Handbook on Procedures for E-Waste Recyclers

COOPERATION
REPUBLIC OF INDIA
FEDERAL REPUBLIC OF GERMANY
gtz

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EXECUTIVE SUMMARY

The electronics industry has emerged as the fastest growing segment of the Indian industry both in terms of production and exports. Liberalization and the opening up of Indian markets facilitated the growth of IT industry. According to the recent estimates made by the Manufacturers' Association of Information Technology (MAIT) the Indian PC industry is growing at a 25% compounded annual growth rate. The cellular phone users are also growing at an exponential rate.

The high rate of obsolescence of the electronic products is a major factor leading to increased generation of e-waste. E-waste comprises of all end-of-use electrical and electronic products such as computers, handheld cellular phones, personal stereos, including large household appliances such as refrigerators, air conditioners etc., which are not fit for their original intended use and are destined for recovery, recycling or disposal.

Currently, most of the electronic and electrical products at the end-of-use, are dealt with as electronics scrap/e-waste, find their way to scrap dealers from where they reach the dismantlers and recyclers in the informal sector. The informal recyclers are mushrooming in the peri-urban areas. The processes used in such operations are hazardous leading to major environmental and health problems.

The process of dismantling is an important stage in e-waste processing. It involves breaking of end-of-use equipment into its components and segregating them for the convenience of recycling. However, it does not end there, as some of the dismantlers also recycle the e-waste to recover the valuable materials like precious metals etc., present, while some others dismantle to export the valuable materials for recycling in the facilities abroad.

These guidelines are prepared with a view to facilitate the entrepreneurs to set up world class formal e-waste recycling facilities in India. These provide guidance on the general procedures and the regulatory requirement for establishing and operating of such a facility. However, the specific requirements need to be in accordance with those specified by the State Governments in which the unit is located.

HANDBOOK ON PROCEDURES FOR E-WASTE RECYCLERS

1. Introduction

Electrical and electronic waste (e-waste) is one of the fastest growing waste streams in the world. According to a recent estimate 3,30,000 metric tonnes of e-waste is generated annually in India (Manufacturers' Association for Information Technology, 2007) and is expected to touch 8,00,000 metric tonnes by 2012. In India, only a small quantity of e-waste is recycled, due to high rate of refurbishment and reuse of electronic products. At present most of e-waste generated in the country is recycled in the informal sector having small capacities and poor processing technologies contributing significantly to the pollution load and environmental degradation. Some of the e-waste recyclers are engaged in dismantling e-waste for export. There is shortage of proper e-waste recycling facilities in India to do end-to-end recycling.

E-waste are generated from used electrical and electronic devices such as computers, handheld cellular phones, personal stereos, including large household appliances such as refrigerators, air conditioners etc., which are not fit for their original intended use and are destined for recovery, recycling or disposal. E-wastes contain over 1000 different substances many of which are toxic and potentially hazardous to environment and human health, if these are not handled in an environmentally sound manner. The high rate of product obsolescence is a significant factor for increased generation of e-waste. In the absence of proper recycling and disposal facilities these wastes find their way to scrap dealers and the dismantlers supply chain, which are in the informal sector. The dismantling operations are carried out in hazardous manner leading to major environmental and health problems.

The National Environmental Policy, 2006 (NEP) provides a focus on sustainable development and the need to facilitate the reuse/recovery/recycling of useful materials from waste, thereby conserving the natural resources and reducing the wastes destined for final disposal to ensure environmentally sound management of all wastes. The NEP also encourages giving legal recognition and strengthening of the informal sectors. Considering the high recyclable potential of e-waste and extensive recycling activities in the informal sectors, there is a need to channelize the recycling practices in units using environmentally sound technologies.

E-waste Recycling Facility is by itself an industrial operation requiring clearances from various authorities for establishment and operations of the facility. Among the various clearances today the environmental clearances have become significant in view of the need to control the environmental pollution. Such facilities shall be set up in the organized sector. However, the activities presently operating in the informal sector need to be upgraded or dovetailed to provide a support system for the integrated facility. This would enable to bring the informal sector in the mainstream of the activity and facilitate to ensure environmental compliances. The proposed mechanism for the e-waste facility is only an illustrative model and specific details have to be worked out while developing such facilities.

The ‘Guidelines for E-waste Recycling Facility’ shall be in line with the existing ‘Guidelines for Environmentally Sound Management of E-waste’ published by the Ministry of Environment and Forests, Government of India and the Central Pollution Control Board (CPCB). These should be read in conjunction with the CPCB guidelines and any other guidelines/best practices/requirements etc., recommended by the government of India from time to time.

2. Objectives & Scope of the Guidelines

The objective of these guidelines is to provide guidance to all those setting up e-waste recycling facility to familiarize themselves with the procedures and clearances required for such a facility.

These guidelines are only a guidance and reference document for establishment and operations of e-waste facility. The guidelines only provide the information on the basic requirements and the procedures for establishing such a facility. The specific requirements for each of the facility may vary depending upon the process used. All procedures and the mandatory requirements shall be in accordance with the law and the rules prevailing at the time of processing the application.

The guidelines shall be applicable to all those, who intend to set up e-waste recycling facility in the formal sector and are using environmentally sound recycling technologies for recovery of the precious and other metals from the e-waste.

The guidelines shall not be applicable to those processing fluorescent lamps.

3. E-waste Scenario and prevailing recycling Practices

The electronics industry has emerged as the fastest growing segment of the Indian industry both in terms of production and exports. The share of software services in electronics and IT sector has gone up from 38.7 per cent in 1998-99 to 61.8 percent in 2003-04. This shift in the IT industry began with liberalization, and the opening up of Indian markets together with a change in India’s import policies vis-à-vis hardware, leading to substitution of indigenously produced hardware by imports. According to the estimates made by the Manufacturers’ Association of Information Technology (MAIT) the Indian PC industry is growing at a 25% compounded annual growth rate.

The increase of electrical and electronic products, the consumption rates and higher obsolescence rate leads to higher generation of e-waste. The increasing obsolescence rate of electronic products also adds to the huge import of used electronics products. The e-waste generation has significant economic and social impacts and there is also an exponential growth in the e-waste recycling industry. As per the estimate from the MAIT-GTZ assessment made in 2007, 3,30,000 metric tonnes of e-waste is generated annually in India and is expected to touch 4,70,000 metric tonnes by 2011. However, only 19,000 metric tonnes of e-waste are known to

be recycled and there is no accountability of the rest of the e-waste. There is no large scale organized e-waste recycling facility operating in India and there are a number of small and medium scale e-waste dismantling and recycling units distributed in the peri-urban areas of the cities. While most of these units are in the informal sectors, some of the e-waste recycling units have been registered with the CPCB.

Sixty-five cities in India generate more than 60% of the total e-waste generated in India. Ten states generate 70% of the total e-waste generated in India. Maharashtra ranks first followed by Tamil Nadu, Andhra Pradesh, Uttar Pradesh, West Bengal, Delhi, Karnataka, Gujarat, Madhya Pradesh and Punjab in the list of e-waste generating states in India. Among top ten cities generating e-waste, Mumbai ranks first followed by Delhi, Bangalore, Chennai, Kolkata, Ahmedabad, Hyderabad, Pune, Surat and Nagpur. There are two small e-waste dismantling facilities are functioning in Chennai and Bangalore. There is no large-scale organized e-waste recycling facility in India and the entire recycling exists in unorganized sector.

4. Environmentally Sound Recycling

Environmentally Sound Management as defined in the Basel Convention and adopted in the hazardous waste rules in India is stated below:

"Environmentally sound management of hazardous wastes or other wastes" means taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes"

Synonymous with this the recycling and disposal practices, required for e-wastes, Environmentally Sound Technologies (EST) for recycling and disposal should be used such that there is no adverse effect on the environment and human health. As regards the e-waste recycling, the Best Available Practices (BAT) and the technologies used worldwide have been given in the Guidelines published by CPCB. However, these could be updated from time to time based on the developments in the technologies and access to such technologies.

5. Establishment and management of e-waste Recycling facility

5.1 Project Planning

E-waste Recycling Facility is by itself an industrial operation requiring clearances from various authorities for establishment and operations of the facility. Such facilities need to be set up in the organized sector. The process begins with the project planning and preparation of the project document, which shall be in accordance with the operations and business plans envisaged for the project. The project planning, land acquisition and necessary licenses to be obtained from the concerned agencies in whose jurisdiction the unit is to set be up, the unit will have to carry out as per the requirements in each State.

Among the various clearances today the Environmental Clearances have become significant

in view of the need to protect the environment and control the environmental pollution. The Detailed Project Report (DPR) should include the environmental compliance requirements and the investment being made for the same. These guidelines intend to provide the details required for seeking various environmental clearances and to facilitate in the process.

5.2 Environmental Clearance

The establishment of a recycling facility for e-waste recycling comes under Infrastructure Projects of the EIA notification dated September 2006 notified under the Environment (Protection) Act, 1986. It has similar requirements as the projects covered under the Treatment Storage Disposal Facility (TSDF).

Any person, who is likely to establish or take any steps to establish any type of E-waste recycling or processing, which is likely to discharge sewage or trade effluent into any stream or well or sewer or on land has to obtain consent of the concerned State Pollution Control Board. Similarly, any person, who is likely to establish or operate any e-waste recycling plant or process e-waste in any manner that is likely to cause air pollution is not permitted to discharge or cause the emission of any air pollutant in excess of the standards laid down by the concerned State Pollution Control Board. These emissions shall be with prior consent of the State Board.

The entrepreneur has to obtain the Consent for Establishment (CFE), which is the first and foremost requirement and is obtained prior to the setting up of the industry. If the industry falls under schedule I of Environment Impact Assessment notification of 2006, it requires Environmental Clearance (EC).

5.2.1 Procedure for Obtaining Environmental Clearances (EC)

The industrial unit proposing to process e-waste is considered as any other industrial unit handling hazardous substances and liable to cause air and water pollution. The industry is required to obtain Environmental Clearance (EC) under the Environmental Clearance notification of 2006. The Project process involves:

1. Screening
2. Scoping
3. Public Consultation
4. Project Appraisal
    a. Expert Appraisal Committee
    b. State Level Appraisal Committee

The Following information/documents have to be furnished for obtaining EC.

1. Project Report
2. Land/shed possession certificate
3. Location Map
4. Environmental Impact Assessment (EIA) Report
5. Environment Management Plan (EMP) Reports (for industries listed in Schedule I of the EIA notification)
6. Water & materials balance
7. Proposed Pollution Control measures for water, air and solid and hazardous wastes
8. Detailed Layout map
9. Consent for Establishment (CFE)

5.3 Regulatory Compliances

Under the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution Act, 1981, an entrepreneur establishing or running any industry or process, and discharging effluent/ emitting pollutants into any water resources or on land/air, thus polluting the environmental water/air is required to obtain consent.

5.3.1 Consent for Establishment (CFE) (Consent to Establish)

The Consent for Establishment (CFE) of an industrial unit as the term suggests is requirement prior to the establishment of any industry or process. No industrial activity is allowed to commence without CFE. The CFE is to be obtained from the concerned State Pollution Control Board (State Board) vide section 25 of the Water (Prevention and Control of Pollution) Act, 1974. As a first step and in accordance with rule 32 of the Water (Prevention and Control of Pollution) Rules 1975, an application should be submitted in Form OG/XIII (ref appendix I) to the State Board for grant of CFE.

The details pertaining to the location of the unit, whether it is in an approved industrial estate or a private land or converted land etc., must be furnished along with other documents regarding the ownership or leased site, rented etc. The details on manufacturing product, process of manufacture, raw materials used, water audit, waste generated, waste treatment methods etc. also has to be furnished. CFE is issued on the basis of the information furnished satisfying requirements under the law. If any further requirements are sought by the concerned Pollution Control Board, the same should be furnished. The activities for the establishment of the unit can take place only after the CFE is granted.

The Following information/documents have to be furnished for obtaining Consent for

Establishment (CFE):

1 Prescribed application forms I & XIII (to be downloaded from the concerned Board's website or available free of cost from any of the office of the Board and should be submitted in triplicate along with the prescribed consent fee.)
2 Project Report
3 Land/shed possession certificate
4 Location Map
5 EIA & EMP Reports (for industries listed in Schedule I of the EIA notification)
6 Water & materials balance
7 Proposed Pollution Control measures for water, air and solid and hazardous wastes
8 Detailed Layout map

5.3.2 Consent for Operation (CFO)

The Consent for Operation (CFO) has to be obtained 45 days prior to (commissioning or) operation of the unit. Once the unit is established, for operating the same the entrepreneur has to apply for consent in prescribed forms i.e. Form I and Form XIII to the concerned Pollution Control Board along with the following documents:

1. Form I and Form XIII. (appendix I)
2. Audited balance sheet.
3. Environmental Statement affidavit on Rs.100 stamp paper.
4. Prescribed consent fee in the form of DD.

5.3.2.1 Procedure for Obtaining Consent

A. Projects attracting EIA Notification. (With EIA)
B. Projects not attracting EIA Notification. (Without EIA)

A. Projects requiring Environmental Clearance

<u>Responsibility of Project Proponent :</u>

1 Preparation of Applications in Forms I & XIII
2 Submission of Application to be accompanied with requisite Consent Fee to Regional Office (RO) of jurisdiction
3 Acknowledgement of Receipt of Application
4 Application scrutiny and seeking clarification
5 Site Inspection
6 Inspection Report
7 Inspection report forwarded to SPCB by RO with recommendation
8 Scrutiny by concerned SPCB office

9 EIA report scrutiny by SPCB
10 Public Hearing
11 Technical Advisory Committee Review of Application
12 Consent Clearance Committee
13 Issue/Refusal of Consent

B. Projects not requiring Environmental Clearance

Responsibility of Project Proponent

1. Preparation of Application
2. Submission of application with requisite Consent Fee to Regional Office of jurisdiction
3. Receipt of CFE application
4. Acknowledgement of Receipt of Application
5. Application scrutiny and seeking clarification
6. Site Inspection & inspection Report
7. Inspection report forwarded to SPCB with recommendation
8. Scrutiny by concerned SPCB office
9. Consent Clearance Committee
10. Technical Advisory Committee Review of Application based on Consent Clearance Decision.
11. Issue/Refusal of Consent based on TAC recommendation

Documents to be enclosed:

1. Copy of Executive Summary
2. Copy of EIA Report & Form I
3. TOPER Sheet Extract
4. Detailed Project Report
5. Clearance of High Level Committee

The facility should be inspected by the SPCB and upon being satisfied, the CFO is issued. The unit is not permitted to operate till the CFO is issued.

5.3.3 Authorization for Handling Hazardous Wastes

E-waste has been included as a waste category in the Hazardous Wastes (Management and Handling) Rules amendments 2008, as e-waste contains hazardous constituents. Moreover, the processing of e-waste involves hazardous operations. Under these rules, all those who handle e-waste are required to seek authorization by submitting the application form (Form-I) given in Appendix III.

5.3.4 Registration as Recyclers

E-waste has been included as a waste category in the Hazardous Wastes (Management and Handling) Rules amendments 2008. Provisions have been made for the registration of all e-waste recyclers with the Central Pollution Control Board (CPCB) in Chapter III, Rules 8-10. E-waste category has been listed in Schedule IV of these rules under the categories of hazardous recyclable wastes. According to these rules all those engaged in recycling of e-waste to go through the cumbersome procedure of registration including those involved in dismantling activity. The application for registration should be made in the Form 5 placed at Appendix IV

5.3.5 Transboundary Movement of e-waste

Any transboundary movement (import and export) of e-waste shall be in accordance with the procedures given in Chapter IV of the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 and the requirements under the Basel Convention on the Control of Transboundary Movement of Hazardous Waste. As e-waste has been classified as hazardous wastes under the hazardous wastes rules as also under the Basel Convention since it is known to contain various hazardous constituents, such as cadmium, lead, mercury, brominated flame retardants and polychlorinated bi-phenyls etc. The waste electrical and electronic assemblies or scraps have been included in Schedule III, Part A of these rules. Those e-waste containing the hazardous constituents to an extent that they exhibit hazard characteristics indicated in Schedule III, Part B of these rules are included in List A (A 1180), which is similar to Annex VIII of the Basel Convention, thus requiring a prior informed consent (PIC) in writing from the importing country. The e-waste not containing or contaminated with the hazardous constituents are placed in B 1110, which is similar to Annex IX of the Basel Convention that would not attract PIC unless the national law requires. In India, the transboundary movement of all e-waste requires PIC. The application for seeking permission for export/import of e-waste are to be submitted in Forms 7 & 8 along with a full cover insurance Policy to the Central Government, Ministry of Environment & Forests. All shipments should be accompanied with form 9 provided in these rules.

5.4 Environmental Monitoring & Compliance

The guidelines, best practices and the requirements for establishment and operation of e-waste recycling facilities have been detailed in the “Guidelines for Environmentally Sound Management of E-waste” published by the Ministry of Environment and Forests. These guidelines also provide the Best Available Technology and the Global scenario to facilitate the e-waste recycler to get an insight into the requisite system.

In this document, Chapter 7 provides the details for establishing an Integrated E-waste

Management Facility. The requisite operation for handling e-waste has been provided. The procedures for setting up and management of e-waste recycling facility have been listed. This chapter also enlists the compliance requirements under the existing regulations. The references have been provided to access the details for the same.

This handbook of procedures is a reference document to provide directions for obtaining the necessary environmental clearances, consents and other permissions to handle e-waste in an environmentally sound manner.

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References

1. Guidelines for environmentally Sound Management of e-waste, published by Ministry of Environment & Forests and Central Pollution Control Board, March 2008.

2. National Environment Policy, Government of India, Ministry of Environment & Forests, 1986.

3. The Water (Prevention and Control of Pollution) Act, 1974 and the rules framed thereunder

4. The Air (Prevention and Control of Pollution) Act, 1981 and the rules framed thereunder

5. The Environment (Protection) Act, 1986

6. The Hazardous Wastes (Management and Handling) Rules, 1989 as amended in 2008.

7. Raveendra, G.V. and Dev Kishore Aradhya, Steps towards Authorization for Recyclers – A Handbook, 2006.

8. www.envfor.nic.in

9. www.cpcb.nic.in

10. www.mpcb.gov.in

11. www.appcb.ap.nic.in

12. www.kspcb.kar.nic.in

APPENDICES

(Forms)

APPENDICES

Appendix I

FORM - XIII
(To be submitted in triplicate)

Application for consent for establishment or taking any step for establishment of industries,
Operation, or any process or any treatment disposal system or discharge, continuation of
Discharge under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.
(See Rule 32)

From: Dated:
To:
The Member Secretary
State Pollution Control Board
Divisional Office/Regional Office _____

Through the Environmental Officer/Deputy Environmental Officer

I/We hereby apply for the Consent/renewal of Consent under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 (6 of 1974) for establishing or taking any steps for establishment of industry/operation process or any treatment and disposal system to bring into use any new/altered for the discharge of sewage/trade effluent or continue to make discharge of sewage/ trade effluent or continue to make discharge of sewage/trade effluent from land/premises owned by _____for the period from _____ To _____
The other relevant information is given below:

1. Full Name of the Applicant (list of individual partners, office bearers etc.) Correspondence Address	
STD Code, Phone No.	
Fax No.	
E-Mail Address	
2. Nationality of the applicant	
3.(a) Name and address of the industry (Location of the industry)	
- Survey No./Plot No.	
- Village, Taluk, District.	
- SHO Jurisdiction.	
- STD Code, Phone No.	
- FAX No.	
- E-Mail Address	
4. Type of industry	
(a) Individual	
(b) Proprietary concern	

(c) Partnership Firm (Whether registered or Unregistered)	
(d) Joint family concern.	
(e) Private Limited Company.	
(f) Public Limited Company.	
(g) Government Company.	
(i) State Government.	
(ii) Central Government.	
(iii) Union Territory.	
(h) Foreign Company (If a foreign company, details of registration, Incorporation etc.,) (a) Any other Association or Body	
5. Location of industry with respect to - Sensitive areas like Biosphere, Reservoir, Forest, Mangrove, River, Archaeological Monuments, major Town and Cities	
6. Size of the unit SSI/Medium Scale/Large Scale	
7. Name & designation of the person authorized to sign this form on behalf of the industry	
8. Details of Commissioning etc. (a) Approximate Date of commissioning of work (b) Expected date of production	
9. Number of Employees (The total number including office staff and contract labour and labour on roll shall be furnished)	
10. Product Manufactured. (Total List of products/byproducts with production capacity (Licenced and installed) per month shall be furnished)	
11. Details of license if any obtained under the provisions of industrial Regulation Act 1951.	
12. List of raw materials and chemicals consumed per month (enclose list).	
13. Brief manufacturing process (Please attach flow-chart and material balance statement).	
14. License Annual Capacity for production	

14. **Water Consumption Details:**

Source of Water	**Lts/day**	**Water meter is provided or not for each source separately (Yes/No)**
(a) Borewell		
(b) Public Supply		
(c) River.		
(d) Purchased through tankers.		
(e) Others, specify.		

15. **Water Consumption and Discharge Details: (Attach water balance flow sheet**)

Water consumed for	**Consumption Lts/day**	**Discharge Lts/day**
(a) Domestic Use (Toilet, Canteen etc.)		
(b) Gardening.		
(c) Industrial purpose		
(1) Process*		
(2) Washings*		
(3) Boiler feed		
(4) Cooling		
(5) Others (Specify)		

* Please indicate separately the water consumption whereby water gets polluted & the pollutants are easily biodegradable/not easily biodegradable.

15. Treatment system and Disposal Details: (enclose analysis reports wherever applicable)

Effluent (waste water) generated from	**Treatment Units Provided**	**Final disposal point (Land, sewer, river)**
(a) Domestic		
(b) Industrial		
(1) Process		
(2) Boiler Blow down		
(3) De Min backwash		
(4) Washings		
(5) Cooling (Whether recycled completely)		
(6) Others specify		
(a) Attach the characteristic of process effluent from different operation, combined and the final effluent discharge quantity		
(b) Extent of land available in Acres if the treated water is used on land for irrigation/gardening.		
(c) Nature of plantation carried out (Attach Agricultural Management plan Provided/proposed)		
(d) What are the monitoring facilities available or proposed.		

(e) Treatment method adopted	
(1) Industrial (Attach treatment process flow-sheet and design details, quality of treatment Achieved/expected	
(2) Domestic (Attach treatment process flow-sheet and design details, quality of treatment achieved/expected).	
17. (a) Is there a Staff Quarters or colony or Township.	
- Location	
- No. of Quarters	
- No. of people residing	
(b) Quantity of water used	
- Quantity of Sewage	
- Quantity of garbage generated	
(c) Treatment and disposal facility for sewage and garbage (Give details).	
Note: In case the solid waste is disposed through outside agencies or sold out, the relevant documents and log-book shall be maintained and shall be submitted whenever asked for	

18. (a) **DETAILS OF SOLID WASTE GENERATION:**

Description of Waste	**Quantity**	**Method of collection**	**Mode of disposal**
1)			
2)			

(b) Is the solid waste categorized under Hazardous waste (Management & Handling) Rules, 1989 as amended from time to time. If so, furnish category characteristics, quantity and mode of handling and disposal	
19.(i) Investment made for water pollution control in Rupees	
(ii)(a) For local Authorities/ Layout Townships**.**	
- Population	
- Source of water supply	
- Quantity of water supply.	
- Quantity of sewage generated.	
- Is underground drainage facility provided**?**	Yes/No/Partial
- Is treatment facility provided? (If yes or proposed, give details of the treatment scheme).	Yes/No OR Proposed

- Final disposal of sewage.	
- Quantity of garbage generated	
- Method of collection & disposal	
(b) Hotels	
- Class of Hotel.	
- Whether lodging facility provided (if yes, number of accompany).	Yes/No
- Water source.	
- Quantity of water.	
- Quantity of sewage generated	
- Treatment & disposal of sewage	
- Quantity of garbage generated & disposal	Yes/No/Partial
- Facility for electroplating provided, if so details.	
- Facility for laundry provided, if so details.	
(c) For Hospitals & Nursing Homes	
- Nos. of Beds.	
- Facilities like OT/X-ray Lab etc	
- Source of water supply.	
- Quantity of water supply.	
- Quantity of sewage.	
- Quantity of trade effluent	
- Is UGD facility provided.	
- Is treatment facility provided for sewage/trade effluent/Hospital Waste.	
- Final disposal of sewage	
- Quantity of bio-medical waste generated with categories as specified by bio-medical waste rules.	
- Method of collection & disposal	
(d) For Mining	
- Location. - Lease area in hectares	
- Active mining area in hectares.	
- Mining details such as quantity in T/day.	
- Mine lease validity date. Date/Month/Year	
- IBM approval date, (Please enclose IBM approved copy, mine lease copy)	
- Whether open cast mining or deep mining.	

- Nos. of employees (please furnish office staff, contract labour & labour on roll).	
- Quantity of water used with source	
- Quantity of sewage.	
- Treatment & disposal of sewage	
- Action taken to control soil erosion/disturbance of settled earth	
20. (a) Whether the Effluent Treatment Plant (ETP) is completely put up & is in operation (for existing industry).	
(b) Yes/No/Partly Put up/Requires Upgradation, if so, what is the proposal & time-bound programme.	
21. Whether the ETP is working satisfactorily, & able to treat the effluents to the standards specified by the Board (for existing industry)	
22. Date, month & year by which the ETP will be completed (for existing/new industry).	Date/ Month/Year
23. Whether cess returns are being filed every month (for existing industry).	Yes/No
24. Whether the Environmental Audit Statement is submitted for the current financial year (for existing industry).	Yes/No/Applicable
25. Whether the Environmental Management system followed by the industry/local authority/layout/township/ hospital/hotel (attach details).	
26. (a) Whether covered under the PLI Act, if so, furnish the policy number, expiry date & the insured amount.	
(b) Yes/No. If yes, Policy No._____ Expiry Date _____ Insured amount _____.	
27. Total gross capital investment of the unit in Rupees (this shall be inclusive of land, building, plant, machinery & any other movable & immovable assets in the name of the industry without depreciation. Please enclose copy of the extract from the balance sheet with latest fixed investment schedule).	Rs._____
28. Consent fee Details (only through DD)	

DD No._____ Dated _____ for s._____ In favour of the State Pollution Control Board, as fees payable under Section 25 of the Act & Rule 32 of the Water Rules.
29. I/We further declare that the above furnished information is true and correct to the best of my/our knowledge. I am aware that the any wrong information furnished, is punishable under Section 44 of the Act.
30. I/We hereby submit that, in case of change either of the point of discharge or the quantity of discharge or its quality, a fresh application for CONSENT shall be made & until such CONSENT is granted no change shall be made.
31. I/We hereby agree to submit to the State Board an application for renewal of consent four months in advance of the date of expiry of the consent for outlet/discharge if to be continued thereafter
32. I/We undertake to furnish any other information within one month of its being called by the State Board.
33. I/We, enclose herewith cash receipt No./Bank Draft No._____dated_____ for Rs._____(Rupees_____ __) in favour of concerned State Board , as fees payable under section 25 of the Act.

Yours faithfully

(Name & Signature of the applicant/Occupier)

ACCOMPANIMENTS	
1. Index site plan.	**3. Latest analysis report in case of existing unit.**
2. Topographical Map.	**4. Process flow-sheet.**

INSTRUCTIONS FOR FILLING UP & SUBMITTED THE APPLICATIONS

1. Do not leave columns blank. Write N.A. whichever is not applicable. Incomplete applications will not be processed and will be considered as incomplete.
2. Submit the application for renewal atleast 120 days in advance prior to the expiry date.
3. Submit the application in triplicate along with the following documents to the Divisional Office/Regional Office concerned of the Board while retaining one copy with you:
   (a) SSI Certificate if applicable.
   (b) Latest audited balance sheet (fixed assets schedule).
   (c) Manufacturing process flow-chart.
   (d) Compliance to the previous consent conditions if any.
   (e) Latest analysis report of the effluents/stack emission report.
   (f) Panchayat licence or any other licences obtained incase of consent for establishment.
   (g) Land conversion certificate in case of consent for establishment.
   (h) Required consent fee in the form of DD in favour of the State Pollution Control Board has to be enclosed.

Appendix II

FORM I

Application for obtaining Authorization for Collection/ Reception/ treatment/ transport/ storage/ disposal of hazardous wastes.

From:.....
.....
.....

To
The Member Secretary,
.....Pollution Control Board,
.....
……
……

Sir,

I/We hereby apply for authorization renewal of authorization under sub-rule (3) of rule 5 of the Hazardous Wastes (Management and Handling) Rules,1989 for collection/ reception/ treatment/ transport/ storage/ disposal of hazardous wastes.

FOR OFFICE USE ONLY

1. Code No. :
2. Where the unit is situated in a critically Polluted area as identified by Ministry of Environment & Forests. :

TO BE FILLED IN BY APPLICANT

PART A: GENERAL

3. (a) Name and address of the unit and Location of activity :

(b) Authorization required for (Please tick mark appropriate activity/ activities:

(i) Collection
(ii) reception
(iii) treatment
(iv) transport
(v) storage
(vi) disposal

(c) In case of renewal of authorization, previous authorization number and date

4. (a) Whether the unit is generating Hazardous waste as defined in the Hazardous Waste (Management and Handling) Rules,1989

   (b) If so the category No. :

5. (a) Total capital invested on the project :
   (b) Year of commencement of production :
   (c) Whether the industry works general/2shifts /round the clock :

6. (a) List and quantum pf products and bye products :
   (b) List and quantum of raw materials used :

7. Furnish a flow diagram of manufacturing Process showing input and output in terms of Products and waste generated including for captive power generation and demineralised water:

PART B: Sewage and Trade Effluent

8. Quantity and source of water for :
   (a) Cooling m3/d
   (b) Process m3/d
   (c) Domestic use m3/d
   (d) Others m3/d

9. Sewage and trade effluent discharge
   (a) Quantum of discharge m3/d :
   (b) Is there any effluent treatment plant :
   (c) If yes, a brief description of unit operations With capacity :

   (d) Characteristics of final effluent :
   ph
   Suspended solids
   Dissolved solids
   Chemical Oxygen Demand (BOD5)
   Oil and grease
   (additional parameters as specified by the Concerned Pollution Control Board)
   (e) Mode of disposal and final discharge point (enclose map showing discharge point) :
   (f) Parameters and Frequency of self Monitoring:

10. **PART C**: Stack (chimney) and Vent Emissions
    (a) Number of stacks and vents with height and dia (m) :
    (b) Quality and quantity of stack emission from each of the above stacks-particulate matter and Sulphur Dioxide(SO2) (Additional parameters as specified by The concerned Pollution Control Board) :
    (c) A brief account of the air pollution control Unit to deal with the emission :
    (d) Parameters and Frequency of self Monitoring:

PART D: Hazardous Waste

11. Hazardous wastes:
    (a) Type of Hazardous wastes generated as defined under the Hazardous Wastes (Management and Handling) Rules, 1989 :
    (b) Quantum of hazardous waste generated
    (c) Mode of storage within the plant, method of disposal and capacity :

12. (a) Hazardous Chemicals as defined under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989)

    (b) Whether any isolated storage is involved (if Yes, attach details) *Yes/No*

PART E : Treatment, Storage and Disposal Facility

13. Detailed proposal of the facility (to be attached) to include:
    (i) Location of site (provide map)
    (ii) Name of waste processing technology
    (iii) Details of processing technology
    (iv) Type and Quantity of waste processed per day
    (v) Site clearance (from local authority, if any)
    (vi) Utilization programme for waste processed (Product Utilization)
    (vii) Method of disposal (details in brief be given)
    (viii) Quantity of waste to be disposed per day
    (ix) Nature and composition of waste
    (x) Methodology and operational details of landfilling/ incineration
    (xi) Measures to be taken for prevention and control of environmental pollution including treatment of leachates
    (xii) Investment on Project and expected returns
    (xiii) Measures to be taken for safety to workers working in the plant

Place :
Date :

Signature : ……
Designation: ……..

Appendix III

FORM 5

*[See rule 8(1)]**

Form Of Application For Grant/Renewal Of Registration Of Industrial Units Possessing Environmentally Sound Management Facilities For Reprocessing/Recycling

{To be submitted to the Central Pollution Control Board in triplicate by the Reprocessor/Recycler}

1	Name and Address of the unit :	
2	Name of the occupier or owner of the unit with designation, Tel / Fax:	
3	Date of commissioning of the unit :	

<table>
<tr><td>4.</td><td>No. of workers
(including contract labourers) :</td><td></td></tr>
<tr><td>5</td><td>Consent Validity</td><td>a) Water (Prevention & Control of Pollution) Act, 1974 valid up to……
b) Air (Prevention & Control of Pollution) Act, 1981 valid up to…….</td></tr>
<tr><td>6.</td><td>Product Manufactured during the last three years (Tonnes / Year)</td><td>
<table>
<tr><td>Year</td><td>Name of the Product</td><td>Quantity in Metric Tonnes or KL</td></tr>
<tr><td rowspan="3"></td><td>a)</td><td></td></tr>
<tr><td>b)</td><td></td></tr>
<tr><td>c)</td><td></td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Raw material consumption during last three years (Tonnes/ year)</td><td>
<table>
<tr><td>Year</td><td>Name of the Raw Material consumed</td><td>Quantity in Metric Tonnes or KL</td></tr>
<tr><td rowspan="3"></td><td>a)</td><td></td></tr>
<tr><td>b)</td><td></td></tr>
<tr><td>c)</td><td></td></tr>
</table>
</td></tr>
<tr><td>8.</td><td>Manufacturing Process</td><td>Please attach manufacturing process flow diagram for each product (s)</td></tr>
<tr><td>9.</td><td>Water Consumption</td><td>Industrial ……m^3/ day
Domestic……..$m^{3/}$day</td></tr>
<tr><td>10</td><td>Water Cess paid up to (date)</td><td>……..</td></tr>
<tr><td>11</td><td>Waste water generation as per consent……..m^3/day</td><td>Industrial/Domestic
Actual……m^3/day (avg. of last 3 months)</td></tr>
<tr><td>12</td><td>Waste water treatment (provide flow diagram of the treatment scheme)</td><td>Industrial
Domestic</td></tr>
<tr><td>13</td><td>Waste water discharge</td><td>Quantity…… m^3/day
Location…….
<u>Analysis of treated waste water for parameters such as</u> pH, BOD, COD, SS, O&G and any other as stipulated by the SPCB/PCC (attach details)</td></tr>
<tr><td rowspan="5">14.</td><td>Air Pollution Control</td><td></td></tr>
<tr><td>a. Flow diagram for emission control system (s) installed for each process unit, utilities etc.</td><td></td></tr>
<tr><td>b. Details of facilities provided control of fugitive emission due to material handling, process, utilities etc.</td><td></td></tr>
<tr><td>c. Fuel consumption</td><td>
<table>
<tr><td>Name of fuel</td><td>Quantity per Day/Month :</td></tr>
<tr><td>a)</td><td></td></tr>
<tr><td>b)</td><td></td></tr>
</table>
</td></tr>
<tr><td>d. Stack emission monitoring results</td><td>
<table>
<tr><td>Stack attached to:</td><td>Emissions (for SPM, SO_2, NO_x and Metals (like Pb etc.) in particulates in mg/Nm^3</td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
</table>
</td></tr>
<tr><td></td><td>e. Ambient air quality</td><td>
<table>
<tr><td>Ambient air quality</td><td>Parameters (SPM, SO_2, NO_x, Pb, any other) in µg/ m^3</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td></td><td></td><td><table><tr><td>location:</td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
<tr><td>15.</td><td>Hazardous waste management :</td><td></td></tr>
<tr><td></td><td>a. Waste generation :</td><td><table><tr><td>S No</td><td>Name</td><td>Category</td><td><u>Quantity</u> (last 3 years)</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></td></tr>
<tr><td></td><td>b. Details on collection , treatment and transport :</td><td></td></tr>
<tr><td></td><td>c. Disposal</td><td></td></tr>
<tr><td></td><td>(i) Please attach Details of the disposal facilities</td><td></td></tr>
<tr><td></td><td>(ii) Please attach analysis report of characterisation of hazardous waste generated (including leachate test if applicable)</td><td></td></tr>
<tr><td>16.</td><td>Details of hazardous wastes proposed to be acquired through sale/ negotiation/contract or import as the case may be for use as raw material.</td><td>1. Name
2. Quantity required per year
3. Waste listing & No. in Annex VIII (List A)/ Annex IX (List B) of Basel Convention (BC)
4. Hazard Characteristic as per Annex III of BC</td></tr>
<tr><td>17</td><td>Occupational safety and Health aspects</td><td>Please provide details of facilities provided</td></tr>
<tr><td>18</td><td>Remarks</td><td></td></tr>
<tr><td></td><td>(i) whether industry has provided adequate pollution control system/ equipment to meet the standards of emission/effluent.</td><td>Yes / No</td></tr>
<tr><td></td><td>(ii) whether HW collection and Treatment , Storage and Disposal Facility (TSDF) are operating satisfactorily.</td><td>Yes / No</td></tr>
<tr><td></td><td>(iii)Whether conditions exists or likely to exists of the hazardous waste being handled /processed of posing immediate or delayed adverse impacts on the Environment.</td><td>Yes / No</td></tr>
</table>

	(iv) Whether conditions exists or is likely to exists of the wastes being handled / processed by any means capable of yielding another material eg , leachate which may possess eco-toxicity.	Yes / No
19	Any other Information i) ii) iii)	
20	List of enclosures as per rule	

Date:..... **Signature :**
Place:..... **Designation :**

Appendix IV

FORM - 8

[See rule -15 (1) and 16 (1)]

APPLICATION FOR TRANSBOUNDARY MOVEMENT OF HAZARDOUS WASTE

SNo.	Description	Details to be furnished by the Exporter/Importer
1	Exporter (Name & Address):	
	Contact person: Tel.:	
	Tele:/Fax:	
	Reason for export:	
2	Importer/Recyler (Name & Address):	
	Contact person:	
	Tele:/ Fax:	
3	Application concerning	
	Applicants reference No.	
	A. Single/Multiple movement	
	B. Recover/reprocessing Operation	
	C. Pre-authorized recovery/ reprocessing facility	
4	Total intended number of shipments	
5	Estimated quantity in Kgs/Litres	
6	Intended date(s) period of time for shipment	
7	Intended carrier(s) (name, address)	
	Contact person Tele:/Fax	
8	Waste generator(s) Name, Address)	
	Contact Person Tele:/Fax:	
	Site of generation & process	
9	Method(s) of recycling	
	R Code	
	Technology employed	
10	Means of Transport	
11	Packaging Type(s)	
12	(i) Destination and complete chemical composition of waste *(attach details)*	
	(ii) Special handling requirements	
13	Physical characteristics	
14	Waste Identification Code	
	Basel No.	
	OECD No.	
	UN No.	
	ITC (HS)	

<table>
<tr><td></td><td>Customs Code (H.S.)</td><td></td></tr>
<tr><td></td><td>Others (specify)</td><td></td></tr>
<tr><td rowspan="3">15</td><td>OECD Classification</td><td></td></tr>
<tr><td>(a)amber/red/green/others</td><td></td></tr>
<tr><td>(b) Number</td><td></td></tr>
<tr><td>16</td><td>Y-Number</td><td></td></tr>
<tr><td>17</td><td>H-Number</td><td></td></tr>
<tr><td>SNo.</td><td>Description</td><td>Details to be furnished by the Exporter/Importer</td></tr>
<tr><td rowspan="4">18</td><td>(a) UN identification Number</td><td></td></tr>
<tr><td>(b) UN shipping name</td><td></td></tr>
<tr><td>(c) UN class</td><td></td></tr>
<tr><td>(d) other</td><td></td></tr>
<tr><td rowspan="4">19</td><td>Concerned States’ code number of competent authorities, specific points of entry and exit</td><td></td></tr>
<tr><td>State of export</td><td></td></tr>
<tr><td>State of transit</td><td></td></tr>
<tr><td>State of import</td><td></td></tr>
<tr><td rowspan="5">20</td><td>Customs offices of entry and/departure</td><td></td></tr>
<tr><td><table><tr><td>Entry</td><td>Departure</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td><td></td></tr>
<tr><td></td></tr>
<tr><td></td></tr>
<tr><td></td></tr>
<tr><td>21</td><td>Exporter’s/generator’s declaration

‘I certify that the information is complete and correct to my best knowledge. I also certify that Legal y-enforceable written contractual obligations have been entered into and that any applicable insurance or other financial guarantees are or shall be in force covering the transboundary movement.

Name: Signature:

Date:</td><td></td></tr>
<tr><td>22</td><td>Number of Annexes attached</td><td></td></tr>
<tr><td colspan="3">FOR USE BV COMPETENT AUTHORITIES</td></tr>
<tr><td rowspan="5">23</td><td>To be completed by competent authority of-import</td><td></td></tr>
<tr><td>Notification received on</td><td></td></tr>
<tr><td>Transit (Basel)</td><td></td></tr>
<tr><td>(a) Acknowledgment sent on</td><td></td></tr>
<tr><td>(b) Name of the Competent Authority, stamp, and/or signature</td><td></td></tr>
</table>

24	Consent to the movement provided by the competent authority of(country):	
	(a)Consent given on:	
	(b) Consent expires on:	
	(c) Specific condition	(yes/no) (please attach)
	(d) Name of Competent authority, Stamp and/or	
FOR USE BY CUSTOMS AUTHORITIES		
25	CONTRY OF EXPORT/DESPATCH OR CUSTOMS OFFICE OF EXIT	
	Waste described overleaf has left the country on	
	Stamp	
	Signature	
26	COUNTRY OF IMPORT/DESTINATION	
	Waste described overleaf has left the country on	
	Stamp	
	Signature	
27	STAMPS OD CUSTOMS OFFICES OF TRANSIT COUNTRIES	

Name of country	**Entry**	**Departure**

(1) Enter X in appropriate box (2) Attach list if more than one (3) Attach detailed list of multiple shipment (4) See following codes

List of abbreviations used in the Movement Document

RECOVERY OPERATIONS(Sl. No.9)	
R I	Use as a fuel (other than in direct incineration) or other means to generate energy
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation *of* other inorganic materials
R6	Regeneration *of* acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery *of* components from catalysts

R9	Used oil re-refining or other reuses of previously used oil
RIO	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R I to 10
R12	Exchange of wastes for submission to any of the operations numbered RI to R I I
R13	Accumulation of material intended for any operation numbered RI to RI 2

Appendix V

FORM - 9

[See rule - 15 (5) & 16(5)]

TRANSBOUNDARY MOVEMENT - MOVEMENT DOCUMENT

SNo.	Description	Details to be furnished by the Exporter/Importer
1	(i) Exporter (Name & Address):	
	Contact person: Tele:	
	Tele:/Fax:	
	(ii)Waste Generator:	
	Contact person with Tele/Fax:	
	Site of generation	
2	Importer/Recyler (Name & Address):	
	Contact person:	
	Tele:/ Fax:	
3	Corresponding Applicants reference No.	
	Movement subject to Single/Multiple	
4	Serial number of shipments	
5	1st Carrier (Name, address): Registration No.: Tele/Fax: Identity of Means of Transport: Date of Transfer: Signature of Carrier's representative:	
6	2nd Carrier (Name, address): Registration No.: Tele/Fax: Identity of Means of Transport: Date of Transfer: Signature of Carrier's representative:	
7	3rd Carrier (Name, address): Registration No.: Tele/Fax: Identity of Means of Transport: Date of Transfer: Signature of Carrier's representative:	
8	Disposer (Name, Address)	
	Contact Person	
	Actual Site of disposal	

	Tele:/Fax:	
7	Method(s) of recovery	
	R Code	
	Technology employed* attach details	
9	Physical characteristics	
10	Actual quantity Kg/litre	
11	Waste Identification Code	
	Basel No.	
	OECD No.	
	UN No.	
	ITC (HS)	
	Customs Code (H.S.)	
	Others (specify)	
12	OECD Classification	
	(a)amber/red/green/others	
	(b) Number	
13	Packaging Type	
	Number:	
14	UN Classification:	
	UN shipping name	
	UN identification No.	
	UN class	
	H Number	
	Y Number	
15	Special handling requirements	
16	Actual date of shipment	
17	Exporter's declaration: I certify that the information in Sl No.I to 16 above is complete and correct to my best knowledge. I also certify that legally-enforceable written contractual obligations have been entered into, that any applicable insurance or other financial guarantees are in force covering the transboundary movement and that all necessary authorizations have been received from the competent authorities of the States concerned. Date: Name: Signature:	
TO BE COMPLETED BV IMPORTER/RECYCLER		
18	Shipment received by Importer/Recy1cer	

	Quantity received: Kg. Liters accepted Date: Name: Signature	
19	Shipment received at recycler	
	Quantity received at recycler Kgs/litres	
	Quantity received and accepted: Kgs/litres	
20	Approximate date of recycling	
21	Method of recycling	
22	I certify that the Recycling of the waste described above has been completed Date Signature	
23	SPECIFIC CONDITIONS ON CONSENTING TO THE MOVEMENT (*attach details)*	

(1) Attach list, if more than one (2) Enter X in appropriate box (3) See codes on the reverse (x) Immediately contact Competent Authority (4) if more than three carriers, attach information as required in Sl. No. 5 . (4) If more than three carriers, attach information as required in blocks 6 and 11.

List of abbreviations used in the Movement Document

RECOVERY OPERATIONS(Sl. No.9)	
R I	Use as a fuel (other than in direct incineration) or other means to generate energy
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation *of* other inorganic materials
R6	Regeneration *of* acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery *of* components from catalysts
R9	Used oil re-refining or other reuses of previously used oil
RIO	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R I to 10
R12	Exchange of wastes for submission to any of the operations numbered RI to R I I
R13	Accumulation of material intended for any operation numbered RI to RI 2

MEANS OF TRANSPORT (Block 10)	PACKAGING TYPES (Block 11)	H NUMBER (Block 17) & UN CLASS (Block 18)		
R = Road	1. Drum	UN Class	H Number	Designation

T = Train/Rail	2. Wooden barrel	I	HI	Explosive
S = Sea	3. Jerrican	3	H3	Inflammable Liquids
A = Air	4. Box	4.1	H4.1	Inflammable solids
W = Inland Waterways	5. Bag	4.2	H4.2	Constituents or wastes liable to spontaneous combustion
	6. Composite packaging	4.3	H4.3	Constituents or wastes which, in contact with Water, emit inflammable Gases
	7. Pressure receptacle	5.1	H5.1	Oxidizing
	8. Bulk	5.2	H5.2	Organic peroxides
	9. Other (specify)	6.1	H6.1	Poisonous (acute)
		6.2	H6.2	Infectious substances
		8	H8	Corrosives
		9	HIO	Liberation of toxic gases in contact with air or water
		9	HII	Toxic (delayed or hronic).
		9	H12	Ecotoxic
		9	H13	Capable by any means after disposal of yielding another material e.g. leachate, which possesses any of the characteristics listed above.

PHYSICAL CHARACTERISTICS **(Sl No.09)**	1. Powdery/ powder
	2. Solid
	3. Viscous/paste
	4. Sludge
	5. Liquid
	6. Gaseous
	7. Other (specify)

Y numbers (S No. 09) refer to categories of waste listed in Annex I and II of the Basel Convention, as well as more detailed information can be found in an instruction *Manual available from the Secretariat of the Basel Convention. .*