

Central Pollution Control Board has initiated a study to evaluate performance of captive incinerators and secured land-fills for hazardous waste in the country. The Terms of Reference (ToR) on the proposed study alongwith the criteria for submission and evaluation of bids are given in the ToR. The last date for receipt of bids is 18.02.2011. The interested organizations/institutions experience and expertise in such activities may participate in the aforesaid tendering by submitting bids as per the following

ToR. Terms of Reference (ToR)

Project Proposal on Performance Evaluation of Captive Incinerators and Secured
Land-fills for Hazardous Wastes

a. Captive Incinerators

The information on captive incinerators facility in industries for hazardous waste disposal is available for the following twelve States/UTs as per CPCB's report on "National Inventory of Hazardous Wastes generating industries& Hazardous Waste management in India":

S.No.	State	No. of CIF (Captive Incinerator Facility)	Capacity of captive incinerators in MTA
1	Andhra Pradesh	26	29823
2	Gujarat	38	128425
3	HP	7	5022
4	Karnataka	7	2743
5	Kerala	1	1500
6	Madhya Pradesh	7	2940
7	Punjab	17	35250
8	Pondicherry	1	2700
9	Rajasthan	5	15500
10	Uttar Pradesh	14	5340
11	West Bengal	4	-
12	Daman & Diu, Dadra & NH	4	180
	Total	131	229483

In the said report, name of industries possessing captive incinerators is available only for 3 states viz. Gujarat, UP and WB (*Annexure-I*). However, industrial sectors such as Pesticides, Pharmaceuticals, Organic Chemicals, Petrochemical, Paints, Dyes Intermediates and Small scale hazardous waste generating industry do possess captive incinerators facilities in various States/UTs. Thus, performance evaluation of captive incinerators are essential to assess any environmental risk posed, if not designed, operated and managed properly.

b. Captive Landfills

The information on captive secured landfill facility in industries for hazardous waste disposal is available for six states as per CPCB's report on "National Inventory of Hazardous Wastes Generating Industries" published in the year 2008. The numbers of captive secured landfill facilities in these states are as below:

S.No.	State	No. of Captive SLF`
1	Kerala	17
2	Gujarat	14
3	Rajasthan	12
4	Maharashtra	10
5	Assam	06
6	Chhattisgarh	02
	Total	61

In the said report, name of industries possessing captive secured landfill is available only for Gujarat state (*Annexure-I*). However, industrial sectors such as Petroleum Oil Refineries, Fertilizers, Chlor-alkali Plants, Integrated Iron and Steel Plants, Aluminum and other Non-Ferrous Smelters do possess captive secured landfill facilities in various States/UTs. Thus, performance evaluation of captive secured landfill are essential to assess any environmental risk, if not designed, operated and managed properly.

Terms of Reference

Objective :

The objective of the project is:

- (i) to evaluate the performance of captive hazardous waste incinerators with respect to their design, status etc. along with the compliance with the provisions notified under the Environment Protection Act, 1986/standards stipulated by the concerned SPCB/PCC; and
- (ii) to evaluate the performance of captive secured landfill with respect to their siting conditions, design, capacity, present status, waste landfilled etc. along with the compliance with the provisions of the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 and CPCB guidelines.

The issues identified upon evaluation shall be compiled and taken up with respective industries /SPCBs/PCCs so as to check environmental risks, if any, from captive incinerators and captive secured landfill.

Methodology:

Studies shall be carried out for performance assessment and suitability of exiting captive incinerators and secure landfills in 13 categories of industries.

a. Captive incinerators

The study involves the preparation of questionnaire on captive hazardous waste incinerators which shall be circulated to SPCBs/PCCs as well as to the concerned industries as per list supplied by SPCBs/PCCs. Based on the information obtained through questionnaires, site visits to selected captive hazardous waste incinerator sites shall be carried out. The sites shall be selected industry sector wise in consultation with CPCB. About 15 captive incinerators pertaining to the following sector shall be covered for the study through visit:

- 1) Pesticides
- 2) Pharmaceuticals
- 3) Organic Chemical
- 4) Petrochemical
- 5) Paints
- 6) Dyes and Intermediates
- 7) Small scale hazardous waste generating industry

During the visits, relevant samples shall also be collected for the captive incinerators for analysis w.r.t. parameters stipulated under the Environment Protection Act, 1986/consent issued by the concerned SPCB/PCC and other relevant site specific parameters pertaining to design and operation of the incinerators. The stack emissions shall be monitored for PM, SO₂, NO_x, TOC, CO, CO₂, O₂, and Heavy metals (Sb, As, Pb, Co, Cr, Cu, Mn, Ni, and V) and O₂ and analyzed in an EPA/NABL accredited laboratory.

The visit schedule will be finalized in consultation with CPCB and the consultant will make visit along with representative(s) of CPCB and/or concerned SPCB.

b. Secure landfills

The study involves the preparation of questionnaire on captive secured landfill which shall be circulated to SPCBs/PCCs as well as to the concerned industries as per list supplied by SPCBs/PCCs. Based on the information obtained through questionnaires, site visits to selected captive secured landfill sites shall be carried out. The sites shall be selected industry sector wise in consultation with CPCB. At least 20 sites shall be visited covering the following sectors:

- 1) Pesticides
- 2) Chlor alkali
- 3) Dye and Dyes Intermediate

- 4) Petrochemicals
- 5) Petroleum Refineries
- 6) Fertilizers
- 7) Integrated Iron & Steel Industry
- 8) Mineral & Chrome Ore Processing Industries
- 9) Aluminum & Non-Ferrous Smelting Units; and
- 10) Small scale hazardous waste generating industry

During the visits, samples shall also be collected from the captive secured landfill for analysis of hazardous waste w.r.t. parameters stipulated as “*Concentration Limit/Criteria for acceptance of hazardous waste for direct disposal to secured landfill*” in the CPCB guidelines i.e. “*Guidelines for proper functioning and upkeep of disposal sites*” and other relevant site specific parameters pertaining to ground water and soil shall also be analyzed. The parameters to be sampled shall be finalized in consultation with CPCB and analyzed in an EPA/NABL accredited laboratory.

The visit schedule will be finalized in consultation with CPCB and the consultant will make visit along with representative(s) of CPCB and/or concerned SPCB.

Specific Tasks:

1. Preparation of questionnaire for SPCBs/PCCs and industries;
2. Site selection and visits
3. Sampling/monitoring activities
4. Sample analysis of its own or through other laboratory (EPA/NABL accredited laboratory in either case)
5. Compilation of data and interim report submission
6. Technical presentation at CPCB, Delhi
7. Final report submission

Expenditure Heads:

The financial bids shall be submitted as per the expenditure heads given below;

S.No	Nature of work	Amount
1	Total cost of visits to the sites	
2	Total sampling & analysis expenses	
3	Project handling and execution charges including cost of consultants and man hours;	
4	Technical presentation at CPCB, Delhi and report printing cost	
5	Other Costs	
	Total	

Deliverables:

Three hardcopies of final report and soft copy of the same in two CDs.

Duration of the project :

Time required for completion of the project is six months.

Mode of payment :

The payment shall be released upon submission of bills subject to the following limit and criteria:

- I. Up to 50% on submission of internal report after covering field visits of atleast 06 sectors;
- II. Up to 30% on draft final report covering all field visits and required analysis report;
- III. 20% acceptance of final report.

Criteria for submission and evaluation of bids:

- The technical and financial bids shall be submitted in two separate sealed envelopes placed in a single cover. The said envelope along with a forwarding letters shall be sent in a single sealed envelope to this office by 04/02/2011.
- Preference would be given to agency/institution having adequate institutional set up and having worked in the area of secured landfill and incinerators.
- The agency/institution should have resource persons having relevant experience in the area of secured landfill and incinerators. The resume of key persons, who will be engaged in this project, should be submitted in technical bid.
- The bidder shall submit all relevant information including their proposed approach in executing the project in their technical bids. Further, it may be noted that only qualifying technical bids will be allowed for participating in financial bids.

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Annexure-I**Captive Hazardous Waste Incinerators (Gujarat)**

SI No	Name	Location	District
01	IPCL	Vadodara	Vadodara
02	Transpek Ind. Ltd (Ekalbara)	Ekalbara, Tal. Padra	Vadodara
03	Tarak Chemicals Ltd	Karkhadi, Tal. Padra	Vadodara
04	Admarc Polycoat Company	Padra	Vadodara
05	GSFC - Polymer Unit	Vadodara	Vadodara
06	EI Du Pont	Savli	Vadodara
07	Newage Industrial Oil (P) Ltd	Savli	Vadodara
08	Heavy Water Project	Vadodara	Vadodara
09	LaxNess ABS Ltd	Poicha, Tal. Savli	Vadodara
10	Gujarat Insecticides Ltd., Unit II	Ankleshwar	Bharuch
11	United Phosphorus Ltd., Unit II	Ankleshwar	Bharuch
12	Lupin Agrochem India Ltd	Ankleshwar	Bharuch
13	Rallis India Ltd	Ankleshwar	Bharuch
14	Pesticides India Ltd	Ankleshwar	Bharuch
15	Godrej Industries	Ankleshwar	Bharuch
16	IPCL	Dahej	Bharuch
17	Ficom Organics	Ankleshwar	Bharuch
18	Wockhardt Ltd (Bulk Drug Division)	Ankleshwar	Bharuch
19	Cadila Health Care	Ankleshwar	Bharuch
20	Zydus Cadila	Ankleshwar	Bharuch
21	Hikal Ltd	Ankleshwar	Bharuch
22	Isagro Asia Agrochemical Ltd	Ankleshwar	Bharuch
23	Narmada Chematur Petrochemical Ltd	Bharuch	Bharuch
24	Bilag Industries	Vapi	Vapi
25	Atul Industries Ltd	Atul	Valsad
26	Sabero Organic Gujarat Ltd	Sarigam	Valsad
27	United Phosphorus Ltd	Vapi	Valsad
28	Cyanide & Chemicals Ltd	Olpad	Surat
29	Colourtex Industries Ltd	Pandesara	Surat
30	Excel Industries Ltd	Bhavnagar	Bhavnagar
31	Dishman Pharmaceutical & Chemicals Ltd	Lodariyal	Ahmedabad
32	Shreeji Petrochem	Vithol, Tal - Halol	Panchmahal
33	Lanxess ABS Ltd	Katol	Panchmahal
34	Casil Health Care Ltd	Nani Kadi, Tal - Kadi	Mehsana
35	Reliance Industries Ltd	Moti Khavdi	Jamnagar
36	KSEZ Plastic Unit Association	KSEZ Gandhidham	Kutch
37	Sun Plastic	Gandhidham	Kutch
38	Chemical and Dyestuff	Nadiad	Kheda

Captive Hazardous Waste Incinerators (UP)

S.N..	Name & Address of the industry	Capacity of incinerator (Kg/hr)	Installed capacity of the incinerator based on 16 hrs./day and 300 working days (TPA)	Capacity being utilized (TPA)	Spare capacity (TPA)
1	M/S L.M.L., Panki, Kanpur	50	240	Lying closed	Nil
2	M/S Goodlus Nerolac, Kanpur	20	96	96	Nil
3	M/S Daurala Organics, Meerut	150	720	720	Nil
4	M/S Megma Industries, Muzaffarnagar	50	240	120	120
5	M/S Ravi Organics, Muzaffarnagar	12.5	60	30	30
6	M/S India Polyfibers, Barabanki	80	384	270	114
7	M/S Jubilant Organosys, Gajraula, Moradabad		720 (2.4TPD)	450	270
8	M/S Bharat Oil Co., Ghaziabad	250	1200	200	1000
9	M/S Yamha Motors, G. Noida	100	480	180	300
10	M/S Asian Paints, G. Noida	75	360	128	232
11	M/S Honda Ciel Cars Pvt. Ltd. G. Noida	175	840	300	540
12	M/S New Holland Tractor, G. Noida	50	240	192	48
13	M/S India Pesticides Ltd., Chinhat, Lucknow	150	720	540 (75%)	180
14	M/s T.I. Cycles India, Phase II, Noida., Gautam Buddha Nagar	50	240	192 (80%)	48
	Total	1212.5	6540	3418	2882

Units with Captive Hazardous Waste Incinerators (WB)

Name & Address	Capacity	Incinerates
I.O.C.L.-Haldia Refinery Haldia, Dist. E. Midnapore	50 kg/hr	Oil sludge
MCC-PTA Sutahata, Haldia, Dist. E. Midnapore	40 TPD	Organic residues & ETP sludge
Bristol Petroleum Budge Budge, Dist. South 24 Parganas	500 kg/hr	Bottom residue, spent clay & ETP sludge
Haldia Petrochemicals Sutahata, Haldia, Dist. E. Midnapore	220 kg/hr. - oily wastes 35 kg/hr. - liquid wastes	Oily wastes & liquid wastes

Annexure-II

List of Industries having Captive Secured landfill in state of Gujarat

S. No.	Name of unit	Address
1	Gujarat Alkalies & Chemicals Ltd.,	P.O.Dahej Dist:-Bharuch
2	Indian Petro Chemicals Corporation Ltd.	P.O. Petrochemicals –391346, Dist:-Vadodara
3	Metro Chemicals Ltd., P.O. Umraya	P.O. Umraya, Tal.Padra, Dist.Vadodara-391440
4	Colour Sinth Group of Industries	S.NO.12,Block No.244, Vill.Jiav, Ta.Choryasi, ,Dist.Surat
5	Atul Proucts Ltd.	Agro Chemicals Div. Atul-396020
6	Panchmahal Steel Ltd.	GIDC Estate, Kalol-389330, Dist.Panchmahal
7	Gujarat Alkalies & Chemicals Ltd.	P.O. Petrochemicals, Dist:-Vadodara
8	Shree Ram Alkalies & Chemicals	749, GIDC, Jhagadia, Dist.Bharuch-393110
9	Gujarat Refinery	I O C L, Reliance Div., P.O.Javaharnagar, Dist.Vadodara-391320
10	Indian Petrochemicals	Gandhar Petrochemical Complex, P.O.Dahej-392120, Ta.Vagra, Dist.Bharuch
11	Reliance Petroleum Ltd.	Vill.MotiKhavdi, P.O.Digvijaygram- 361140, Dist.Jamnagar
12	Indo Gulf Corporation Ltd.	HINDALCO Ind. Ltd., Unit Birla Copper, P.O.Dahej, Dist.Bharuch-392130
13	Agrimore Ltd., Atul	P.O. Atul-396020. Dist. Valsad
14	Maradia Chemical Ltd.,	Maradiyanagar, AT.Sitagadh, Ta. Sayla, Dist. Surendranagar