

Guidelines for Preparation of Inventories on Hazardous and Other Waste Generation and their Management

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**Central Pollution Control Board
(Ministry of Environment, Forest and Climate Change)
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1. Introduction

The Ministry of Environment, Forest and Climate Change, Govt. of India, has notified Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (HOWM Rule, 2016), under the Environment (Protection) Act, 1986, for environmentally sound management of the hazardous and other wastes in the country. The HOWM Rules, 2016, lay down provisions w.r.t generation, packaging, storage, transportation, recycling/reprocessing, utilization, treatment, disposal, etc. of hazardous waste and obtaining authorization from the concerned State Pollution Control Board (SPCB) / Pollution Control Committee (PCC) for the same. The SPCBs/PCCs have been envisaged with the responsibility of granting the said authorization on being satisfied that the applicant for the authorization possesses appropriate facilities for collection, storage, packaging, transportation, treatment, processing, use, destruction, recycling, recovery, pre-processing, co-processing, utilization, offering for sale, transfer or disposal of the hazardous and other waste, as the case may be, and after ensuring technical capabilities and equipment through site inspection.

The HOWM Rules, 2016, also lay down responsibility on occupier of the hazardous and other waste for the safe and environmentally sound management following the prescribed hierarchy viz. prevention, minimization, reuse, recycle, recovery, utilization and lastly safe disposal. The hazardous waste can be disposed at captive treatment facility installed by the individual waste generator or at Common Hazardous Waste Treatment, Storage and Disposal Facilities (TSDFs). The common disposal facilities may have only secured land fill (SLF) or incinerator or combination of the both.

Recycling and utilization as resource or energy recovery of hazardous and other wastes are preferential option over their disposal since it conserves resources and leads to reduction of carbon foot print. Utilization of hazardous waste by co-processing in cement plant has proven a sustainable option because there is a dual benefit in terms of utilizing the waste as supplementary fuel as well as alternative raw material.

The HOWM Rules, 2016, also lays down provisions under Rule 20 about preparation of annual inventory of the waste generated, waste recycled, recovered, utilized including co-processed, disposed, stored, waste imported, re-exported, etc. of the States/UTs by respective SPCB/PCC and submission of the same to CPCB by 30th day of September every year based on the annual

returns received from the occupiers and the operators of the facilities for disposal of hazardous and other wastes. The Central Pollution Control Board is required to prepare consolidated review report on management of hazardous and other wastes based on the annual inventories submitted by the SPCBs/PCCs and forward it to Ministry of Environment, Forest and Climate Change before 30th day of December. This process, however, requires a harmonized collection of the data on the generation and management of the hazardous and other wastes by SPCBs/PCCs.

2. Objective

The objective of these guidelines is to enable SPCBs/PCCs in preparation of the annual inventory on hazardous and other waste generation and their management. This would be helpful in effective implementation of provisions stipulated under Rule 20 of the HOWM Rules, 2016, and preparation of reliable inventorisation of hazardous and other waste which would aid in planning and designing waste management policies and programs in the country.

These guidelines have also been prepared in compliance with the orders dated 12/04/2019 of 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 wherein the directions of the Hon'ble Tribunal include preparation of standard guidelines and protocol based on scientific fundamentals for preparation of inventory of hazardous and other wastes for SPCBs/PCCs.

3. Methodology for preparation of inventory of Hazardous and Other waste

3.1. Terminology used in the guidelines

3.1.1 Waste

The Rule Section 3(1) (38) defines "Waste" as materials that are not products or by-products, for which the generator has no further use for the purposes of production, transformation or consumption. There is an explanation included in this clause which states that the (i) Waste includes the materials that may be generated during, the extraction of raw materials, the processing of raw materials into intermediates and final products, the consumption of final products, and through other human activities and excludes residuals recycled or reused at the place of generation; and (ii) byproduct means a material that is not intended to

be produced but gets produced in the production process of intended product and is used as such.

3.1.2 Hazardous waste

The Rules 3(1)(17) defines hazardous waste as : any waste which by reason of characteristics such as physical, chemical, biological, reactive, toxic, flammable, explosive or corrosive, causes danger or is likely to cause danger to health or environment, whether alone or in contact with other wastes or substances, and shall include - (i) waste specified under column (3) of Schedule-I; (ii) waste having equal to or more than the concentration limits specified for the constituents in class A and class B of Schedule-II or any of the characteristics as specified in class C of Schedule-II; and (iii) wastes specified in Part A of Schedule-III in respect of import or export of such wastes or the wastes not specified in Part A but exhibit hazardous characteristics specified in Part C of Schedule-III.

3.1.3 Other waste

The Rule 3(1) (23) of HOWM Rules, 2016 defines “other wastes” means wastes specified in Part B and Part D of Schedule III for import or export and includes all such waste generated indigenously within the country.

3.1.4 Domestic hazardous waste and Fluorescent and other mercury containing lamps and deposition centres and collection centres respectively

1. Solid Waste Management Rules, 2016

Solid Waste Management Rules, 2016, defines discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level as a “domestic hazardous waste”. Relevant provisions stipulated under Rule 15 (i) and (j) of the said Rules for such domestic wastes are as below:

- (i) establish waste deposition centers for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal. Such facility shall be established in a city or town in a manner that one centre is set up for the area of twenty square kilometers or part thereof and notify the timings of receiving domestic hazardous waste at such centres;

- (ii) ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee;

Therefore, domestic hazardous wastes stored at the waste deposition centres and transported and disposed at disposal facility, as above, also require to be accounted in the inventory of hazardous waste.

2. E-Waste Management Rules, 2016

Fluorescent and other mercury containing lamps are E-waste as per the E-Waste Management Rules, 2016, and need not require to be covered in inventorisation of hazardous waste. However, in cases where recyclers of such fluorescent and other mercury containing lamps are not available, channelization of the same may be from collection center to Treatment, Storage and Disposal Facility for disposal. Quantity of only such wastes channelized from collection centers to common TSDF be treated as hazardous waste and require to be accounted in inventorisation of hazardous wastes.

3.1.5 Recyclable wastes and Recyclers

Schedule IV of the HOWM Rules, 2016, prescribes 20 categories of commonly recyclable hazardous wastes for which CPCB has prepared “Guidelines for Environmental Sound Recycling of Hazardous Waste as per Schedule-IV of Hazardous Waste (Management Handling and Transboundary Movement) Rules, 2008”. Only such commonly recyclable wastes and being recycled as per the said guidelines have been referred as “recyclable wastes” in this guidelines and the units recycling the same may be referred as “recyclers” for the purpose of preparing the annual inventory.

3.1.6 Utilizable wastes and Utilizers

Rule 9 of the HOWM Rules, 2016, stipulates provisions about utilization of hazardous and other waste as resource or energy recovery in accordance with Standard Operating Procedures (SOPs) issued by CPCB w.r.t. such resource or energy recovery. Till preparation of this guidelines, CPCB has developed 52 SOPs in this regard and the same have been circulated to all SPCBs/PCCs as and when these were prepared. Such SOPs are available at CPCB website and addition of any new SOP would be circulated to all SPCBs/PCCs and said website would also be updated accordingly time to time.

The term “utilizable wastes” have been referred in this guidelines for wastes which do not fall under the aforesaid “recyclable waste” and are being utilized as resource or energy recovery. The units utilizing the utilizable wastes have been referred as “utilizers”.

3.1.7 Captive and Non-captive Utilization

The utilizable wastes when used within the facilities of generation have been referred as “captive utilization” in this guidelines for the purpose of preparing the inventory. Similarly, the utilizable wastes when used outside the facilities of generation have been referred as “non-captive utilization”.

3.1.8 Co-processing and co-processor

“Co-processing” has been referred in this guidelines pertaining to utilization of utilizable wastes in only cement plant and the cement plant utilizing utilizable wastes has been referred as “co-processor” for the purpose of preparing the inventory.

3.1.9 Pre-processing and pre-processors

Pre-processing has been defined under the HOWM Rules, 2016. The pre-processors who are collecting utilizable wastes, pre-processing the same and send pre-processed wastes to cement plant for co-processing, has been referred as” pre-processors” in this guidelines. Cement plant having its captive pre-processing facilities shall not be treated as pre-processor.

3.1.10 Waste collectors

Waste collectors are persons who collects hazardous or other wastes on behalf of actual user or operator of disposal facility from the occupier as defined under the HOWM Rules, 2016.

3.2 Identification of the hazardous and other waste handling/generating facilities

(a) Based on the processes listed in Schedule I:

Hazardous wastes generation has already been identified in cases of industrial process as listed under the schedule I of the HOWM Rules, 2016. In the said Schedule I, 38 processes from which 128 different hazardous wastes are generated have been listed along with respective categories of hazardous waste.

(b) Based on Schedule-II concentration limits:

Besides industrial processes listed in the said Schedule I, there are other industrial processes from where hazardous wastes may be

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generated. Therefore, wastes generation other than categories listed in Schedule I or Part A of Schedule III require to be examined and compared with concentration limits and characteristics as stipulated under Schedule II of the HOWM Rules, 2016, so as to categories the same as hazardous waste.

(c) Based on wastes listed under Schedule-III and Schedule IV:

There are industries who may generate hazardous or other wastes as listed under the Schedule-III and Schedule IV and, therefore, such hazardous or other wastes may be incorporated in the inventory report.

(d) Recycling/Utilisation/pre-processing/co-processor facility

Industries/units which are involved in recycling, utilization, pre-processing of hazardous or other waste such units shall also be covered in annual inventory of hazardous and other wastes.

(e) Importer and Exporter of Hazardous and Other waste

(f) Captive or common Treatment Storage and Disposal Facility (TSDF)

(g) Waste collection facility

Waste collector has been defined in the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2019. Such facility collecting hazardous or other waste shall also be covered in annual inventory of hazardous and other wastes.

(h) Waste deposition centers set up by local authorities and village Panchayats of census towns and urban agglomerations for domestic hazardous wastes (Section 3.1.4, as given above, may be referred)

(i) Collection centers for Fluorescent and other mercury containing lamps and channelizing such wastes to TSDF.

3.3 Collection and interpretation of data

In compliance with provisions laid down under Rule 20 of the HOWM Rules, 2016, The occupier handling hazardous or other wastes and operator of disposal facility is required to submit annual returns to the State Pollution Control Board in Form 4 on or before the 30th day of June following the financial year to which that return relates.

SPCBs/PCCs based on the annual returns received from the occupiers and the operators of the facilities for disposal of hazardous and other wastes is required prepare an annual inventory of the waste generated; waste recycled, recovered, utilized including co-processed; waste re-exported and waste disposed and submit to the Central Pollution Control Board by the 30th day of September every year. Thereafter, CPCB shall prepare the consolidated review report on management of hazardous and other wastes and forward it to the Ministry of Environment, Forest and Climate Change, along with its recommendations before the 30th day of December once in every year.

SPCBs/PCCs may compile the aforesaid annual inventory on hazardous and other waste management of the respective State/UT in 13 formats as given at **Annexure I**. for sending the same to CPCB. Details of the formats and information required to be provided in the said formats are given below:

- a) **Format A1:** This format is related to number of Hazardous Waste (HW) generating industries; quantity of landfillable, incinerable, recyclable and utilizable hazardous waste generated (both as per authorization and annual returns); quantity of hazardous waste imported and exported in the State/UT. The said information is fragmented into district wise of the State/UT.
- b) **Format A2:** It is related to information pertaining to inter-state movement (within the country) of hazardous waste for incineration, landfilling, recycling, co-processing and utilization (other than co-processing) which would be available from manifest documents received by the SPCB/PCC.
- c) **Format A3:** It is related to district-wise quantity of hazardous waste recycled and utilized (co-processing, other than co-processing and captive utilization (for both hazardous waste generated within state/UT and received from other state).
- d) **Format A4:** It is related to district-wise quantity of hazardous waste disposed in captive and common TSDF (for hazardous waste generated within state/UT and received from other state).
- e) **Format A5:** It is related to district-wise details on quantity of hazardous waste stored at occupiers' premises at at the beginning of the financial year (i.e. 01.04.2017) and at end of financial year i.e. 31st March 2018.
- f) **Format A6:** It is related to district-wise quantity of other wastes recycled and utilized (co-processing and other than co-processing) including import (from other countries) and storage details.

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- g) **Format A7:** It is related to domestic hazardous waste categorized under Solid Waste Management Rules (2016), and Fluorescent and other mercury containing lamps resulting from enforcement of E-Waste Management Rules, 2016, as discussed in section 3.1.4 above.
- h) **Format A8:** It is related to details of waste collector.
- i) **Format B:** It is related to details of recyclers/ utilizers/ co-processors w.r.t. numbers, authorized capacity and quantity of hazardous waste recycled/ utilized/ co-processed.
- j) **Format C:** It is related to details of authorized recyclers/utilizers/pre-processor/co-processors of hazardous and other waste.
- k) **Format D1:** It is related to details of common TSDF pertaining to quantity of hazardous waste received/disposed and its capacity.
- l) **Format D2:** It is related to details of captive TSDF pertaining to quantity of hazardous waste disposed and its capacity.
- m) **Format D3:** It is related to receiving and disposal of domestic hazardous waste and Fluorescent and other mercury containing lamps received and disposed in common Treatment Storage and Disposal Facilities (TSDFs).

Column wise description of above formats is as below:

- (a) **Format A1:** There are 13 columns in this format which provides district wise information on quantity of hazardous waste generation and import & export. Further, SPCBs/PCCs shall provide number of hazardous waste generating units in the State/UT, number of units possessing authorization and number of units which are exempted from obtaining authorization. SPCB/PCC shall provide information w.r.t. district(s) in their state and not as per the regional office(s) of respective SPCBs/PCCs.

Column No. 1: In column no 1 provide district-wise the number of hazardous waste generating units, who have submitted the annual returns. The number of industry shall include the following:

- (i) Hazardous waste generating units
- (ii) Recyclers
- (iii) Utilizers
- (iv) Co-processors
- (v) Pre-processors

Column No. 2: The authorized quantity of landfillable waste (as per authorization by issued by concerned SPCB/PCC) generated by above units shall be provided in this column. The quantity of the same are required to report in Metric Ton per Annum (MTA). No quantity shall be

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reported in numbers or liters. If such type of hazardous waste is available, then the same shall be converted into Metric Ton (MT).

Column No. 3: The authorized quantity of incinerable waste (as per authorization by issued by concerned SPCB/PCC) generated by above units shall be provided in this column. The quantity of the same are required to report in MTA. No quantity shall be reported in numbers or liters. If such type of hazardous waste is available, then the same shall be converted into MT.

Column No. 4: The authorized quantity of recyclable waste (as per authorization by issued by concerned SPCB/PCC) generated by above units shall be provided in this column. The quantity of the same are required to report in MTA. No quantity shall be reported in numbers or liters. If such type of hazardous waste is available, then the same shall be converted into MT.

Column No. 5: The authorized quantity of utilizable waste (as per authorization by issued by concerned SPCB/PCC) generated by above units shall be provided in this column. The quantity of the same are required to report in MTA. No quantity shall be reported in numbers or liters. If such type of hazardous waste is available, then the same shall be converted into MT.

Column No. 6: The quantity of landfillable waste generated (as per annual return submitted by unit in Form 4 of HOWM Rules, 2016) by above units shall be provided in this column. The quantity of the same are required to report in MT. No quantity shall be reported in numbers or liters. If such type of hazardous waste is available, then the same shall be converted into MT.

Column No. 7: The quantity of incinerable waste generated (as per annual return submitted by unit in Form 4 of HOWM Rules, 2016) by above units shall be provided in this column. The quantity of the same are required to report in MT. No quantity shall be reported in numbers or liters. If such type of hazardous waste is available, then the same shall be converted into MT.

Column No. 8: The quantity of recyclable waste generated (as per annual return submitted by unit in Form 4 of HOWM Rules, 2016) by above units shall be provided in this column. The quantity of the same are required to report in MT. No quantity shall be reported in numbers

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or liters. If such type of hazardous waste is available, then the same shall be converted into MT.

Column No. 9: The quantity of utilizable waste generated (as per annual return submitted by unit in Form 4 of HOWM Rules, 2016) by above units shall be provided in this column. The quantities are required to report in MT. No quantity shall be reported in numbers or liters. If such type of hazardous waste is available then the same shall be converted into MT.

Note: *For cross verification of information, total quantity of various categories of hazardous waste generated listed under columns 6,7,8 and 9 be compared with the authorized quantity given under column 2,3,4 and 5. In case, generation is reported more than authorized quantity, note on such exceedance shall be provided along with the annual inventory report.*

Column No. 10: The quantity of hazardous waste imported (MT) from other country for recycling or utilization during the financial year i.e 1st April-30th March shall be provided in this column. The other waste imported shall not be included here which is to be given under Format A6.

Column No. 11: In this column provide the type of hazardous waste imported.

Column No. 12: The quantity of hazardous waste exported (MT) to other country (not to any other states of India) during the financial year i.e 1st April-30th March shall be provided in this column.

Column No. 13: In this column provide the type of hazardous waste exported.

(b) Format A2: There are 04 columns in the said format in which information w.r.t. interstate movement of hazardous waste for recycling, utilization and disposal are to be given.

Column No. 14: In this column provide name of the state(s) from where hazardous waste has been received for disposal in common secured landfill at S. No. 1. Similarly, provide the name of the state(s) from where hazardous waste has been received for incineration in common incinerator, recycling, co-processing and non-captive utilization based on CPCBs SOPs at S. No. 2, 3, 4 and 5 respectively.

Column No. 15: In this column provide the quantity of hazardous waste received for disposal in common secured landfill (MT) at S. No. 1.

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Similarly, provide the quantity of hazardous waste received for incineration in common incinerator, recycling, co-processing and non-captive utilization based on CPCBs SOPs at S. No. 2, 3, 4 and 5 respectively.

Column No. 16: In this column provide name of the state (s) where hazardous waste has been send for disposal in common secured landfill at S. No. 1. Similarly, provide the name of the state(s) where hazardous waste has been send for incineration in common incinerator, recycling, co-processing and non-captive utilization based on CPCBs SOPs at S. No. 2, 3, 4 and 5 respectively.

Column No. 17: In this column provide the quantity of hazardous waste send for disposal in common secured landfill (MT) at S. No. 1. Similarly, provide the quantity of hazardous waste sent for incineration in common incinerator, recycling, co-processing and non-captive utilization based on CPCBs SOPs at S. No. 2, 3, 4 and 5 respectively.

(c) Format A3: information regarding quantity of hazardous waste recycled, co-processed, utilized, which includes both quantity of hazardous waste generated within the state and received from other states, are required to be provided in this Format. There are 10 columns in which district wise information shall be provided.

Column No. 18: The quantity of commonly recyclable hazardous waste (which is generated within the state) as listed under Schedule IV of HOWM Rules, 2016, has been recycled (MT) by authorized recyclers are required to be provided. No other waste category shall be incorporated in this column.

Column No. 19: The imported quantity of commonly recyclable hazardous waste recycled by authorized recyclers (MT) are required to be provided. No other waste category shall be incorporated in this column.

Column No. 20: The quantity of hazardous wastes (which is generated within the state) has been co-processed in cement plant (MT) is required to be provided in this column.

Column No. 21: The imported quantity of hazardous wastes which has been co-processed in cement plant (MT) is required to be provided in this column.

Column No. 22: The quantity of hazardous waste (which is generated within the state) that has been utilized as non-captive utilization (MT) based on CPCBs SOPs are required to be provided in this column.

Column No. 23: The imported quantity of hazardous waste that has been utilized as non-captive utilization (MT) based on CPCB's SOPs are required to be provided in this column.

Column No. 24: The quantity of hazardous waste (which is generated within the state) that has been utilized as captive utilization (MT) for which SOP has not been prepared by CPCB are required to be provided in this column.

Column No. 25: The quantity of commonly recyclable hazardous waste (which is received from other states) listed under Schedule IV of HOWM Rules, 2016 has been recycled by authorized recyclers (MT) are required to be provided in this column. No other waste category shall be incorporated in this column.

Column No. 26: The quantity of hazardous wastes (which is received from other states) has been co-processed in cement plant (MT) is required to be provided in this column.

Column No. 27: The quantity of hazardous wastes (which is received from other states) has been utilized as non-captive utilization (MT) (based on CPCB's SOPs) is required to be provided in this column.

Note: *For cross verification of above information, the total quantity of hazardous waste (of generation within the state, received from other states and imported from other countries as mentioned in column nos. 18 to 27) recycled, pre-processed, co-processed and utilized shall be verified with the quantity reported under column 78 of Format B.*

(d) Format A4: Information w.r.t. the quantity of hazardous waste (MT) (generated within the state or received from other state) disposed through common and captive secured landfills and incinerator are required to be provided in this format. There are 06 columns in this format.

Column No. 28: The quantity of hazardous waste (which is generated within the state) disposed in common secured landfills (MT) shall be provided in this column.

Column No. 29: The quantity of hazardous waste (which is generated within the state) disposed in captive secured landfills (MT) shall be provided in this column.

Column No. 30: The quantity of hazardous waste (which is generated within the state) disposed through common incinerator (MT) shall be provided in this column.

Column No. 31: The quantity of hazardous waste (which is generated within the state) disposed through captive incinerator (MT) shall be provided in this column.

Column No. 32: The quantity of hazardous waste (which is received from other states) for disposal in common secured landfills (MT) shall be provided in this column.

Column No. 33: The quantity of hazardous waste (which is received from other states) for disposal through common incinerator (MT) shall be provided in this column.

Note: A. For cross verification, (i) Total of column no. 28 + 32 shall be equal to Total of column no. 86; (ii) Total of Column no. 30 + 33 = Total Column no. 87; (iii) Total of Column 29 = Total of column no. 114, and; (iii) Total of Column no. 31 = Total of column no. 115.

(e) Format A5: The quantity of hazardous waste stored at occupiers' premises at the beginning of financial year and at the end of financial year shall be reported in this format. There are 08 columns in this format.

Column No. 34: The quantity of landfillable hazardous waste stored at occupier's premises (MT) at the beginning of financial year i.e. on 1st April of the corresponding year shall be reported in this column.

Column No. 35: The quantity of incinerable hazardous waste stored at occupier's premises (MT) at the beginning of financial year i.e. on 1st April of the corresponding year shall be reported in this column.

Column No. 36: The quantity of recyclable hazardous waste stored at occupier's premises (MT) at the beginning of financial year i.e. on 1st April of the corresponding year shall be reported in this column.

Column No. 37: The quantity of utilizable hazardous waste stored at occupier's premises (MT) at the beginning of financial year i.e. on 1st April of the corresponding year shall be reported in this column.

Column No. 38: The quantity of landfillable hazardous waste stored at occupier's premises (MT) at the end of financial year i.e. on 31st March of the corresponding year shall be reported in this column.

Column No. 39: The quantity of incinerable hazardous waste stored at occupier's premises (MT) at the end of financial year i.e. on 31st March of the corresponding year shall be reported in this column.

Column No. 40: The quantity of recyclable hazardous waste stored at occupier's premises (MT) at the end of financial year i.e. on 31st March of the corresponding year shall be reported in this column.

Column No. 41: The quantity of utilizable hazardous waste stored at occupier's premises (MT) at the end of financial year i.e. on 31st March of the corresponding year shall be reported in this column.

Note: *The sum of quantity of landfillable hazardous waste stored at the beginning (total of column no. 34) of the year, generated (total of column 6) and received from other states (total of column no. 15) shall match with the quantity of landfillable hazardous waste disposed (total of column no. 28, 29 and 32), sent to other states (column no. 17), and stored at end of the year (total of column no. 38). Similar approach shall be adopted for incinerable wastes, recyclable and utilizable wastes. Quantity imported and exported shall also be taken into account while cross-checking recyclable/utilizable wastes. In case of mismatch, separate note shall be provided for the same.*

- (f) **Format A6:** In this format management of other wastes i.e. type and quantity of other wastes utilized/recycled/stored by utilizers/recyclers shall be incorporated. Further, SPCB shall provide Number of units authorized for recycling/utilization of other waste, authorized capacity for recycling and utilization of other waste, quantity of other waste imported/exported etc.

Column No. 42: Number of units authorized for recycling/utilization of other wastes specified in Part B of Schedule III of HOWM Rules, 2016, shall be reported in this column.

Column No. 43: Number of units authorized for recycling/utilization of other wastes specified in Part D of Schedule III of HOWM Rules, 2016, shall be reported in this column.

Column No. 44: Authorized capacity for recycling/utilization (MTA) of each of the other waste specified in Part B of Schedule III of HOWM Rules, 2016, shall be reported in this column.

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Column No. 45: Authorized capacity for recycling/utilization of each of the other waste specified in Part D of Schedule III of HOWM Rules, 2016, shall be reported in this column.

Column No. 46: The quantity of other waste imported from other countries (MT) shall be reported in this column.

Column No. 47: The quantity of other waste exported to other countries (MT) shall be reported in this column.

Column No. 48: The imported quantity of other wastes specified under Part B and Part D of Schedule III of HOWM Rules, 2016, recycled/utilized (MT) during the financial year shall be reported in this column.

Column No. 49: The quantity of other wastes (which is domestically generated) recycled/utilized (MT) during the financial year shall be reported in this column.

Column No. 50: The quantity of other waste sent to Common TSDF (MT) for disposal during the financial year shall be reported in this column.

Column No. 51: The quantity of hazardous waste generated during recycling/utilization (MT) of other wastes (if recycler/utilizer is recycling/utilizing only other wastes) shall be reported in this column.

Column No. 52: The quantity of other wastes specified in Part B of Schedule III of HOWM Rules, 2016, stored at occupier's premises (MT) at the beginning of financial year i.e. 1st April, shall be reported in this column.

Column No. 53: The quantity of other wastes (as specified in Part D of Schedule III of HOWM Rules, 2016) stored at occupier's premises (MT) at the end of financial year i.e. 31st March, shall be reported in this column.

Note: *Total of column 48 and 49 shall match with total of column no. 78 corresponding only to other wastes in Format B. In case of mismatch, separate note shall be provided for the same.*

- (g) Format A7 (A):** This format is related to domestic hazardous waste categorized under Solid Waste Management Rules (2016) and as mentioned in the above section 3.1.4.

Column No. 54: Name and address of deposition centers for collecting domestic hazardous waste shall be reported in this column.

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Column No. 55: Authorized capacity of deposition centers (MTA) for collecting domestic hazardous waste shall be reported in this column.

Column No. 56: Quantity of domestic hazardous waste received at deposition centers (MT) shall be reported in this column.

Column No. 57: Quantity of domestic hazardous sent to common TSDf (MT) for disposal during the financial year shall be reported in this column.

Column No. 58: Quantity of domestic hazardous stored at the deposition center's premises (MT) at the beginning of financial year i.e. 1st April shall be reported in this column.

Column No. 59: Quantity of domestic hazardous stored at the deposition center's premises (MT) at the end of financial year i.e. 31st March shall be reported in this column.

Note: *The total of column no. 57 shall match with total of column no. 119 of Format D3. In case of mismatch, separate note shall be provided for the same.*

(h) Format A7 (B): This format is related to Fluorescent and other mercury containing lamps resulting from enforcement of E-Waste Management Rules, 2016 and details as given under the section 3.1.4 above.

Column No. 60: Name and address of collection centers for collecting Fluorescent and other mercury containing lamps shall be reported in this column.

Column No. 61: Authorized capacity of collection centers (MTA) for collecting Fluorescent and other mercury containing lamps shall be reported in this column.

Column No. 62: Quantity of waste received at collection centers (MT) shall be reported in this column.

Column No. 63: Quantity of waste sent to common TSDf (MT) for disposal during the financial year shall be reported in this column.

Column No. 64: Quantity of Fluorescent and other mercury containing lamps stored at the collection center's premises (MT) at the beginning of financial year i.e. 1st April shall be reported in this column.

Column No. 65: Quantity of Fluorescent and other mercury containing lamps stored at the collection center's (MT) premises at the end of financial year i.e. 31st March shall be reported in this column.

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Note: The total of column no. 63 shall match with total of column no. 121 of Format D3. In case of mismatch, separate note shall be provided for the same.

- (i) **Format A8:** It is related to details of waste collector, quantity of hazardous and other waste received, sent to TSDF and stored

Column No. 66: Name and address of waste collector who involved in collection of hazardous and other waste shall be reported in this column.

Column No. 67: Authorized capacity of collection centers (MTA) for collecting hazardous and other shall be reported in this column.

Column No. 68: Quantity of hazardous waste received at collection centers (MT) during the financial year shall be reported in this column.

Column No. 69: Quantity of other waste received at collection centers during the financial year shall be reported in this column.

Column No. 70: Quantity of hazardous waste sent to TSDF (MT) during the financial year shall be reported in this column.

Column No. 71: Quantity of other waste sent to TSDF (MT) during the financial year shall be reported in this column.

Column No. 72: Quantity of hazardous waste stored at the collection center's premises (MT) at the beginning of financial year i.e. 1st April shall be reported in this column.

Column No. 73: Quantity of other waste stored at the collection center's premises (MT) at the beginning of financial year i.e. 1st April shall be reported in this column.

Column No. 74: Quantity of hazardous waste stored at the collection center's premises (MT) at the end of financial year i.e. 31st March shall be reported in this column.

Column No. 75: Quantity of other waste stored at the collection center's premises (MT) at the end of financial year i.e. 31st March shall be reported in this column.

- (j) **Format B:** It pertains to details on number of authorized recycler/ utilizers/pre-processor/ co-processors, their authorized capacities and quantity of hazardous and other waste recycled/ utilized /pre-processed/co-processed. This format contains five parts i.e. Part A, Part B, Part C, Part D and Part E. In said formats, SPCBs/PCCs may provide information regarding recyclable hazardous waste (listed under Schedule IV of HOWM Rules, 2016) in Part A, information regarding

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non-captive utilization of hazardous and other wastes (based on CPCB's SoPs) in Part B, information regarding captive utilization of hazardous and other waste (for which SoP has not been prepared CPCB) in Part C, information regarding pre-processing of hazardous and other wastes in Part D and co-processing of hazardous and other waste in cement plant in Part E.

- ❖ **Part A:** Details on the commonly recyclable hazardous waste (listed under Schedule-IV of HOWM Rule, 2016, i.e. brass dross, zinc bearing waste, used oil, waste oil etc.) recycled in the state shall be provided under this part as below:
 - **Column 76:** number of facilities authorized for recycling of each of the HW.
 - **Column 77:** total authorized capacity (in MTA) for each hazardous waste.
 - **Column 78:** total quantity of each of the hazardous waste recycled (MT) by the units in the financial year.

- ❖ **Part B:** In this part, details on utilization of hazardous and other waste (based on CPCB's SoPs) shall be provided as below:
 - **Column 76:** number of facilities authorized for utilization of each hazardous and other waste.
 - **Column 77:** total authorized capacity (in MTA) for each hazardous and other waste.
 - **Column 78:** total quantity of each hazardous and other waste utilized (MT) by the units during the financial year.

- ❖ **Part C:** in this SPCB/PCC have to provide details on captive utilization (for which SoP has not been prepared CPCB) of each hazardous and other waste as mentioned below:
 - **Column 76:** number of facilities authorized for utilization of each hazardous and other waste.
 - **Column 77:** total authorized capacity (in MTA) for each hazardous and other waste.
 - **Column 78:** total quantity of each hazardous and other waste utilized (in MT) by the units during the financial year.

- ❖ **Part D:** in this SPCB/PCC have to provide details on pre-processing of hazardous waste as mentioned below:
 - **Column 76:** number of facilities authorized for pre-processing of each hazardous and other waste.
 - **Column 77:** total authorized capacity (in MTA) for each hazardous and other waste.
 - **Column 78:** total quantity of each hazardous and other waste pre-processed (in MT) by the units during the financial year.

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- ❖ **Part E:** in this SPCB/PCC have to provide details on co-processing of hazardous and other waste as mentioned below:
 - **Column 76:** number of facilities authorized for co-processing of each hazardous and other waste.
 - **Column 77:** total authorized capacity (in MTA) for each hazardous and other waste.
 - **Column 78:** total quantity of each hazardous and other waste co-processed (in MT) by the units during the financial year.

SPCB/PCC shall provide individual information in column 76 to 78 for each hazardous and other waste recycled/ utilized/ pre-processed/co-processed.

In order to maintain uniformity in reporting of quantity of hazardous waste generation in MT, used oil/waste oil quantity (which generally are reported in term of KL) shall be reported in metric ton. In cases, where it is difficult to report the same in metric tons, the KL may be converted into metric ton by multiplying with 01 (assuming specific gravity of used oil and waste oil equivalent to 01). Further, for conversion of numbers of empty barrels/ containers contaminated with hazardous chemicals/wastes (which are also reported in term of numbers) in term of MT, multiplication factor of 0.10005¹ with nos. of such empty barrels/ containers.

(k) Format C: The format pertains to list of the authorized recycler/utilizers/pre-processor/co-processors and their authorized capacity and quantity of hazardous and other waste recycled/ utilized/pre-processed/co-processed. This format contains five parts Part A, Part B, Part C, Part D and Part E. In said formats, SPCBs/PCCs shall provide list of hazardous waste recyclers in Part A, list of non-captive utilizer of hazardous and other waste (based on CPCB's SoPs) in Part B, list of captive utilizer of hazardous and other waste (for which SoPs has not been prepared by CPCB) in Part C, list of pre-processor of hazardous and other waste in Part D and list of co-processor (for utilization in cement plant) of hazardous and other waste in Part E.

- ❖ **Part A:** In this section, list of hazardous waste recycler's as explained below shall be provided:
 - **Column 79:** name and address of the facility involved in recycling of hazardous waste.
 - **Column 80:** type/ category of each of the hazardous waste authorized for recycling.

¹ The said factor has been estimated assuming maximum and minimum weight of empty barrels as 200kg and 0.1kg and taking average of them followed by applying factor for conversion of kg into Metric Tonnes. The same comes out to be 0.10005.

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- **Column 81:** quantity of each of the hazardous waste authorized (in MTA) for recycling.
- **Column 82:** quantity of each of the hazardous waste recycled [MT] by the unit in the financial year.

- ❖ **Part B:** In this part, list of hazardous and other waste utilizers under non-captive utilization of hazardous and other waste (based on CPCB's SoPs) as explained below shall be provided:
 - **Column 79:** name and address of the facility involved in utilization of hazardous and other waste
 - **Column 80:** type/ category of each of the hazardous and other waste authorized for utilization
 - **Column 81:** quantity of each of the hazardous and other waste authorized (in MTA) for utilization.
 - **Column 82:** quantity of each of the hazardous and other waste utilized [MT] by the units in the financial year.

- ❖ **Part C:** List of hazardous and other waste utilizers (under Captive utilization of hazardous and other wastes for which SOP has not been prepared by CPCB) as explained below shall be provided:
 - **Column 79:** name and address of the facility involved in utilization of hazardous and other waste
 - **Column 80:** type/ category of each of the hazardous and other waste authorized for utilization
 - **Column 81:** quantity of each of the hazardous and other waste authorized (in MTA) for utilization
 - **Column 82:** quantity of each of the hazardous and other waste utilized [MT] by the units in the financial year.

- ❖ **Part D:** List of hazardous and other waste pre-processors as explained below shall be provided:
 - **Column 79:** name and address of the facility involved in pre-processing of hazardous and other waste
 - **Column 80:** type/ category of each hazardous and other waste authorized for pre-processing
 - **Column 81:** quantity of each hazardous and other waste authorized (in MTA) for pre-processing.
 - **Column 82:** quantity of each hazardous and other waste pre-processed (in MT) by the units in the financial year.

- ❖ **Part E:** List of hazardous and other waste co-processors as explained below shall be provided:
 - **Column 79:** name and address of the facility involved in co-processing of hazardous and other waste
 - **Column 80:** type/ category of each hazardous and other waste authorized for co-processing

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- **Column 81:** quantity of each hazardous and other waste authorized (in MTA) for co-processing.
- **Column 82:** quantity of each hazardous and other waste co-processed (in MT) by the units in the financial year.

SPCB/PCC shall provide individual information in column 80 to 82 for each of the occupier mentioned in column 79.

Note: SPCB/PCC shall verify that the total number of facilities authorized for recycling for each of the HW, its authorized capacity and quantity of each of the hazardous waste recycled provided in Format C should match with respective information provided in Format B. Similarly, SPCB/PCC should also verify that the information regarding utilizable, pre-processable and co-processable hazardous and other waste provided in Format B also match with Format C.

- (1) **Format D1-A:** This format pertains to details on the quantity of hazardous waste disposed in common Treatment Storage and Disposal Facilities (TSDFs). In said format, SPCB/PCC shall provide details of common TSDFs situated in the State/UT. Details of each TSDF needs to provide in this format, as below:

Column 83: Name and address of each of the TSDF situated in the state/UT.

Column 84: quantity of landfillable hazardous waste stored (in MT) at TSDF's premises at the beginning of financial year (i.e. 01st April).

Column 85: quantity of incinerable hazardous waste stored (in MT) at TSDF's premises at the beginning of the financial year (i.e. 01st April).

Column 86: quantity of landfillable hazardous waste received (in MT) at TSDF (Including wastes received from other State/UT) for disposal in secured landfill during the financial year.

Column 87: quantity of incinerable hazardous waste received (in MT) at TSDF (Including wastes received from other State/UT) for disposal through incinerator during the financial year.

Column 88: quantity of landfillable hazardous waste disposed in secured landfilled during the financial year.

Column 89: quantity of incinerable hazardous waste disposed through incineration during the financial year.

Column 90: quantity of landfillable hazardous waste stored at TSDF's premises at the end of financial year (i.e. 31st March).

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Column 91: quantity of incinerable hazardous waste stored at TSDF's premises at the end of the financial year (i.e. 31st March).

Column 92: Cumulative quantity (i.e. quantity of hazardous waste disposed since the commissioning of SLF to till the end of the financial year for which hazardous waste inventory is going to prepare) of landfillable hazardous waste disposed in SLFs by the end of financial year (MT).

Column 93: Cumulative quantity (i.e. quantity of hazardous waste disposed since the commissioning of incinerator to till the end of the financial year for which hazardous waste inventory is going to prepare) of incinerable hazardous waste disposed through incinerator by the end of financial year (MT).

Column 94: capacity of incinerator [T/Hr]

Column 95: capacity of incinerator [Kcal]

Column 96: capacity of secured landfill [in MT/A].

SPCB/PCC shall provide individual information in column 84 to 96 for each of the TSDF mentioned in column 83.

Note: SPCB/PCC should verify that the quantity of landfillable hazardous waste in stock at the beginning of year [column 84] and quantity of landfillable hazardous waste received from generator (Including wastes received from other State/UT) for disposal in common TSDF [columns 86] shall be equal to quantity of hazardous waste disposed in SLF [columns 88] and quantity of landfillable hazardous waste in stock at the end of year [column 90]. Similarly, SPCB/PCC should also match such entries for incinerable hazardous waste.

(m) Format D1-B: This format pertains to details on the quantity of other waste disposed in common Treatment Storage and Disposal Facilities (TSDFs). In said format, SPCB/PCC shall provide details of common TSDFs situated in the State/UT. Details of each of the TSDF need to provide in this format, as below:

Column 97: Name and address of each of the TSDF situated in the state/UT.

Column 98: quantity of landfillable other waste stored (in MT) in TSDF for disposing through secured landfill at the beginning of the financial year (i.e. 01st April).

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Column 99: quantity of incinerable other waste stored (in MT) in TSDF for disposing through incineration at the beginning of the financial year (i.e. 01st April).

Column 100: quantity of other waste received (in MT) by TSDF (Including wastes received from other State/UT) from generating unit for disposal through landfill during the financial year.

Column 101: quantity of other waste received (in MT) by TSDF (Including wastes received from other State/UT) from generating unit for disposal through incinerator during the financial year.

Column 102: quantity of other waste disposed in landfill during the financial year.

Column 103: quantity of other waste disposed through incineration during the financial year.

Column 104: quantity of other waste stored for landfill at TSDF at the end of financial year (i.e. 31st March).

Column 105: quantity of incinerable other waste stored at TSDF at the end of the financial year (i.e. 31st March).

Column 106: Cumulative quantity (i.e. quantity of other waste disposed since the commissioning of SLF till the end of the financial year for which hazardous waste inventory is going to prepare) of other waste disposed in SLFs by the end of financial year (MT).

Column 107: Cumulative quantity (i.e. quantity of other waste disposed since the commissioning of incinerator till the end of the financial year for which hazardous waste inventory is going to prepare) of other waste disposed through incinerator by the end of financial year (MT).

Column 108: capacity of incinerator [T/Hr]

Column 109: capacity of secured landfill [in MT/A].

SPCB/PCC shall provide individual information in column 98 to 109 for each of the TSDF mentioned in column 97.

Note: SPCB/PCC should verify that the quantity of landfillable hazardous waste in stock at the beginning of year [column 98] and quantity of landfillable hazardous waste received from generator (Including wastes received from other State/UT) for disposal in common TSDF [columns 100] shall be equal to quantity of hazardous waste disposed in SLF [columns 102] and quantity of landfillable hazardous waste in stock at the end of

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year [column 104]. Similarly, SPCB/PCC should also match such entries for incinerable hazardous waste.

- (n) Format D2:** The format D2 pertains to details on the quantity of hazardous waste disposed in captive Treatment Storage and Disposal Facilities (TSDFs). In this format SPCB/PCC shall provide details of each of the captive TSDFs situated in the State/UT as below:

Column 110: District wise name and address of each of the captive TSDF situated in the state/UT.

Column 111: Type of facility installed by the unit (i.e. secured landfilling or Incineration or both)

Column 112: capacity of incinerator (T/Hr)

Column 113: capacity of SLF (in MT/A)

Column 114: total quantity of hazardous waste disposed in secured landfill during the financial year.

Column 115: total quantity of hazardous waste disposed through incinerator during the financial year.

Column 116: Cumulative quantity (i.e. quantity of hazardous waste disposed since the commissioning of secured landfill till the end of the financial year for which hazardous waste inventory is going to prepare) of hazardous waste disposed in secured landfill by the end of financial year (MT).

Column 117: Cumulative quantity (i.e. quantity of hazardous waste disposed since the commissioning of incinerator till the end of the financial year for which hazardous waste inventory is going to prepare) of hazardous waste disposed through incinerator by the end of financial year (MT).

SPCB/PCC shall provide individual information in column 111 to 117 for each of the TSDF mentioned in column 110.

- (o) Format D3:** Format D3 pertains to disposal details of details of domestic hazardous waste and Fluorescent and other mercury containing lamps (as mentioned under section 3.1.4 above) in common TSDFs as below:

Column 118: name and address of the common TSDF (who received/disposed involved in disposal of above waste.

Column 119: quantity of domestic hazardous waste received [MT] at the said common TSDF

Column 120: name and address of deposition center from where such waste received

Column 121: quantity of Fluorescent and other mercury containing lamps received [MT] at TSDF

Column 122: name and address of collection centre from where such waste received

Column 123: quantity of domestic hazardous waste disposed [MT] during the financial year

Column 124: quantity of Fluorescent and other mercury containing lamps disposed [MT] during the financial year

Column 125: quantity of domestic hazardous waste stored at the beginning of the financial year i.e. 1st April.

Column 126: quantity of domestic hazardous waste stored at the end of the financial year i.e. 31st March.

Column 127: quantity of Fluorescent and other mercury containing lamps stored at the beginning of the financial year i.e. 1st April.

Column 128: quantity of Fluorescent and other mercury containing lamps stored at the end of the financial year i.e. 31st March.

3.4 Methodology for estimation of hazardous waste generation

In order to verify the process-specific waste generation, the data provided by the occupiers shall be verified by conducting in-depth study of one or more selected industrial units in each industrial sector. The study may cover the following:

- i) Estimation of Waste Generation Range (WGR): The waste generation factor depends on size of operation, waste management practices and process technology adopted.

The same may be derived taking into account the following

- ✓ Understanding chemical reactions, physical reactions, separations, losses etc. involved in each of the intermediate processes
- ✓ Identification of wastes/intermediate products/by-products/products from each of the intermediate process
- ✓ Quantification of the above wastes/intermediate products/by-products/products adopting mass balance of each of the intermediate processes;

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Based on the above in-depth study, the WGR may be arrive as waste generation per tonne of product manufactured.

ii) Sludge Estimation: SPCB's may collect the liquid effluent containing toxic constituents and test the sample in their laboratory for estimating sludge generation by;

- ✓ Settleability test,
- ✓ Measurement of sludge volume index,
- ✓ Jar test

Based on the above, sludge generation per tonne of product can be estimated.

iii) Field verification of WGR: Field verification of WGR may be carried out by weighing actually generated vis-à-vis WGR. In case of variations, necessary examinations shall be carried out and WGR may be established accordingly.

Establishing WGR may be helpful in cross checking the information provided by the industries of relevant sector and enforcement of the HOWM Rules, 2016. SPCBs/PCCs may initially select WGR of sectors which are dominant and cover major hazardous or other wastes generating/recycling units in the State/UT followed by covering the other sectors thereafter. It shall be endeavor of all SPCBs/PCCs to generate WGR for all occupiers existing in the State/UT and a policy shall be developed in this regard with time frame of completion the same depending on capacity of the SPCB/PCC.

3.5 Criteria for selection of Industries for Random Verification and confirmation of the hazardous and other waste generation and management system

1. In case, number of occupiers of hazardous or other waste handling/generating industries in the state are more than 50 Nos., then it is advisable to cross verify the annual reports of atleast 10 % of such occupiers in the respective State / UTs. For the cross verification, information pertaining to raw material consumption, production process, products manufactured, wastes generation, manifests documents, etc. shall be studied and verified to those declared in annual returns by the units. WGR developed by the SPCB/PCC would be very helpful in this regard.

In case of deviations in findings during such cross verifications to that of annual return submitted by the unit, necessary actions against the

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unit shall be initiated by the SPCB/PCC and necessary information in annual report of the State/UT shall accordingly be modified prior to sending the same to CPCB.

2. If occupiers of hazardous or other waste in the State/UT are < 50 No, then cross verification may be carried out in at least 50% of such occupiers of the State/UT.
3. Selection for cross verification should be in such a manner that the units identified for the purpose covers sectors contributing to major hazardous or other waste generation or handling. Further, it may also include recyclers; utilisers; pre-processor; co-processors; collection facilities and disposal facilities covering large, medium and small-scale industries.

It is advisable that each scientific and technical officer of the SPCB/PCC may carry out such cross verification at least for 01 unit in a year.

3.6 Period of reporting

Period of reporting of various information in the inventory shall be 01st April to 31st March of the corresponding year for which the inventory is reported. For instance, if it is for 2018-2019, the information shall be provided for 01st April 2018 to 31st March 2019.

SPCBs/PCCs shall ensure that all occupiers in their State/UT submit their annual inventory to the SPCB/PCC within 30th June of every year and SPCBs/PCCs shall send their State/UT's compiled inventory in the prescribed format to CPCB by 30th September every year, as stipulated under the HOWM Rules, 2016. In cases where occupiers do not send their annual report to the SPCB/PCC, necessary actions shall be initiated against such defaulting occupiers by the SPCB/PCC.

3.7 Tools for preparing annual report of State/UT

For preparations of inventory of the State/UT, information from the following three documents would be required:

- (i) Authorizations issued by the SPCB/PCC;
- (ii) Annual Returns received from the occupiers, and

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- (iii) Manifest documents (Form 10) received by SPCB/PCC from senders/receivers pertaining to movement of hazardous or other wastes

Compilation and reconciliation of information from the above documents would help in filling required information in the various prescribed formats A to D mentioned under section 3.3 carrying out the same manually by SPCBs/PCCs may be cumbersome tasks. Technology intervention is, therefore, advised with development of necessary software by SPCBs/PCCs in preparing their annual inventory especially in States/UTs where large number of occupiers exists.

Central Pollution Control Board is in the process of developing software on tracking of hazardous waste system which when implemented would auto generate the annual inventory of States/UTs based on the above documents and date-wise records generated by occupiers.

However, till the said tracking software system is developed and implemented, SPCBs/PCCs may devise its own mechanism in preparing their annual inventory with suitable technology interventions ensuring that their State/UT's annual inventory is submitted to CPCB within the stipulated viz. 30th September of every year.

Format-A2 : Details on Inter-state Movement of Hazardous Waste for recycling/utilisation/disposal

S. No.	Hazardous Waste	Hazardous Waste received from other State/UT		Hazardous Waste sent to other State/UT	
		Name of State/UT from which waste received	Quantity received (MT)	Name of State/UT where waste sent	Quantity sent (MT)
		14	15	16	17
1	For disposal at common secured landfill				
2	For disposal at common Incinerator				
3	For recycling by Schedule IV recyclers				
4	For utilization in co-processing (cement plants)				
5	For utilization under Rule 9 (other than co-processing)				

A3 Details on Hazardous Waste Recycled and Utilized

S.No.	Name of the District	Recycling/Utilization of hazardous waste (generated within the State/UT)							Recycling/Utilization of hazardous waste (received from other State/UT)		
		Quantity of waste Recycled (listed under Schedule-IV Hazardous Wastes) (MT)		Quantity Utilized (MT)					Quantity of waste Recycled (listed under Schedule-IV Hazardous Wastes) (MT)	Quantity Utilized (MT)	
				Co-processing in Cement plant		Non-captive utilization based on CPCBs SOPs		Captive utilization of hazardous and other wastes for which SOP has not been prepared by CPCB		Co-processing in Cement plant	Non-captive utilization based on CPCBs SOPs
		Generated within state	Imported	Generated within state	Imported	Generated within state	Imported				
		18	19	20	21	22	23	24	25	26	27
Total											

A4 Details on Hazardous Waste Disposed

S. No.	Name of the District	Disposal of hazardous waste (generated within the State/UT)				Disposal of hazardous waste (received from other State/UT)	
		Quantity Disposed in Secured Landfill (MT)		Quantity Disposed through Incinerator (MT)		Quantity Disposed in common (MT)	
		Common	Captive	Common	Captive	SLF	Incinerator
		28	29	30	31	32	33
Total							

A7-A Details of Domestic Hazardous Wastes* Resulting from Enforcement of Other Regulation

S. No.	Name of the District	Name and Address of deposition centres authorized for collection	Authorized capacity (MT)	Quantity of domestic HW received at deposition centres during the year April-March (MT)	Quantity of domestic HW sent to common TSDF during the year April-March (MT)	Quantity of hazardous waste stored at deposition centres (MT)	
						at the beginning of the financial year i.e. 1 st April	at the end of financial year i.e. 31 st March
						54	55
Total							

*Please refer section 3.1.4 of the guidelines for preparation of inventory on hazardous waste management

A7-B Details of Fluorescent and Other Mercury containing lamps* resulting from Enforcement of Other Regulation

S. No.	Name of the District	Name and Address of collection centres authorized for collection	Authorized capacity (MT)	Quantity of waste received at collection centres during the year April-March (MT)	Quantity of waste sent to common TSDF during the year April-March (MT)	Quantity of hazardous waste stored at collection centres (MT)	
						at Occupier premises at the beginning of the financial year i.e. 1 st April	at Occupier premises at the end of financial year i.e. 31 st March
						60	61
Total							

*Please refer section 3.1.4 of the guidelines for preparation of inventory on hazardous waste management

B Annual Inventory on Recycling / Utilization/Pre-processing/Co-Processing of Hazardous and Other Waste

Name of SPCB/PCC: _____

Year: _____

S. No	Type of Recycling Facilities	No of Facilities authorized for recycling / utilization / Pre-processing/ Co-processing of HW (MT)	Total Authorized Capacity (MTA)	Quantity Recycled/ Utilized/ Pre-processed/ Co-processed (MT) during the year
		76	77	78
A Commonly Recyclable HW				
1	Brass Dross			
2	Zinc Bearing Wastes			
3	Copper Bearing Waste			
4	Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt			
5	Lead bearing waste including battery waste			
6	E-Waste			
7	Paint and ink Sludge/ residues			
8	Used oil			
9	Waste Oil			
	Add row for recycling of hazardous waste (listed under schedule IV) apart from above and provide relevant details required under the respective columns			
	Total			
B Non-captive utilization based on CPCBs SOPs				
1	Recovery of solvents from spent solvents			
2	Utilization of APCD Dust / Residue generated from LD Furnace/EAF/Blast Furnace for producing cold briquettes for use in Blast Furnace for production of Pig Iron			
3	Utilization of Spent Catalyst - to recover - Platinum, Iridium, Osmium, Palladium, Rhodium, Ruthium, Rhenium, Gold & Silver			
4	Utilization of Spent H ₂ SO ₄ generated form Pickling operations for manufacturing Ferrous Sulphate			
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns			
	Total			
C Captive utilization of hazardous and other wastes for which SOP has not been prepared by CPCB				
1				
2				
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns			
	Total			
D Pre-processing of hazardous and other waste				
1				
2				
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns			
	Total			
E Co-processing in Cement Plants				
1				
2				
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns			
	Total			

C List of Authorized Recyclers / Utilizers /Pre-processors/ Co-processors of Hazardous Waste

Name of SPCB/PCC: _____

Year: _____

S. No	Name and Address of the Facility	Type of Hazardous Waste authorised for recycling	Authorized Recycling / Utilization / Co-Processing Capacity (MTA)	Quantity Recycled/ Utilized/ Co-processed (MT)
	79	80	81	82
A	List of Authorized Recyclers of hazardous waste			
1				
2				
	Total			
B	List of Authorized Utilizers (under Rule 9) of hazardous and other wastes			
1				
2				
	Total			
C	List of Authorized Utilizers (under captive utilization) of hazardous and other wastes			
1				
2				
	Total			
D	List of Authorized Pre-processors of hazardous and other wastes			
1				
2				
	Total			
E	List of Authorized Co-processors of hazardous and other wastes			
1				
2				
	Total			

**D1-
A** Details on disposal of Hazardous Waste in Common TSDF(s)

Name of SPCB/PCC: _____

Year: _____

S. No	Name and Address of the TSDF	Quantity in Stock at the beginning of the year (MT)		*Quantity of Hazardous Waste Received (MT)		Quantity of Hazardous Waste Disposed (MT)		Quantity in Stock at the end of the year (MT)		Cumulative HW disposed by the end of financial year (MT)		Capacity			
		Landfillable	Incinerable	For landfill	For Incineration	For landfill	Quantity Incinerated	Landfillable	Incinerable	SLF	Incinerator	Incinerator (T/H)	Incinerator (Kcal)	Landfill (MT/A)	
		83	84	85	86	87	88	89	90	91	92	93	94	95	96

* Including wastes received from other State/UT

D1-B Details on disposal of Other Waste in Common TSDF(s)

Name of SPCB/PCC: _____

Year: _____

S. No	Name and Address of the TSDF	Quantity in Stock at the beginning of the year (MT)		*Quantity of Other Waste Received (MT)		Quantity of Other Waste Disposed (MT)		Quantity in Stock at the end of the year (MT)		Cumulative other waste disposed by the end of financial year (MT)		Capacity	
		Landfillable	Incinerable	For landfill	For Incineration	Quantity Landfilled directly	Quantity Incinerated	Landfillable	Incinerable	SLF	Incinerator	Incinerator (T/H)	Landfill (MT/A)
	97	98	99	100	101	102	103	104	105	106	107	108	109

* Including wastes received from other State/UT

D2 Details on Captive TSDF (s)

Name of SPCB/PCC: _____

Year: _____

S. No.	Name and Address of Captive facility	Type of facility (landfillable/ Incinerable/ both)	Capacity		HW disposed during the year (MT)		Cumulative HW disposed till the end of financial year (MT)	
			Incinerator (MT/H)	Landfill (MT/A)	SLF	Incinerator	SLF	Incinerator
	110	111	112	113	114	115	116	117
Total								

