







### April, 2021

### CENTRAL POLLUTION CONTROL BOARD

(Ministry of Environment, Forest and Climate Change, Govt. of India)

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#### 1. INTRODUCTION

The management of hazardous waste (HW) is regulated as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (HOWM Rules, 2016).

The HW may be disposed at the Captive Treatment, Storage and Disposal Facility (TSDF) installed by the individual HW generator or at Common Hazardous Waste Treatment, Storage and Disposal Facilities (TSDFs). Common TSDFs are facilities that can be used by various hazardous waste generators for the treatment, storage and disposal of HW on commercial basis.

The TSDFs may have standalone secured landfill facility or incinerator or combination of both secured landfill facilities and incineration facilities. The latter are called "Integrated common TSDFs." The HW generators have the option of recycling/reprocessing/co-processing/utilization of HW prior to ultimate disposal at Captive or Common TSDF.

Rule 16 of the Hazardous and Other Wastes (Management and Transboundary Movement) (HOWM) Rules, 2016 stipulates various provisions related to design, construction, operation and maintenance, closure and post-closure phases of Common/Captive TSDFs.

The site selection criteria, design and layout are the critical parameters for establishment of the TSDF, while, waste storage, stabilisation, landfilling, incineration, leachate management and ground water quality around the TSDF are the critical operational parameters.

The State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) have been assigned the responsibility to ensure the compliance of various provisions stipulated under the Rules through the prescribed regulatory framework.

The accidents occurred in the past (such as fire accidents, breaching of the walls of landfill, disposal of untreated leachate, contamination of groundwater, etc.) and development within the buffer zone of TSDF have raised the concerns with regard to set-up, design and operation of such facility. Further, the SLFs that were designed prior to CPCB guidelines and still operating may have potential to cause damage to the environment and needs to be examined. In this pre-text, time to time environmental audit of TSDFs is essential to assess and verify different aspects of TSDF in order to ensure compliance to the latest environmental laws and regulations.

There are 45 Common Hazardous Waste Treatment, Storage and Disposal Facilities (TSDFs) in 18 States/UT of which, 17 are integrated TSDFs (having both Secured Landfills and Incinerators); 12 are standalone incinerators, and 16 are having only Secured Landfill facilities.

Apart from Common TSDFs, there are 136 Captive TSDFs in 18 States/UTs of which, 06 are integrated captive facilities (having both SLF and incinerator); 85 are captive incinerators and 45 are captive secured landfills.

#### 2. OBJECTIVE OF ENVIRONMENTAL AUDIT

The objective of Environmental Audit of TSDFs is to standardize the evaluation process to assess the infrastructure facilities, existing practices/procedures adopted to comply with statutory/performance requirement, environmental compliances and to identify gaps in management along with related corrective measures.

Also, the Hon'ble National Green Tribunal, Principal Bench, New Delhi, in the matter of Original Application No. 804/2017: Rajiv Narayan & Anr. Vs Union of India & Ors directed that:

"SPCBs/PCCs shall conduct environmental audit including the site selection criteria, design and layout for the TSDFs in next one year. They can engage expert institutes for the purpose and seek CPCB's technical advice on the ToR of the study, if required."

Thus, this guiding document would be helpful for SPCBs/PCCs in conducting environmental audit of TSDF so as to comply with the aforesaid orders of the Hon'ble Tribunal as well as operational compliances.

#### 3. DEFINITIONS AND EXISTING GUIDELINES PUBLISHED BY CPCB:

The HOWM Rules, 2016, defines TSDF as:

- "Captive Treatment, Storage and Disposal Facility" means a facility developed within the premises of an occupier for treatment, storage and disposal of wastes generated during manufacture, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale, transfer or the like of hazardous and other wastes;
- "Common Treatment, Storage and Disposal Facility" means a common facility identified and established individually or jointly or severally by the State Government, occupier, operator of a facility or any association of occupiers that shall be used as common facility by multiple occupiers or actual users for treatment, storage and disposal of the hazardous and other wastes;

As per the provisions of HOWM Rules, 2016, the Common/Captive TSDF are required to set-up and operate in accordance with the provisions of the Hazardous and Other Wastes (Management and Transboundary) Rules, 2016, as well as various guidelines issued by CPCB on Secured Landfills and Hazardous Waste Incinerators. CPCB prepared various guidelines w.r.t. design and construction of TSDFs; procedures for acceptance of wastes; storage and handling of incinerable HW; operation; upkeep and monitoring of disposal facilities; etc. List of such guidelines are given below:

- 1. Criteria for Hazardous Waste Landfills
- 2. Manual for Design, Construction and Quality Control of Liners and Covers for Hazardous Waste Landfills
- 3. Guidelines for Conducting Environmental Impact Assessment: Site Selection for Common Hazardous Waste Management Facility

- 4. Development of Site Selection Methodology for Landfilling A Case Study for Bangalore
- 5. Guidelines for Setting up of Operating Facility: Hazardous Waste Management
- 6. Guidelines for Common Hazardous Waste Incineration
- 7. Guidelines for Storage of Incinerable Hazardous Wastes by the Operators of Common Hazardous Waste Treatment, Storage and Disposal Facilities and Captive HW Incinerators
- 8. Guidelines for Proper Functioning and Upkeep of Disposal Sites
- 9. Guidelines for Transportation of Hazardous Wastes
- 10. Protocol for Performance Evaluation and Monitoring of the Common Hazardous Waste Treatment Storage and Disposal Facilities including Common Hazardous Waste Incinerators
- 11. Guidelines for Pre-Processing and Co-Processing of Hazardous and Other Wastes in Cement Plant

#### 4. METHODOLOGY

SPCB/PCC may conduct the environmental audit of common and captive TSDFs operating in their State/UT by engaging Institute/organisation/firm. For conducting the said environmental audit, the Preliminary information of the facility (as per format enclosed at *Annexure-I*) may be collected to identify and plan the requirements for conducting the monitoring and adequacy of facilities. In case of closed TSDF, a closure audit of such TSDF may also be carried out as per the methodology mentioned below.

While conducting environmental audit, followings needs to be verified including points mentioned in Annexure-I, along with the other details provided by occupier/operator of TSDF:

#### 4.1 Audit of Prevailing Land Use:

- ↓ Location of existing TSDF (GPS co-ordinates) in respect to its distance from lake, pond, rivers, wetlands, floodplains, highways, habitation, water supply wells, groundwater table depth, airports, etc. (refer location criteria given under CPCB guidelines "Criteria for HW landfills").
- ♣ Geohydrological features of the TSDF site, depth of water table, etc.
- ♣ Buffer zone (width) and existing land use within buffer zone, if any.

**Note**: (i) Above audit shall be performed as a one-time activity, however, in case of granting authorization to new/expansion of captive/common TSDFs, the same shall be carried out again.

(ii) Above information shall be collected and verified as per format provided at Part-B of Annexure –I.

#### 4.2 Audit of Infrastructure:

Landfill site comprises of the SLFs, incinerator, area for support facility such as access road, equipment shelters, weighing scale, office space, laboratory facility, temporary

waste storage as well as storage shed, surface water drainage facilities monitoring wells, fencing and green belt along the peripheral boundary, emergency exit, etc. Audit of such infrastructure shall be initiated with landfill's layout and followings need be verified to assess the area provided for support facility:

- ♣ Layout of landfills -consist of access road, equipment shelter, weighing scale, office space, temporary waste storage area, demarcation of the landfill area and areas for stockpiling cover material and liner material, surface water drainage system, groundwater monitoring wells, leachate management facility, vent gas management facility, fencing and green belt along the peripheral boundary, emergency exit.
- Design of Landfill (includes cross section of each cell /phase of SLF, design life, capacity).
- ♣ Verification of liner system, side slope, cover of each cell/phase of SLF; leachate collection and treatment system.
- ♣ Surface water drainage/run-off system.
- ♣ Groundwater monitoring system (depth to water level and quality) in and around the SLF (including depth of monitoring wells, frequency of monitoring).
- ♣ Effluent/Leachate Treatment Plant/ Multi Effect Evaporator (MEE), etc.
- Laboratory facility.
- Liner system of solar evaporation pond.
- ♣ Storage sheds for incinerable and landfillable HW and facilities provided in the shed.
- ♣ Stabilization pits/system,
- ♣ Vent gas collection facility and treatment facility, if any.
- ♣ Type of incinerator and Air Pollution Control Devices (APCD) attached.

#### 4.3 Audit of Functional Operation

- ♣ Adequacy of TSDFs w.r.t. facilities required to be available within the premises (green belt, infrastructure, etc).
- ♣ Waste compatibility disposed in landfills so as to cover compliance of landfill criteria prescribed as per "Guidelines for Proper Functioning and Upkeep of Disposal Sites".
- ♣ Adequacy of storage area for storing incinerable HW and homogenization/blending technique
- 🖊 Adequacy of temporary storage area and landfillable HW storage area.
- ♣ Adequacy of Solar Evaporation Pond (considering evaporation loss vs leachate generation)
- Adequacy of storage of landfillable HW during the monsoon period.
- ♣ Adequacy of waste stabilization system
- ♣ Efficiency of APCDs installed at stabilization pits/system
- Leakage detection system for leachate
- Any facility to monitor vadose zone such as lysimeter
- Capping of SLFs

♣ Adequacy of Incinerator (includes Combustion Chamber and APCDs) as per "Guidelines for Common Hazardous Waste Incineration", or any new technology adopted apart from said guidelines.

#### 4.4 Audit of Operational Compliances:

- ♣ Estimation of leachate generation; leachate drainage, collection and removal system
- Monitoring wells and frequency of analysis
- Analysis of leachate, groundwater, surface water and soil quality
- Ambient Air Quality Monitoring Stations and frequency of monitoring
- OCEMS and instrument calibration
- ♣ Compliance with the standards and conditions prescribed by the regulatory bodies under the Water, Air and EPA Act.
- ♣ Verification of accident occurred in TSDF, if any, and identification of reasons and assessment of remedial measures taken.
- **↓** Determine the impact on the surrounding environment
- Labelling and manifest system
- ♣ Temperatures in combustions chambers
- ♣ Efficiency of APCDs attached with Stack
- ♣ Frequency of stack monitoring and compliance of stack emissions with prescribed norms

**Note**: Above compliances information listed at section 4.1 to 4.3 shall be collected as per format provided at Part-C to E of Annexure –I.

#### 4.5 Audit of Data reporting:

- ♣ OCEMS connectivity to servers of CPCB and SPCB
- ♣ Submission of quarterly performance report of TSDF to SPCB and CPCB
- Submission of annual returns (Form 4 as per HOWM Rules) to SPCB
- Emergency preparedness plan
- Manifest document
- ♣ Opening & maintaining of escrow account as per MoEF's O. M. and display of same at operator's website

**Note**: Above data reporting information 4.5 shall be collected as per format provided at Part-F of Annexure –I.

During the audit, SPCB may also conduct monitoring of groundwater, surface water, soil, leachate and source emission for assessing the performance of TSDFs.

#### 5. AUDIT REPORT

The audit shall be conducted as per the methodology outlined at Section 4 of this document. Status and remarks w.r.t. siting criteria, design, adequacy of facilities available, performance of SLFs and Incinerator and compliance with environmental

norms, guidelines etc. shall be recorded in <u>Annexure-I</u> by the auditing team. Further, any specific observations or non-compliances w.r.t. points highlighted at section 4.1 to 4.5 shall needs to be reported separately as remark in respect of each of the sub-section.

SPCB shall prepare audit report of each Common/Captive TSDF available (operating as well as closed) in their State/UT based on the above status, remarks and the results of the monitoring conducted. Audit shall be limited to within the premises of facility and if needed, audit team can recommend, based on their observations, for monitoring outside the premises. Such audit report shall be submitted to CPCB within 30 days of audit conducted.

#### 6. FREQUENCY

The frequency for conducting the environmental audit of Common/Captive TSDF shall be once in three years. Further, incase of closed TSDF, a closure environmental audit for assessing the infrastructure facility and its compliance to various statutory requirements be also carried out.

#### Annexure-I

### **Part A-Basic Information**

S. No.	Details of particulars	Status	Remarks
1.	Name & Address of the HWTSDF		
2.	Name of Contact person (Alternate person details be also provided) Mobile No. E-mail ID		
3.	Month & Year of establishment		
4.	Location of the TSDF (Longitude & Latitude)		
5.	Date of Notification of the site by the State Govt. (please enclose copy)		
6.	Date of issuance of EC and details of Environmental Clearance (EC) (please enclose copy)		
7.	Details of Consent to Establishment/ Operation issued under Water & Air Acts (date of issue and its validity) (please enclose copy of Consents issued by SPCB)		
8.	Date and validity of Authorization (please enclose copy of authorization issued by PCB)		
9.	Whether the design of TSDF has been submitted by TSDF and approved by SPCB/PCC		
10.	Whether the layout of TSDF has been submitted by TSDF and approved by SPCB/PCC		
11.	Whether display board provided outside the gate of the facility		
12.	Total number of Member Industries		
13.	Number of member industry never sent their waste		
14.	Quantity and type of waste sent by each industry		

### Part B- Prevailing Land Use

(as outlined at Section 4.1 of the document)

S. No.	Details of particulars	Status	Remarks
1.	Topography		
	Flat		
	Sloppy		
	Ridge		
2.	Geology		
	Rock type		
	Hard rock		
	Semi-consolidated		
	Unconsolidated/soft sediments		
3.	Rivers/Canals/Lakes, if any in & around the		
	TSDF with approximate distance from TSDF		
	River-		
	Canal		
	Lakes		
	Highways-		
	Wetlands-		
	Floodplains-		
	Habitation-		
	Water supply wells-		
	Airports-		
4.	Total rainfall (annual average in cms.)		
5.	Geohydrological features of the TSDF Site		
	Depth to water table (pre-post monsoon)		
	Groundwater flow direction		
6.	Sources of water intake		
7.	Buffer zone (map with existing land use such		
	as agriculture, forest, etc)		

### **Part C-Infrastructure Details**

(as outlined at Section 4.2 of the document)

S. No.	Details of particulars		State	us		Remarks
A.	General Information	1				L
1.	Facilities available with the TSDF:     Transportation,     Laboratory,     Storage,     Treatment (chemical stabilization/solidification)     Incineration,     Pre-processing     Secured landfilling     e-waste dismantling/recycling     and any other     (specify with area of each facility) (Provide/attach copy of layout plan)					
2.	Detail on number and type of vehicles with capacity	Type of vehicle	Vehicle no.	Capa city	Own/ hired	
	Lab Assunditation/recognition if any					
3.	Lab Accreditation/recognition, if any					
4.	Instruments available in the laboratory (enclose list of equipment/instruments)					
5.	Comprehensive capabilities of analysis of parameters including detailed analysis and fingerprint (enclose list of parameters)					
6.	Waste Acceptance criteria followed (enclose copy)					
В.	Incinerator Details	4				
7.	Number of incinerator installed					
8.	Incineration Capacity (Tons per hour and in energy units)					
9.	Type of incinerator installed					
10.	Pollution Control Systems attached with the incinerator (enclose details along with a flow diagram)					
11.	Number of sheds					
12.	Area of each shed in sq. meters					
13.	Distance between sheds in meters					

Quantities and type of waste stored in each shed (in metric tons)  Arrangement of stacking of drums		
Commodificity suitonic followed for shown as		
Compatibility criteria followed for storage		
Arrangement made for smoke and fire detection		
Arrangement for remedial action in case of fire		
Arrangement for spillage/run off collection		
Arrangement made for control of fire accidents		
Facilities provided/proposed for pre- treatment		
Arrangements made for mixing of incinerable wastes before feeding		
Safety measures adopted at the waste feed mixing area		
Criteria followed for waste feed mixing (enclose details)		
Secured landfill		
Criteria followed for disposal of wastes in SLF (please attach details)		
Secured Landfill Capacity (in Metric Tonne/Annum)		
No. of Cells/phase and capacity of each cell and details on status (operation, closed, under construction, etc), liner system and leachate collection system of each cell/phase		
(Design details of SLF with sketch including the status of each cell/phase)		
Designed life span of the SLF in years		
	Arrangement for remedial action in case of fire  Arrangement for spillage/run off collection  Arrangement made for control of fire accidents  Facilities provided/proposed for pretreatment  Arrangements made for mixing of incinerable wastes before feeding  Safety measures adopted at the waste feed mixing area  Criteria followed for waste feed mixing (enclose details)  Secured landfill  Criteria followed for disposal of wastes in SLF (please attach details)  Secured Landfill Capacity (in Metric Tonne/Annum)  No. of Cells/phase and capacity of each cell and details on status (operation, closed, under construction, etc), liner system and leachate collection system of each cell/phase  (Design details of SLF with sketch including the status of each cell/phase)  Designed life span of the SLF in	detection  Arrangement for remedial action in case of fire  Arrangement for spillage/run off collection  Arrangement made for control of fire accidents  Facilities provided/proposed for pretreatment  Arrangements made for mixing of incinerable wastes before feeding  Safety measures adopted at the waste feed mixing area  Criteria followed for waste feed mixing (enclose details)  Secured landfill  Criteria followed for disposal of wastes in SLF (please attach details)  Secured Landfill Capacity (in Metric Tonne/Annum)  No. of Cells/phase and capacity of each cell and details on status (operation, closed, under construction, etc), liner system and leachate collection system of each cell/phase  (Design details of SLF with sketch including the status of each cell/phase)  Designed life span of the SLF in years

S. No.	Details of particulars	Status	Remarks
29.	Details of stabilization system:  (a) Mechanized cover system having arrangement of waste conveyor system, mixing unit with mechanized mixing arrangement, suction duct/hood, scrubber system and stack; or		
	(b) Stabilization in pit by mixing with excavator/backhoe loader having hood over the pit with adequate suction arrangement followed by scrubber and stack.  Or (c) others (please provide details)		
30.	Number of stabilization pits		
31.	Details on the APCD attached with each stabilization pit/ system		
32.	Details on leachate management system ( Multiple Effect Evaporator (MEE)/Solar evaporator/in spray drier (with leachate feeding COD below 250 mg/l) or ETP or any other means)		
33.	Total number of leachate collection wells which have been installed in the area of landfill which has been filled with the waste		
34.	Depth of leachate collection sump with respect to base of landfill		
35.	Presence of leakage detection system (secondary leachate collection layer)		
36.	Number and location of leakage collection wells		
37.	Number of solar evaporation ponds, area of each pond, details on liner system, availability of standby pond, pumping system, etc.		
38.	Details on management of MEE residue		
39.	Final mode of disposal of treated leachate/effluent		
40.	Details of temporary storage area of HW  (a) Number  (b) Area of each shed (in sq meters)		
41.	Details of landfillable HW storage area (a) Number (b) Area of each shed (in sq meters)		

S. No.	Details of particulars	Status	Remarks
42.	Leachate collection and transportation provision made at the storage area		
43.	Spillage collection and transportation provision made at the storage area		
44.	Arrangements for storage of chemicals/ stabilizing agents		
45.	Facilities provided for cleaning the transportation vehicles		
46.	Treatment and disposal provision made for liquid wastes generated from cleaning of vehicles		
47.	Permanent Ambient Air Quality Monitoring Stations within the periphery of the TSDF (enclose location map with wind rose diagram of the area)		
48.	No. of existing groundwater monitoring wells around TSDF (attach layout with GW flow direction)		
49.	No. and location of surface water bodies around TSDF (attach layout)		
50.	No of existing Surface water monitoring point in the TSDF		
51.	No. and location of soil samples collected		
52.	Number of Vents provided with the capped cells/phase (please provide cell-wise/phase-wise details)		

### **Part D-Functional Operations**

(as outlined at Section 4.3 of the document)

S. No.	Details of particulars	Status	Remarks
A.	Incinerator		
1.	Adequacy of incinerator		
2.	Adequacy of storage area		
3.	Operating hours of Incinerator (in a month)		
4.	Operating Parameters  • Temperature in Primary and Secondary Chamber (°C)  • Residence Time  • Pressure		
5.	Monthly Fuel consumption in KI/Energy		
6.	Whether stack of incinerator attached with OCEMS and connected with CPCB and SPCB?		
7.	Parameters monitored through OCEMS.		
8.	Date of Instrument calibrated and name of agency.		
9.	Characteristics of leachate fed into the Spray Drier for quenching (as per general discharge standards and AOX, COD, other parameters i.e. PAH, Benzene, Xylene and Toluene) specified in CPCB guidelines for proper functioning and upkeep of disposal sites)		
10.	Salts residue generation if leachate recirculated for quenching purpose in Tons		
11.	Mode of disposal of salts generated from incinerator		
12.	Total quantum of ash generated (in Tons) and its mode of disposal		
13.	Total quantum of scrubbed solution generated (in litres) and its mode of disposal		
В.	Secured landfill		
14.	Adequacy of waste stabilization system		
15.	Adequacy of APCDs attached to stabilization pit/mechanized system		
16.	Adequacy of temporary storage area		
17.	Adequacy of landfillable storage area		

S. No.	Details of particulars	Status	Remarks
18.	Adequacy of solar evaporation pond/ MEE/ ETP		
19.	Adequacy of facility to monitor vadose zone		
20.	Adequacy of vent gas collection and treatment facility		

### **Part E-Operational Compliances**

(as outlined at Section 4.4 of the document)

S. No.	Details of particulars	Status	Remarks
1.	Expected leachate generation in KL per month per leachate collection well (please attach separate sheet)		
2.	Leachate collected each month from each well (please attach separate sheet)		
3.	Monthly record of leachate levels in each well (please attach separate sheet) and compare with base level of primary leachate collection layer.		
4.	Monthly measurement of leakage, if any.		
5.	Verification that leachate is collected / pumped out at adequate frequency to prevent leachate head build up on the liner beyond 30 cm and the record of quantity collected.		
6.	Verification that surface water drainage system on top of landfill and at the sides is functioning efficiently without any clogging.		
7.	Verification that the top cover system has adequate slope for proper drainage.		
8.	Verification that the exposed surface of the landfill is erosion free at the top and along the sides.		
9.	Verification that there are no depressions on the top surface of the landfill and those which were formed have been regraded and repaired.		
10.	Examine photographic evidence of waste storage / handling during monsoons including provision of temporary covers and leachate handling / surface water drainage.		
11.	Number of copies of the manifest sent to SPCB/PCC and the generator of the waste, after treatment and disposal as per HOWM Rules		
12.	Check for any other relevant information in respect of waste acceptance procedures including packing and labelling as per HOWM Rules		
13.	Ambient Air Quality (date of sampling,		

S. No.	Details of particulars	Status	Remarks
	temperature, wind speed, wind direction and		
	monitoring results for standard air quality		
	parameters to be enclosed)		
14.	Examine the trends in variation, if any, of		
	ambient air quality over the years since the		
	establishment of the facility and comparison		
	with background levels and ambient air		
	quality standards .		
15.	Concentration levels of contaminants of		
	concern in samples from ambient air quality		
16.	Ground water characteristics (date of		
	sampling, depth of ground water table and		
	direction of flow, characteristics as per		
	drinking water parameters to be indicated )		
17.	Examine the trends in variation, if any, of		
	ground water over the years since the		
	establishment of the facility and comparison		
	with background levels and drinking water		
	standards .		
18.	Concentration levels of contaminants of		
	concern in samples from groundwater		
10	monitoring wells.  Surface water characteristics (date of		
19.	sampling, depth of surface water at which		
	samples taken, characteristics for parameters		
	to be indicated )		
20.	Examine the trends in variation, if any, of		
20.	surface water over the years since the		
	establishment of the facility and comparison		
	with background levels and norms for		
	discharge to meet.		
21.	Concentration levels of contaminants of		
	concern in samples from surface water		
	monitoring point		
22.	Soil quality (up to 1m depth) (date of		
	sampling, depth of sampling and the soil		
	characteristics for standard soil parameters		
	including heavy metals to be enclosed)		
23.	Examine the trends in variation, if any, of soil		
	quality over the years since the establishment		
	of the facility and comparison with		
	background levels.		

S. No.	Details of particulars	Status	Remarks
24.	Monthly gaseous emissions from vents provided to the capped cell/phase (please attached separate sheet for each cell/phase)		
25.	Examine the trends in variation, if any, of vent gases over the years and comparison with background levels.		
26.	Concentration levels of contaminants of concern in gases collected from landfill.		
27.	Monthly rainfall data		
28.	Monthly Characteristics of leachate (enclose parameters with max., min. and average concentration of samples from each leachate cell)		
29.	Examine the trends in variation, if any, of leachate over the years and comparison with leachate disposal standards given in CPCB guidelines for proper functioning and upkeep of disposal sites or CETP inlet standards prescribed by SPCB incase leachate is send to CETP		
30.	Concentration levels of contaminants of concern in each leachate analysis		
31.	Concentration levels of contaminants of concern after leachate treatment		
32.	Comments on compliance with standards and conditions prescribed by the regulatory bodies under Water, Air and EPA Act.		

### Part F -Records and Returns

(as outlined at Section 4.5 of the document)

S. No.	Details of particulars	Status (Yes/No)	Remarks
1.	Maintenance of records w.r.t the waste receipt manifest from the member units		
2.	System of record keeping w.r.t the finger print analysis and detailed analysis of the wastes of the member units		
3.	System of decision making for deciding the requirement of pre-treatment of wastes /treatment by incineration/disposal into SLF		
4.	Record keeping with respect to the Wastes treated and disposed within TSDF upon receipt of wastes from the member units		
5.	Arrangement made for collection and handling of spillages		
6.	System of record keeping with regard to the leachate generation in KL per month and its treatment and final mode of disposal		
7.	Housekeeping practices		
8.	Emergency preparedness plan		
9.	Details of Insurance policies, premiums, sum assured, including Insurances under Public Liability Insurance (PLI) Act etc		
10.	Occupational Health, Facility safety systems, Risk management procedures		
11.	Report on Health Status of the public living within 05 KM radius (pl. attach copy obtained from the State Health Department) and workers appointed by the facility operator (pl. attach list of workers and their health status at the time of appointment)		
12.	Certificate obtained from Department of Explosives/Directorate of Industrial Safety and Health for Fire Safety and Storage		
13.	Firefighting systems descriptions		
14.	Personal protective equipment (provide list of equipment)		
15.	Provisions made for post–closure monitoring and maintenance (enclose copy of the escrow agreement)		

S. No.	Details of particulars	Status (Yes/No)	Remarks
16.	Whether escrow account opened as per tri- party agreement		
17.	Date of opening of escrow account (provide copy of same)		
18.	Amount deposited as on date		
19.	Verification of display of information on Escrow Account on the website of operator		

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