication and Training Requirements. The Department, in collaboration with the industry, concerned government agencies, the academe and the non-government organizations, will promote industry and public awareness of the CCO requirements and its compliance and the hazards posed by the use and release of PCBs in the workplace and into the environment.

Section VII. Public Access to Records The Public shall have access to records, reports or information obtained by the Department pursuant to this CCO, in accordance with Section 12 of RA 6969.

Section VIII. Compliance Monitoring Procedure. Compliance with the requirements established in this CCO will be monitored by the Department through review of reports and registration information submitted, as required by this CCO, and on-site inspection by authorized personnel of the Department.

Section IX. Revision of Requirements. The Department may amend, modify, and/or supplement the requirements and standards in this CCO after prior consultation with stakeholders and after proper notice and hearing to the public on matters to be revised. The EMB Director shall hereby issue clarification guidelines.

Section X. Penalty Provision. Any violation of the requirements specified in this CCO will subject the person or persons responsible thereof to the applicable administrative and criminal sanctions as provided for under RA 6969 and other applicable laws and regulations.

Section XI. Separability Clause. Should any provision or portion of this CCO be declared unconstitutional or invalid, all other provisions of this CCO shall remain valid and enforceable.

Section XII. Effectivity. This CCO shall take effect one (1) month after publication in the Official Gazette or two (2) newspapers of general circulation.

(Sgd.) ELISEA G. GOZUN
Secretary

Annex 7: 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 non-biodegradable 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 odours.
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 and 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 odour, 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 being 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 being 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/ Resins	Aqueous-based	E601
	Solvent-based	E202
Lattices/inks Dyes/Adhesives/ Organic Sludges	Other mixed	E699
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 labelled and this labelling 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 labelling 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 labelling.
9. Failure or refusal to comply with subpoena or subpoena duces tecum issued by the Secretary or his duly authorized representative.

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 impose a fine of not less than 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 ten 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

Annex 8: MEMORANDUM OF AGREEMENT BETWEEN DENR AND STAKEHOLDERS

FROM : JICA HWM STUDY TEAM

FAX NO. : +63 2 9202263

DEC. 15 2003 02:02PM P3

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement executed this AUG 21 2002 day of _____ 2002
at _____, by and among:

The Department of Environment and Natural Resources - Environmental Management Bureau (herein referred to as EMB-DENR), with principal address at DENR compound Visayas Ave., Diliman, Quezon City, represented by its Officer-in-Charge-Director, Engr. JULIAN D. AMADOR,

The Department of Energy-Energy Utilization Management Bureau (herein referred to as DOE), with principal address at Energy Center Merrit Road, Fort Bonifacio, Taguig, metro Manila, represented by its Officer-in-Charge, Mrs. TBRESITA M. BORRA,

The National Power Corporation, with principal address at cor. Quezon Avenue & Agham Road, Diliman, Quezon City, an attached agency of the Department of Energy (herein referred to as NPC), represented by its Officer-in-Charge, Mr. ROLAND S. QUILALA,

The National Electrification Administration, an agency attached to the Department of Energy (herein referred to as NEA), with principal address at NIA Road, Diliman, Quezon City, represented by its Director, Ms. NELIA F. IRORITA,

The Manila Electric Company (herein referred to as MERALCO) with principal address at Meralco Compound Ortigas Avenue, Quezon City, represented by its President, MR. JESUS P. FRANCISCO,

The Industrial Technology and Development Institute, an attached agency of the Department of Science and Technology (herein referred to as ITDI), with principal address at DOST Compound, Gen. Santos Avenue, Bicutan, Taguig, Metro Manila, represented by its Director, DR. ERNESTO P. LOZADA,

The Public Interest - Non-Government Organization (herein referred to as NGO) represented by Dr. ROMERO F. QUIJANO.

FROM : JICA HUM STUDY TEAM

FAX NO. : +63 2 9202263

DEC. 15 2003 02:03PM P4

WHEREAS, Section 16 Article 2, of the Constitution provides for the protection and advancement of the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature;

WHEREAS the EMB-DENR currently implements the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990 (Republic Act 6969);

WHEREAS the EMB-DENR regulates hazardous waste generators, recycling/treatment and disposal premises;

WHEREAS the EMB-DENR is implementing the Clean Air Act of 1999 (Republic Act No. 8749);

WHEREAS Section 20 of RA No. 8749 bans the use of incineration which process emits poisonous and toxic fumes;

WHEREAS the Philippines is a signatory to the Stockholm Convention on Persistent Organic Pollutants (POPs), with the main objective of protecting health and the environment;

WHEREAS the POPs Convention aims to eliminate use of in-place polychlorinated biphenyl (PCB)- containing equipment by the year 2025 and make best efforts to identify, label and remove from used equipment containing >50 ppm PCB;

WHEREAS the Philippines lacks adequate and technical capacity to destroy POPs, in particular, PCB and PCB wastes and other Persistent Toxic Substances (PTS);

WHEREAS new non-burn technologies have been introduced to destroy PCBs and other PTS;

WHEREAS the Global Environmental Facility (GEF) shall provide an initial investment cost of five million dollars (\$5M) for the destruction facility;

WHEREAS a minimum of 1,000 tons PCB wastes for destruction shall be established to make the project viable;

WHEREAS the Department of Energy is authorized to regulate private sector activities relative to energy projects as provided for under existing laws; Provided, that the Department shall endeavor to provide an environment conducive to free and active private sector participation and investments in all energy activities;

WHEREAS NAPOCOR generates power and as such is one of the major users of equipment containing PCBs;

WHEREAS Meralco is the major power distributor in the country and is one of the users of equipment containing PCBs;

WHEREAS NEA supervises Electric Cooperatives (ECs) which are users of equipment containing PCBs;

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WHEREAS, the NGO, coordinates with other agencies/entities in its environmental advocacy campaign in specific issues of global concern like POPs;

WHEREAS the Project aims to demonstrate non-combustion technologies for the destruction of Persistent Organic Pollutants (POPs) stockpiles, clean-up and bio-remediation activities;

WHEREAS the EMB-DENR, in cooperation, with the Parties herein named agree to enter into this Memorandum of Agreement (MOA) to define their commitments to the project entitled, **“Demonstrations of Viability and Removal of Barriers that Impede Adoption and Effective Implementation of Available Non-Combustion Technologies for Destroying Persistent Organic Pollutants or NON-COM POPS”**.

Now, therefore, for and in consideration of the foregoing premises, the parties hereby agree:

1.0 That the EMB-DENR shall:

- 1.1 Create and convene the Project Steering Committee (PSC) for the Project, which shall be composed of representatives of the agencies executing this agreement; and
- 1.2. Oversee the implementation of the Project.

2.0 The ITDI-DOST shall:

- 2.1 Generate/Gather information for the UNIDO on the stockpile obtained from MERALCO, NEA and other users of equipment/devices containing PCBs; and
- 2.2 Assist the PSC in the determination of the appropriate technology that will be adopted.

3.0 The DOE shall:

- 3.1 Facilitate the collection of information from NAPOCOR, NEA and MERALCO.

4.0 The NAPOCOR, MERALCO, and NEA shall:

- 4.1 Provide information of the PCB stockpile that can be disposed of through the Project.

5.0 The NGO shall:

- 5.1 Provide the advocacy arm for the Project in coordination with other stakeholders; and
- 5.2 Provide the information available from its Regional offices.

6.0 The PSC shall:

- 6.1 Perform the functions as spelled out in the Terms of Reference of the project developed by UNIDO/UNDP/GEF;
- 6.2 Provide a shortlist of possible sites for the project and facilitate appropriate clearances for the site identified; and
- 6.3 Coordinate closely with the Technical Advisory Group of the UNIDO/UNDP/GEF Project for follow-up activities after the demonstration phase.

7.0 Confidentiality of Information:

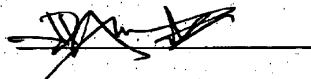
- 7.1 Confidential information shall mean all information or data obtained during the course of the study including detailed information on the volume/tonnage of PCB wastes/PCB equipment stored and in-use.
- 7.2 The confidential information provided by the users of equipment containing PCBs, for the duration of the Project, shall not be used by the EMB against the Parties in the implementation of RA 6969.
- 7.3 Confidential information generated during the study shall not be divulged by any of the Parties.
- 7.4 Any information to be divulged by the Parties shall be subject to a written approval of the PSC.

8. Effectivity

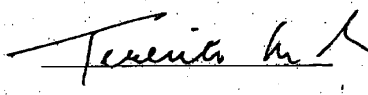
This MOA shall take effect immediately and shall be periodically reviewed and remains in force until revoked or modified with the agreement of all parties concerned.

Signed:

JULIAN D. AMADOR
Director
Environmental Management Bureau
Department of Environment and Natural Resources



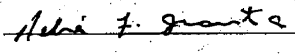
TERESITA M. BORRA
Director
Energy Utilization Management Bureau
Department of Energy



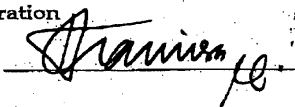
ROLAND S. QUILALA
Officer-in-Charge
National Power Corporation



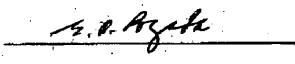
NELIA F. IRORITA
Director
National Electrification Administration



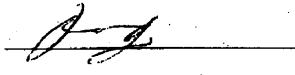
JESUS P. FRANCISCO
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ERNESTO P. LOZADA
Director
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