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## LEGAL AND REGULATORY MEASURES FOR EFFECTIVE CONTROL OF PCB MANAGEMENT IN PAKISTAN

### EXECUTIVE SUMMARY

The Stockholm Convention on Persistent Organic Pollutants (POPs) was signed by Pakistan on December 6th 2004 and ratified on April 14th 2008. To meet the legal and regulatory obligations established by this Convention, the Government of Pakistan has to take the necessary legal and administrative measures, among other things to eliminate certain chemicals (Article N° 3 & Annex A & B); e.g. its production and use and the import and export of these chemicals. Many of these measures specifically apply to the use, import and export of PCBs and have been addressed within the National Implementation Plan (NIP) established by the Government of Pakistan.

The present document briefly describes the main findings from the review of legal and regulatory documents existing in Pakistan related to PCBs management, including analysis of missing regulatory instruments to match the existing national regime with acceptable international benchmarks.

From the review, the following six documents are referred to electric power and generation, however none of these documents is related to PCBs handling or management.

1. The Gazette of Pakistan. Amendment of Act XL of 1997 in Regulation of Generation, Transmission and Distribution of Electric Power<sup>1</sup>.
2. Sectorial guidelines for environmental reports – Major thermal power stations. Government of Pakistan 1997<sup>2</sup>.
3. National Transmission & Despatch Company Limited. Policies U/R- 5(5) of Corporate Governance Rules 2013<sup>3</sup>.
4. The Regulation of Generation, Transmission and Distribution of Electric Power Act 1997<sup>4</sup>.
5. National Electric Power Regulatory Authority (Sale of Electric Power by Renewable Energy Companies) Guidelines 2015<sup>5</sup>.
6. National Electric Power Regulatory Authority Standard Operating Procedures (SOPs) for Inspection, Examination and Provision of Copies of Documents, 2015<sup>6</sup>.

As an overall conclusion from these legal and regulatory documents, it is observed a lack of:

- i. Legal provisions for monitoring of PCBs emissions and releases;

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1 File name: 8th Amendment (No. F22(14)12012-Legis.).pdf.

2 File name: h\_Power.pdf.

3 File name: Policies.docx.

4 File name: Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 along with all amendments.pdf.

5 File name: Sale of Electric Power by Renewable Energy Companies.pdf

6 File name: Standard Operating Procedures for Inspection, Examination and Provision of Copies of Documents, 2015.pdf.

- ii. Legal provisions focusing on PCBs life cycle;
- iii. Guidelines on risk minimization procedures for PCBs handling, transportation, storage and disposal of obsolete stocks;
- iv. Legal provisions focusing on public awareness on health and environmental risks associated with PCBs;
- v. Guidelines on PCBs effects to humans and the environment,
- vi. Guidelines on PCBs used in electrical equipment, related to handling, management or disposal.

However, within the documents submitted by the POPs Project Management Team, a file needs special attention, namely:

“Handling, Manufacture, Storage, Import of hazardous waste and hazardous substances Rules”, Draft-2<sup>7</sup>.

This draft is an excellent base document, to be considered as a proposal that could be used to address the most urgent issues dealing with PCBs and serves as the starting point to implement a priority framework for a PCBs management system in Pakistan.

Considering the particular situation of POPs/PCBs in Pakistan, a priority regulatory framework, based on the life cycle of these chemicals with particular focus on PCB waste management is proposed.

The proposal is based on PCBs strategies implemented in other countries and also makes references to classification, labelling, transportation and storage conditions and final disposal/elimination of PCBs wastes. This proposal might be used to establish an effective and environmentally sound control of PCBs handling in the country.

### **A Priority PCB regulatory Framework**

The PCB regulatory Framework is proposed to be implemented through an “Integrated Management Scheme” which includes three Regulatory Tools and a Hazardous Waste Declaration System for environmental control, in order to reduce PCBs releases and to regulate PCBs waste elimination, in line with international standards.

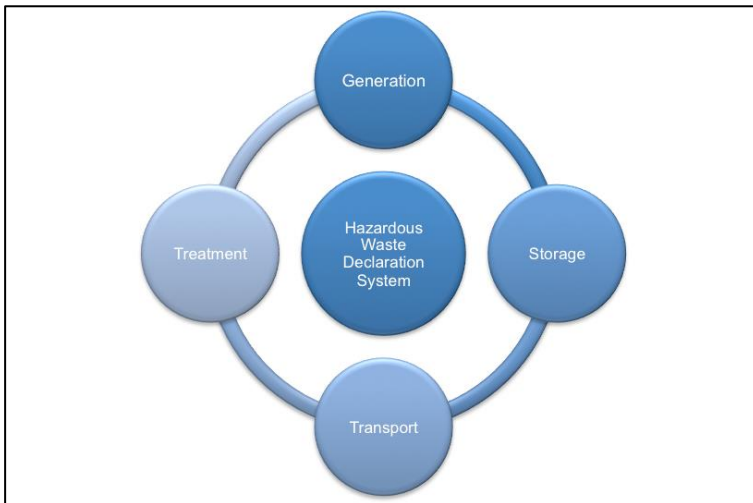
The main components of this Integrated Management Scheme are:

- a. “Hazardous Waste Management Rules”.
- b. “Hazardous Waste Declaration System.
- c. “Hazardous Wastes and Hazardous Substances Transport Rules”.
- d. “Hazardous Substances Storage Rules”.

From the hazardous waste perspective, these four components can be presented as an “Integrated Management Scheme for toxic chemicals” (including POPs/PCBs):

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<sup>7</sup>File name: 20160201correctedhazardous2016.doc.



**Figure N° 1.**Toxic chemicals (POPs/PCBs) Integrated Management Scheme.

a. “Hazardous Waste Management Rules”.

Within a hazardous wastemanagement system; transport and storage conditions and its requirements are key elements to assure a safety and environmental sound management of this type of waste(including PCB/POPs pesticides).

The ESM of hazardous waste shall include relevant steps as handling, register, analytical characterization, treatment and final disposal, as well as a number of associated requirements (type of waste to be treated, type of treatments, safety procedures, land field construction, land field disposal requirements, land field monitoring plan, emergency/contingency plan, Closing Plan, etc.).

b. “Hazardous Waste Declaration System.

The “Hazardous Waste Declaration System” defined as a control and verification mechanism, must operate under the administration of the national regulatory body.The HW Declaration System is a Web-based system. However, initially, the system can be implemented on a written form (on paper) specially in case of remote locations. Nevertheless, the proposed Web-based platform can be developed by steps. Firstly, in a pilot phase, for instance restricted to the Islamabad Metropolitan Area.

To facilitate its implementation, the System should be included and defined within the “Hazardous Waste ManagementRules” as a modified version of the draft document addressing these issues (*Handling, Manufacture, Storage, Import of hazardous waste and hazardous substances Rules, 2016 draft-2*).

c. “Hazardous Wastes and Hazardous Substances Transport Rules”.

Transport of hazardous waste is one important part in the implementation of an ESM scheme of toxic chemicals(including PCB/POPs pesticides). This includes transportation of hazardous waste on-site (within the generator facility) or off-site (e.g. from a generator’s site to a facility for recycling, treatment, storage or final disposal / waste elimination).

Hazardous wastes often are not properly segregated and due to their characteristics (toxicity, reactivity, flammability or corrosivity) its transportation is a great challenge (transport can be reason to produce accidents or spill of wastes). Besides, rapid identification of a spilled substance can determine how effectively and safely the situation can be controlled.

d. "Hazardous Substances Storage Rules".

Within the framework of safety handling of hazardous waste and hazardous substances, specially in case of PCBs and POPs pesticides "Hazardous Waste Storage Rules" play a critical role and they are a basic component within the life cycle of toxic chemicals.

One of the main purposes of these rules is to assure safety handling and management of toxic chemicals and waste, where the warehouse plays a central role. However, in the absence of such facilities, temporary permission to store hazardous wastes inside generator facilities is a rather common procedure. In this regard, due to the POPs characteristics/features (mainly their toxicity) this procedure is of particular importance.

The basic idea behind the Integrated Management Scheme is to relate (to link) different parties/players, providing different services within the framework of hazardous waste management:

- ✓ The PCB or POPs pesticides owner (hazardous waste generator);
- ✓ The transport (responsible of hazardous waste transfer / transportation);
- ✓ The Treatment Facility or the final disposal stage;
- ✓ The National Body in charge of environmental compliance in the field of hazardous waste.

Additionally, a relevant objective associated to safe PCBs waste management is the formulation of the required technical regulations and instructions, needed to this purpose. An appropriate component associated to this objective will be the adequate waste classification, field tests and laboratory standard procedures, inventory labelling, waste treatment, management and disposal within the country's hazardous waste management system.

All this effort needs to be developed in close agreement with enforcement procedures, in order to ensure a proper environmental sound management of PCBs operating system.

Finally, to well establish this Integrated Management Scheme, it is necessary consider the existing technical and institutional capacity in the country, its limitations as well as certain barriers to achieve the overall goals. Some of these restrictions are:

- Low level of expertise at national level for PCB/POPs elimination (or disposal),
- Limited PCB/POPs analytical capabilities,
- Low awareness level on the PCB/POPs risk management,
- Limited municipal capacity for overall waste classification and associated risks,
- Limited control over recycling of hazardous wastes,
- Limited facilities to store PCB/POPs materials under ESM procedures,

To overcome these barriers a basic strategy is needed, in order to underpin the practical implementation of this Integrated Management Scheme.

This strategy should be based on three basic principles:

- (a) It should be gradual to accomplish tasks,
- (b) It should be realist to define goals and more important, to define human's resources and associated fund,
- (c) It should be focused on local capacity building,

Finally, the main recommendations/conclusions from the present review are the followings:

1. The present proposal is the initial step (related to PCB only), that can be gradually updated to include other POPs.
2. To minimize the risk of PCBs contamination, handling of these toxic chemicals should be incorporated under an integrated management framework taking into consideration the whole PCBs cycle, with initial focus on PCBs waste.
3. Acknowledging the current technical and institutional restrictions and acknowledging the informal recycling, improper classification and improper disposal of hazardous waste existing in Pakistan, with the evident human health implications; the first regulatory priority should be focused on hazardous waste rules implementation.
4. In line with the above mentioned, it is suggested the implementation of a control and verification system as the Hazardous Waste Declaration System and if it is possible, coupled to a PRTR System (Pollutants Releases and Transfer Register) as an effective control mechanism addressing the whole life cycle of toxic chemicals as POPs.
5. The Hazardous Waste Declaration System can be implemented in written form on paper and progressively shift to a web-based platform. A transition period (as a proposal) of 3-5 years to accomplish the shift to a web-based platform should be established.
6. Another important aspect associated to the present review, is related to the Cement Plants and the use of local cement kilns disposal methods. In this regard, from the present review, a regulatory legislation needs to be developed including emission standards and effective enforcement mechanisms, in order to allow the application of such methods under strict verification of compliance with international standards and Stockholm Convention guidelines.

RRM/Jan 2017.