

WORK PLAN
NATIONAL ENVIRONMENTAL ENGINEERING RESEARCH
INSTITUTE, NAGPUR
NOMINATED STOCKHOLM CONVENTION CENTRE ON POPs

Name of the Regional Centre: **National Environmental Engineering Research Institute (NEERI), Nehru Marg, Nagpur-20, India**

Work plan submitted by

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This work plan covers the period from **01-01-2011** to **31-12-2011**

1. Introduction and Background

In recent years, the international community has called for urgent global action to reduce and eliminate the release of POPs and to identify their possible risk to human health and the environment. Under the direction of the United Nations Environment Programme (UNEP) the international community of states drew up an agreement around the turn of the century which should free the world from persistent organic pollutants (POPs). India signed the Stockholm Convention on POPs on 14 May 2002 and has ratified it on 13 January 2006. In October 2006 it applied for an exemption allowing the use of DDT in vector control programmes. Among the 12 POPs, DDT; PCBs; dioxins and furans are of the biggest concern as per the preliminary inventory carried out during the NIP preparation. Still it is necessary to continue with the updating of nationwide inventory preparation on PCBs containing transformers and capacitors in use as well as PCBs containing articles in the non power sectors. Like PCBs, the inventory of UP-POPs (dioxins and furans) should be updated with a regular interval of periods in all the identified sectors. The safe disposal and environmentally sound management (ESM) of POPs wastes are kept on high priorities.

There are certain problems/issues to evaluate the implementation of the Convention in the region/sub region under the centre as:

- POPs monitoring capacity in the region

- Enforcement capacity among the parties
- Technology available for the environmentally sound disposal of POPs

NEERI provides knowledge based services for environmental management in India for monitoring and analysis of pesticides, dioxins, furans, PCBs and persistent pollutants from various environmental matrices in the form of sponsored and consultancy projects supported by both governmental and private agencies in India. The assessment and remediation of hazardous waste contaminated areas in and around M/s Union Carbide India Ltd., Bhopal is an important ongoing R&D activity of NEERI pertaining to hazardous waste management. The Institute is also undertaking studies related to assessment and decontamination of mercury contaminated soil at a thermometer factory in Kodaikanal in India. The Institute provided environmentally sound management systems for the management of solid and hazardous wastes at Paradeep phosphates Ltd. Orissa in India. The institute has conducted studies towards impact of pesticides (DDT, malathion and synthetic pyrethroids), used for controlling vector-borne diseases, on public health and environment at various states of India.

NEERI has pioneered significant R&D activities for various Industries. Remediation of endosulfan pesticide contaminated area using bioremediation is an ongoing research activity of NEERI. NEERI has also conducted bench scale studies on the fate and degradation of hexachlorocyclohexane (HCH) using microbes. NEERI was actively involved in formulation of National Implementation Plan on POPs in India under the Stockholm Convention with UNIDO and MoEF and pursuing following objectives;

Objective 4- Measures in relation to unintentionally produced POPs

Objective 5- Measures in relation to waste and contaminated sites

During this programme, NEERI has developed expertise on methodologies and strategies for estimation and disposal of POPs in the environment.

2. Goals and Objectives:

1. Goals

To provide technical assistance in relation to monitoring and assessment of POPs in the environment, raise awareness and promote identification and environmentally sound management of POPs and POPs contaminated sites in the

region. Assist the parties in fulfilling the Stockholm Convention obligations. Also, ecotoxicological studies, human risk assessment, environmental risk assessment are other major concerns in this regards.

2. Objectives

- To start with, capacity building in the region for monitoring and assessment of POPs in various environmental matrices, including human health.
- To promote environmentally sound management of sites contaminated with POPs.
- To raise the awareness on hazardous impacts of POPs in the environment.
- To train the parties for the environmental monitoring and analysis of POPs at the nominated Stockholm Convention Centre.
- To provide technical assistance programme to the parties.

3. Constraints and Resources:

Constraints

- Difficulty in communicating with Parties under the nominated Stockholm Convention Centre.
- Lack of awareness on the need of the monitoring program.
- Lack of awareness on the toxic UP-POPs like dioxins and furans, their environmental monitoring and analysis.
- The situations in the region are having great differences, including economic development, legal system, language, which would cause inconvenience and difficulties during consultation and activities undertaking.
- Most of the region suffers lack of data on concentration of POPs in the environmental matrices. This absence of information is preventing the local authorities from taking adequate actions to protect people and environment.
- A large amount of funding will be required to achieve the goals, so NEERI needs to find financial agencies to support the work plan.

Resources

The instrumental facilities available at the institute are successfully performing the sampling and analysis of persistent organic pollutants (POPs). The institute has a basic infrastructure to perform all type of physic-chemical analyses, microbiological and parasitological tests, hydrobiological analyses, toxicity and mutagenicity

bioassays, toxicological analyses, sampling and field analyses for all kind of environmental matrices.

NEERI is one of the institutes in India having facilities for dioxin and furan estimation from environmental media. NEERI has developed expertise on methodologies and strategies for estimation and disposal of POPs in the environment. The Institute has outstanding scientific and technical manpower and resources to consult and demonstrate hazardous waste management and disposal technologies. NEERI has an adequate knowledge on BAT/BEP; waste management, POPs analysis, NIP formulation and inventory investigation. Especially, the Institute is playing a major in designing secured landfills for hazardous waste disposal in India. So far NEERI has designed many secured landfills for hazardous waste disposal in India. At present various projects on POPs, both in-house and sponsored are undergoing in the Institute. NEERI is involved in R&D and consultancy projects and demonstrated competence in the management and safe disposal of hazardous waste including POPs.

4. Strategy and Activities/projects

- Enhance awareness on POPs among concerned stakeholders.
- Awareness programme on UP-POPs like dioxins and furans among concerned stakeholders.
- Enhance and continuously update and upgrade national inventory for POPs stockpiles and wastes.
- To improve the communication and capacity of the officials and technical staffs on BAT/BEP for POPs.
- Promote and develop regional capacities for POPs monitoring.
- Strengthen analytical facilities for POPs in the centre.
- Organizing laboratory practical training for POPs monitoring
- To enhance technical capacity for analysis of POPs on human tissue, blood, milk and meat, fish, live stocks and wildlife samples.
- Organizing technical courses to support Stockholm Convention implementation.
- Strengthening institutional capacities to undertake extensive coverage of preventive measures required for the management of releases from POPs stockpiles and wastes.
- Identification and prioritization of potential contaminated sites.

- Approach for the available funding sources including GEF, MoEF and other regional funding agencies.
- Desk studies on cost effective and environmentally sound degradation of POPs.
- Develop training and awareness raising booklets and materials.

5: Appendices, Including Budget and Schedule

Appendix I: Budget

Activities	Expenditure
Regional Awareness Workshop on POPs	\$2,50,000
To develop booklets and materials for public awareness improvement	\$2, 00,000
Strengthening the analytical facilities within the centre	\$4,00,000
Identification, sampling and environmental analysis of POPs and UP-POPs from identified hot spots	\$2,00,000
To carry out inventory investigation on POPs use in the selected countries in the region	\$3,50,000
Desk studies on methodologies for cost effective and environmentally sound management of POPs	\$2,50,000
Total	\$16,50,000

Appendix II: Schedule

Activities	2011											
	J	F	M	A	M	J	J	A	S	O	N	D
Regional Awareness Workshop on POPs	√	√	√									
To develop booklets and materials for public awareness improvement	√	√	√									
Strengthening the analytical facilities within the centre		√	√	√	√	√	√	√	√	√	√	√
Identification, sampling and environmental analysis of POPs and UP-POPs from identified hot spots					√	√	√					
To carry out inventory investigation on POPs use in the selected countries in the region				√	√	√	√	√	√	√		
Desk studies on methodologies for cost effective and environmentally management of POPs									√	√	√	√

Appendix III: Parties being served by the centre during the period covered by the work plan

Parties to be served by the centre are Bangladesh, Maldives, Mongolia, Myanmar, Nepal, Philippines Thailand, Sri Lanka, UAE and Vietnam.

Appendix IV: Ongoing Projects, funding sources, partner agencies

Sr. No	Project Title	Funding Agency
1.	Development of a National Implementation Plan in India as a first step to implement the Stockholm Convention on POPs – “Objective 4: Measures in relation to unintentionally produced POPs (Dioxins & Furans) covering Western and Central States of India”	United Nations Industrial Development Organization (UNIDO- VIENNA), Austria,
2.	Development of a National Implementation Plan in India as a first step to implement the Stockholm Convention on POPs – “Objective 5: Measures in relation to Waste and Contaminated sites in India”	United Nations Industrial Development Organization (UNIDO- VIENNA), Austria,
3.	Monitoring of pesticide residues at national level	Dept of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India, New Delhi.
4.	Sophisticated Environmental Analytical Instrumentation Centre	Memorandum for the consideration of Governing Body of CSIR/Expenditure Finance Committee (EFC) under XI FYP, CSIR, New Delhi
5.	Characterisation and Management of Dioxins and Furans	XI FYP, CSIR, New Delhi

6.	Surveillance of treated water quality from treatment plants and ground water in Delhi	Delhi Jal Board, Govt. of NCT, New Delhi
7.	Remote access of analytical instruments at central instrumentation facility in general and Gas Chromatograph in particular using LAN facility	NEERI In-house R & D
8.	Training “Analysis of pesticides & other organic chemicals in environmental samples”	Central Pollution Control Board (CPCB), Delhi
9.	Assessment and Remediation of Hazardous Waste Contaminated Areas at Union Carbide Ltd. Bhopal	Central Pollution Control Board (CPCB), Delhi
10.	Environmentally sound management of solid and hazardous wastes	M/S Paradeep Phosphates Limited, Orissa
11.	Post fire accident assessment of TSDF facility for hazardous waste at Ankleshwar	BEIL, Gujarat, India