

**Minutes of the meeting to review SPCBs/PCCs' compliance status of recommendations of the interim report of the Monitoring Committee constituted in compliance with orders dated 30/07/2018 of the Hon'ble National Green Tribunal, Principal Bench, New Delhi, in the matter of OA No. 804/2017 and M. A. No. 1302/2018**

1. A Meeting with representatives of SPCBs/PCCs was held on April 2, 2019, at CPCB, Delhi, to review compliance status of recommendations of the interim report of the Monitoring Committee constituted in compliance with orders dated 30/07/2018 of the Hon'ble National Green Tribunal, Principal Bench, New Delhi, in the matter of OA No. 804/2017 and M. A. No. 1302/2018. List of participants is given at **Annexure-I**.
2. Sh. A. Sudhakar, Additional Director, CPCB, and officiating Member Secretary, CPCB, welcomed representatives of SPCBs/PCCs and informed that there are 52 recommendations/action points in the interim report for various stakeholder (i.e. SPCBs/PCCs/CPCB/MoEF&CC/State Govt./Custom Dept/Operator of common TSDF), of which 32 pertains to SPCBs/PCCs. Of these 32 recommendations, 13 points require immediate compliance by SPCBs/PCCs. The interim report has been circulated to all SPCBs/PCCs by CPCB vide letter dated 08/03/2018 for initiating actions on the same and sending action taken report to CPCB by 31/03/2018. He emphasized that the action taken report so far submitted by SPCBs/PCCs does not reflect action plan and time target in achieving the said recommendations. Thus, SPCBs/PCCs are required to have the same for effective implementation of the said recommendations for which some compliance indicators may be adopted.
3. Shri Bharat K Sharma, Nodal Officer and Member Convener of the Monitoring Committee made a brief presentation on recommendations of the Monitoring Committee's interim report. He informed that action taken report has been received from only 12 SPCBs/PCC (namely Andhra Pradesh; Chandigarh; Gujarat; Karnataka; Kerala; MP; Maharashtra; Mizoram; Puducherry; Punjab; Rajasthan, and; West Bengal) and the remaining SPCBs/PCCs shall send the same on priority basis. However, the received action taken reports indicate only affirmativeness and do not have action plan with time target for achieving recommendations of the said report.

He thereafter proposed format for key compliance indicators (given at **Annexure –II**) for SPCBs/PCCs for simplified monitoring of implementation of the said 32 action points of the said recommendations. Details of the same were presented and discussed.

4. Shri B. Vinod Babu, Addl. Director & Nodal Officer, Waste Management Division, briefed about status of assessment and remediation of contaminated sites in India.

He informed that based on the study on "Inventory & mapping of probable contaminated sites", undertaken by MoEF&CC, during 2012-16 and additional information of sites provided by SPCB, 329 probable contaminated sites were identified. The said list of





contaminated sites has been review/verified by SPCBs/PCCs as on March, 2019 and the revised status is:

- 146 reported as confirmed contaminated sites which includes the sites where detailed investigation carried out/ DPRs prepared and undertaken remediation works,
- 44 sites yet to investigate from five States (namely; Delhi, Odisha, Rajasthan, Uttarakhand and West Bengal), and
- 139 sites have been reported as no contamination.

The action points (given at **Annexure –III**) were also discussed during the meeting.

5. Ms. Deepti Kapil, Scientist D, WM-II Division, presented status of compliance of directions dated 30/01/2019 issued by CPCB under section 5 of Environment (Protection) Act, 1986, to all SPCBs/PCCs w.r.t. spent solvent recovery units (based on the recommendations of the Monitoring Committee in its interim report to deal with urgent issues). She informed that there is poor response from SPCBs/PCCs about informing compliance status of the said directions referring that only 08 SPCBs/PCC i.e Meghalaya, Chandigarh, Himachal Pradesh, Andhra Pradesh, Gujarat, Telangana, Maharashtra and West Bengal SPCB have submitted the compliance report so far. She also explained that compliance reports submitted by SPCBs/PCCs does not include nos. of spent solvent recovery units and authorization granted to them, nos. of spent solvent recovery units which have been verified about compliance of CPCB's SOP, nos. of units who found to be non-compliant w.r.t. manifest document and actions taken thereof, updation of spent solvent recovery units in website of SPCB/PCC, etc. except by Meghalaya and Chandigarh who informed that there is no spent solvent recovery units. She, therefore, proposed a format (given at **Annexure –IV**) for submitting information by SPCBs/PCCs so as to maintain uniformity in reporting.
6. Thereafter, she referred that 06 SPCBs/PCCs (namely Andaman & Nicobar, Arunachal Pradesh, Haryana, Lakshadweep, Manipur and Daman, Diu & Dadra & Nagar Haveli (DDNH)) have not yet submitted annual inventory of hazardous waste generation and its management for the year 2017-18 despite show-cause notices and several follow ups thereafter. She made brief presentation on the inventory submitted by 29 SPCBs/PCCs which have gaps/shortcomings in terms of mismatch in hazardous waste generation vis-à-vis stored, disposed, recycled, utilized, etc., quantity transported to other States/ UTs for recycling/utilization/disposal, etc. Such gaps have already been examined by CPCB in respect of 26 States/UTs and sent to respective SPCBs/PCCs for examination and sending comments/updated inventory which shall also be sent to CPCB on priority since stipulated time limit of December 2018 for preparation of country's inventory has already been lapsed.
7. In order to develop protocol/guidelines for SPCBs/PCCs on preparation of Hazardous Waste Inventory for 2018-19 onwards as recommended in the interim report of the

Monitoring Committee, salient points (given at **Annexure –V**) for incorporation in the said protocol/guidelines were presented and discussed by Ms. Deepti Kapil, Sc D.

8. After detailed discussions, following decisions were taken:

- (i) All SPCBs/PCCs shall submit action taken report immediately to CPCB on all 32 action points of the said interim report of Monitoring Committee pertaining to SPCBs/PCCs along with action plan and time target;
- (ii) The aforesaid (a) format for SPCB/PCCS's compliance indicator on enforcement of recommendations of the Monitoring Committee, and; (b) salient points of protocol/guidelines for SPCBs/PCCs on preparation of Hazardous Waste Inventory for 2018-19 onwards; be sent to all SPCBs/PCCs for suggesting changes, if any, on the same. The same be sent to CPCB by 10/4/2019. In case no comment is received within the said period, CPCB may finalize the said format and protocol/guidelines;
- (iii) With regard to action points outlined in **Annexure –III**, it is to ensure that respective agencies shall submit status report on action initiated within a month i.e by 03/05/2019.
- (iv) All SPCBs/PCCs (except SPCB/PCC of Meghalaya and Chandigarh who informed that there is no spent solvent recovery unit in their State/UT) shall send compliance status of directions dated 30/01/2019 issued by CPCB under section 5 of Environment (Protection) Act, 1986 w.r.t. Monitoring Committee's recommendation pertaining to spent solvent recovery units. The said compliance status be sent immediately as per the format given at **Annexure –IV**.
- (v) 06 SPCBs/PCCs (namely Andaman & Nicobar, Arunachal Pradesh, Haryana, Lakshadweep, Manipur and Daman, Diu & Dadra & Nagar Haveli (DDNH), who have not sent their annual inventory on hazardous waste management, shall send the same immediately.
- (vi) Further, 17 SPCBs/PCCs (whose annual inventory for 2017-18 have been examined and comments/clarification with updated inventory have been sought by CPCB) shall send the updated inventory by 15/04/2019.
- (vii) Representative of most of the SPCBs/PCCs expressed that compliance of recommendation of the said 32 action points require increased level of monitoring, validation and inspections by them and, therefore, requires additional manpower in SPCB/PCC. It was decided that issue of additional manpower may be taken up by them with appropriate authority.

Meeting ended with vote of thanks.

\*\*\*\*





## Attendance Sheet

Follow-up action in the matter of Original Application Number 804/2017 and  
M.A. No. 1302/2018 (i.e W.P. (C) No. 657/1995)-regarding.

Date: 02, April, 2019

Venue: 2<sup>nd</sup> Floor, CPCB









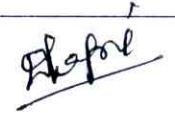


Time: Onwards: 10:00 AM

S.No.	Name & Designation	Address	Mobile No. and E-mail
1.	P. C. Raut, SEE	SPCB, Odisha Bhubaneswar	9437364702 ROSPCBRGDA @GMAIL.COM
2.	R. Ramasubbu, DEE	TNPCB Chennai	8056042176 tnpcbmembersecretary @gmail.com.
3.	S. Devaananadan, AEE	PPCC, Puducherry	9600829117 dev.27anand @ gmail.com
4.	M. S. Tiewson, AEE	MSPCB, MEGHALAYA	940 2506495 megspcb@rediffmail. com
5.	BABURAJAN P.K CEE	Kerala SPCB	9447975732 baburajanpk@gmail. com.
6.	Dr. Himender K. Sharma. Sr. Scientific Officer.	HPSPCB Shimla	94184-52633 pcbsssoho@gmail.com.
7.	Rhythm Aggarwal, AEE.	CPCC Chandigarh	9872319374 rhythm.aggarwal87@gmail com
8.	H.S. Mahiya, SE	MPPCB Bhopal	9425017270 hsmahiya@gmail.com
9.	Dr. Jai Bhagwan, Ro	Haryana State Pollution Control Board - Faridkot	hspcbrofr @ gmail.com


Jha

10.	Harshwardhan Thakkar Scientist	MPPCB Bhopal	942501408 harshwardhanthakkar@gmail.com
11.	Chandan Singh CEO	Uttarakhand Env Prot. & Pollution Control Board D-Dun	9412056733 csrawat65@yahoo.co.in
12.	T. U. KHAN CEO	UPPCB LKO	9936069888 nupta@uppcb.com
13.	SONALIKA JIWANI, IAS. Nodal Officer (Waste Mgmt.)	Collectorate, Daman.	8860668337 sonalika.jiwani@ias.gov.in
14.	M.V.N. PRASAD Senior Envr Engr A.P. Pollution Control Board	A.P.P.C.B. Vijayawada	9177303396 unit4-icee@appcb.gov.in
15.	D. M. THAKER Environment Engineer Gujarat Pollution Control Board	GPCB Gandhinagar Gujarat	devangthaker65@gmail.com 9825160110
16.	D. Narendar Envr. Engineer.	Telangana State Pollution Control Board.	9177303212 ee3-uh2-tspcb@ Telangana-gov.in.
17.	Manikamal Gurav Regional Officer (HQ)	Maharashtra pollution control Board.	09819632725 rohq@mpcb.gov.in
18.	V. Hanumanth Rao AEE.	Andhra Pradesh Pollution Control Board.	9985009149 hvapcb@gmail.com
19.	Dr. Tapas K. Gupta Chief Engineer	West Bengal Pollution Control Board Kolkata	9830024276 tug@wbpcb.gov.in
20.	SAGAR WARHEKAR field officer (MPCB)	Maharashtra Pollution Control Board	9619900780 scean.mpcb@gmail.com.
21.	M. SRIDHAR Env. officer	KSPCB	9900172802 shreedhara-m@ rediffmail.com

WMC, KSPCB

22.	B.S. THAKUR	C.G. Environmental Conservation Board.	9685095427 ho.cecb@gmail.com	
23.	D.P. Singh, EE	JSPCB, Ranchi	9431371137 dpsinghjspcb@gmail.com	
24.	Surinder Singh Scientific officer	Pb. Pollution Control Board Patiala	9878950569 surinderpcb@gmail.com	
25.	Dr BML REDDY	DPCE DELHI	9717593542 bmreddy.dpce@gov.in	
26.	Suresh P. Roy, EE-RO	Bihar SPCB Patna	9431093451 spzry.bspcb@gmail.com	
27.	Mr. Bharat K Sharma AD	CPCB	9868278276 sharmabk2001@yahoo.com	
28.	P.K. SELVI	Secy D, WM-II, CPCB	9868166783 selvi4cpceb@gmail.com	
29.	G. Rambabu Sci-D	CPCB, Delhi	grbabu.cpcb@nic.in	
30.	B. Vinod Babu. Sc-'E', Nodal Officer WM Division.	CPCB		
31.	Deepthi Kapil Sc-'D', WM-II Div	CPCB		
32.	Vineeta SSA, WM-II Div	CPCB		
33.	Anli Yadav to RA, WM-II	CPCB		



34.	Varun Prabhu	JRF, CPCB	
35.			
36.			
37.			
38.			
39.			
40.			
41.			
42.			
43.			

**Compliance Indicators**

**Name of SPCB/PCC:**

**Compliance Status as on: .....date.....**

**A. Basic Information**

1. Whether scientific principles based identification & quantification of hazardous and other wastes are carried out by the Board itself or through third party: (Yes/No)
2. Whether authorization is granted/renewed by evaluation by SPCB officials or through evaluation of expert committee? (Yes/No)

If yes, field of specialization of experts in the committee?

3. (a) Whether elaborate protocols for pre-processing and recycling/utilisation facilities for enhanced level and frequency of enforcement and environmental monitoring have been laid down by the SPCB (Yes/No).

(b) If yes:

(i) what is frequency of inspection laid down in the said protocol (in terms of nos. of inspections per nos. of months): .....inspections in every .....month(s)

(ii) what is frequency of sampling & analysis of the concerned parameters laid down in the said protocol (in terms of sampling & analysis of the concerned parameters inspections per nos. of inspections): .....sampling & analysis in every .....inspection(s)

(c) If not, what is the target date by which above protocol would be developed: (Month & Year)

4. Whether uniform format (as suggested by Monitoring Committee) for inspections of hazardous and other wastes handling facilities has been adopted by SPCB: (Yes/No)

**B. Hazardous and Other Wastes Generating Units and their authorization**

5. Total No. of operating hazardous and other wastes handling units (as on 31/3/2019):
6. Total No. of Units (having valid authorization) as on 31/3/2019:
7. (a) New Units applied for fresh authorization (after 31/3/2019):



**(b) (i)** New Units of (a) above granted authorization:

(ii) Of (b)(i) above, uniform inspection format as at (4) above has been enclosed in how many authorisations:

**(c) (i)** No. of fresh authorization granted (after 31/3/2019) to new units (who applied prior to 31/3/2019) and other than (b) above:

(ii) Of (c)(i) above, how many units were inspected after 31/3/2019 w.r.t. grant of authorization:

(iii) Of (c)(ii) above, uniform inspection format as at (4) above has been enclosed in how many authorisations:

**(d)** Of (a) above, how many units were refused authorization:

**(e)** Other units (other than (a) above) who applied prior to 31/3/2019 and authorization was refused:

**8. (a)** Units applied for renewal of authorization (after 31/3/2019):

**(b) (i)** Of units of (a) above, how many units have been granted renewal:

(ii) Of (b)(i) above, uniform inspection format as at (4) above has been enclosed in how many authorisations:

**(c) (i)** No. of authorization renewed (after 31/3/2019) to units (who applied prior to 31/3/2019) and other than (b) above:

(ii) Of (c)(i) above, how many units were inspected after 31/3/2019 w.r.t. grant of authorization:

(iii) Of (c)(ii) above, uniform inspection format as at (4) above has been enclosed in how many authorisations:

**(d)** Of (a) above, how many units were refused renewal of authorization:

**(e)** Other units (other than (a) above) who applied prior to 31/3/2019 and renewal of authorization was refused:

**9. (a)** Nos. of units inspected by SPCB (after 31/3/2019) only w.r.t. fresh/renewal of authorization:

- (b) Nos. of hazardous and other wastes handling units (including recycling/utilizing/pre-processing/common TSDF facilities) inspected by SPCB (after 31/3/2019) for other purposes other than (a) above, where observations on compliance of HOWM Rules too were made (only nos. of units to be given and not nos. of inspections):

**C. Scientific identification & quantification of HW**

10. Of the fresh or renewed authorization granted [i.e among 7(b)(i) and 7(c)(i)] above], in how many cases additional categories of hazardous/other wastes or quantities thereof or both (other than that declared by the applicant) were added/alterd:
11. Of the authorization renewed [i.e. among 8(b)(i), and; 8(c)(i)], in how many cases additional categories of hazardous/other wastes or quantities thereof or both (other than that stipulated in the previous authorization) were added/alterd:
12. Of the units inspected for other than grant/renewal of authorization purpose [i.e. among 9(b) above],
- (a) in how many units, discrepancies in categories of hazardous/other wastes or quantities thereof or both to that stipulated in authorizations were observed:
- (b) Of (a) above, in how many cases authorizations were amended accordingly:
13. Based on (10), (11) and (12) above, authorizations of how many similar process based units were amended (after 31/3/2019) accordingly:
14. Of (10), (11), (12) and (13), in how many units "other waste" categories or quantities thereof or both have been added (after 31/03/2019):

**D. Enhanced frequency of enforcement and environmental monitoring in hazardous or other waste recycling/ utilizing/ pre-processing/ waste collector facilities:**

15. Of (5) above:
- (a) How many units are hazardous waste recycling or utilization units:
- (b) How many units are "other wastes" recycling or utilizing units:
- (c) How many units are recycling or utilization units of both i.e. hazardous waste and "other waste":



- (d) How many units are hazardous or other waste pre-processing units:
- (e) How many units are waste collectors:
- 16.** No. of inspections carried (after 31/3/2019) in units as at (15) above, as part of inspections for renewal of authorization:
- 17.** No. of inspections (other than 16 above) carried (after 31/3/2019) in units as at (15) above:
- 18.** No. of units (of 15 above) where monitoring (sampling & analysis) has been carried out by SPCB/PCC itself:
- 19.** No. of units (of 15 above) where monitoring (sampling & analysis) has been carried out by private labs engaged by SPCB/PCC:
- 20.** No. of units (of 15 above) whose annual return has been verified and validated by SPCB:

#### **E. Manifest document**

- 21.** Of (5) above, verification of closing of manifest documents and reconciliation of the same were done by SPCB (after 31/3/2019) in how many units:

#### **F. Inventory**

- 22.** Of (5) above
- (a) How many hazardous or other waste generating units have submitted annual return:
- (b) Of (b) above, how many have not submitted the annual return (after 31/3/2019) by 30<sup>th</sup> June for the preceding year:
- 23.** Of (a) above, how many units have been verified and validated by SPCB w.r.t. annual inventory submitted by them viz. products produced/categories of waste generation/quantities generated/ daily record and manifest being maintained, etc.:
- 24.** (a) For how many industrial sector, hazardous waste or other waste generation range has been developed by SPCB:
- (b) List the sector of (a) above for which hazardous waste or other waste generation range has been developed:
- (c) If not, what is the time target by which such sector process based HW generation range would be initiated (Month & Year).

### **G. Enforcement actions (after 31/3/2019)**

25. How many units were found violating one or other provisions of the HOWM Rules:
26. In how many units, documentation of non-compliance while processing renewal of authorisation or inspection has been done (after 31/3/2019) by SPCB to invoke powers of refusal or revocation:
26. Whether enforcement framework for effective enforcement of Rules based on principal of proportionality and precautionary principal has been developed by SPCB: (Yes/No)
27. In how many defaulting units, Rule 23(1) has been enforced by SPCB as per CPCB guidelines:
28. In how many defaulting units, Rule 23(2) has been enforced by SPCB as per CPCB guidelines:
29. (a) Of (25) above, how many units have been identified by SPCB as habitual and serious defaulters:
- (b) Of (a) above, how many unit's authorisation have been refused or revoked:
- (c) Of (a) above, how many unit has been prosecuted under the EPA:
- (d) Of (a) above, FIR has been lodged against how many defaulting units:
30. Of (25) above,
- (a) how many unit's authorisation (other than 29 above) have been refused or revoked:
- (b) Of (a) above, how many unit (other than 29 above) has been prosecuted under the EPA:
- (c) Of (a) above, FIR has been lodged against how many defaulting units (other than 29 above):
31. (a) Whether website of SPCB has been updated w.r.t. all enforcement actions along with details of industries and action taken pertaining to HOWM Rules: (Yes/No)
- (b) Provide link address of the above site

### **H. Common TSDF**

32. (a) whether SPCB has directed common TSDF operator in their state not to return the HW consignment and do the needful as recommended by the Monitoring Committee: (Yes/No)
- (b) Number of incidences returning of the HW consignment by the common TSDF (after 31/03/2019) noted by SPCB:
33. (a) (i) Nos. of captive SLF in the State:
- (ii) Give name and addresses of all SLF as at a(i) above:
- (b) (i) Nos. of common SLF in the States:



(ii) Give name and addresses of all SLF as at a(i) above:

(c) Whether SPCB has planned environmental audit including site selection criteria, design & layout for both captive and common SLF: (Yes/No)

If yes,

(a) what is target date of completion of such audit during 2019-20:

(b) In case, SPCB has planned through engaging expert institute please give name and address of expert institute(s) engaged for (a) above

34. (a) Of (33)(b)(ii) above, how many have opened escrow account as per O.M. No....dated...of MoEF&CC:

(b) List name of the common TSDF who have opened escrow account:

(c) Of (a) above, how many have deposited mandatory amount in the escrow account:

(d) Whether SPCB has verified deposited amount as per above O.M. No. 23-12008-HSMD dated 16/04/2009 of MoEF&CC (Yes/No)

(d) Mandatory amount being deposited in the escrow account annually is displayed on the website of common TSDF operator: (Yes/No)

35. What actions have been taken by SPCB in case of non-opening/non-deposition of mandatory escrow account/ displaying on website: (not more than 100 words)

### **I. Impact of other regulation**

36. (a) Brief note on action taken to bring domestic hazardous waste into the ambit of HW inventory (2018-19):

(b) How many domestic hazardous waste deposition centers exists in the State/UT

(c) How many of (b) above have been authorised under HOWM Rules, 2016

(d) Quantity of domestic HW received in deposition center for (till 31/03/2019)

- Disposal into TSDF
- Recycling/Utilisation

(e) Quantity of domestic HW received in deposition center for (after 31/03/2019)

- Disposal into TSDF
- Recycling/Utilisation

(e) Quantity of domestic HW disposed in TSDF (till 31/03/2019)

(f) Quantity of domestic HW disposed in TSDF (after 31/03/2019)

(g) Brief note on action taken to bring fluorescent & other mercury containing lamp into the ambit of HW inventory (2018-19):

(h) Quantity of fluorescent & other mercury containing lamp disposed in TSDF (before 31/03/2019)

(i) Quantity of fluorescent & other mercury containing lamp disposed in TSDF (after 31/03/2019)

(j) Whether Common TSDF operator has declared the above received as at (e) and (ii) (domestic HW and fluorescent & other mercury containing lamp) in their annual inventory report (2017-18) separately

### **J. Capacity Building**

37. (a) Whether an action plan has been prepared to have atleast one laboratory where all HW parameters as required under the HOWM Rules can be analyzed: (Yes/No)

(b) Time (in terms of month/month/year) by which (a) above would be commissioned in SPCB/PCC:

(c) Capacity building in terms of qualified and experienced manpower .....

### **K. Enclose Action Plan for**

- Level playing of the industry
- Environmental Benchmarking
- Advocacy programme such as concept of waste exchange banks, know your waste programme, circular economy, documentation of the success stories along with regulatory interventions wherever required
- Benchmarks/guidelines for the possibilities of HW recycle/utilization (Thermal Substitution Ratio for co-processing)



### **Annexure-III**

- i) Verification of probable contaminated sites following a scientific methodology of sampling and assessment as outlined in guidance documents of MoEF&CC; (<http://envfor.nic.in/content/development-methodologies-national-program-ms-grontmij>) by its own or engaging third party agency.

*Agency Responsible: SPCBs/PCCs (Continuous activity)*

- ii) SPCBs/PCCs shall identify the person/industry responsible, for remediation of contaminated sites as per the CPCB guidelines "Implementing Liabilities for Environmental Damages & Disposal of Hazardous Waste and Penalty", based on Polluter Pays Principle.

*Agency Responsible: SPCBs/PCCs (Immediate and continuous activity)*

- iii) SPCBs/PCCs and CPCB shall continue the process of identification of probable contaminated sites and its assessment. (<http://envfor.nic.in/content/development-methodologies-national-program-ms-grontmij>)

*Agency Responsible: SPCBs/PCCs/CPCB (Continuous activity)*

- iv) In case of the contaminated sites where polluter is not identified, State Govt/UT would be required to finance remediation of such sites to safeguard the people living in & around the contaminated sites from adverse health effects. SPCBs/PCCs to follow-up the matter with respective State Govts/UT.

*Agency Responsible: States/UTs Govt. and SPCBs/PCCs (06 months)*

- v) SPCBs/PCCs need to initiate immediate intervention measures for containing threats from existing contaminated sites (in both active and inactive sites) and also further ingress of hazardous waste.

*Agency Responsible: SPCBs/PCCs (Immediate)*

\*\*\*

**Format for providing information w.r.t. Management of Spent Solvent Recovery Units**

1. Number of Spent Solvent generating units:
2. Number of Spent Solvent recovering units:
3. Of (2) above, how many units have been granted authorization:
  - a) Prior to issuance of CPCB directions dated 30/01/2019:
  - b) After issuance of CPCB directions dated 30/01/2019:
4. Of (2) above, how many has been verified for compliance of CPCB's SoP:
  - a) Prior to issuance of CPCB directions dated 30/01/2019:
  - b) After issuance of CPCB directions dated 30/01/2019:
5. Action taken by SPCBs/PCCs for enforcement of manifest system by all spent solvent recovery units (other than 7 below):
6. Of (2) above, how many of them are following manifest systems:
7. Of (2) above, action taken against erring units not following SoP & manifest system:
  - a) Number of units found violating CPCB's SoP or manifest documents requirements or other provisions of the HOWM Rules, 2016:
  - b) Number of units issued show- cause notices:
  - c) Number of units closed:
  - d) Number of units where penalties have been imposed:
  - e) Any other actions (please specify type of actions and number of units against whom such actions have been taken):
8. Inventory of Spent solvent recovery units (details of (2) in below format):

S. No.	Name of Solvent Recovery Unit	Source of generation (Category as per Schedule-I of HOWM Rules, 2016)	Authorised capacity (MTA)	Validity	Product Recovered	Whether as per CPCB's SoP (Yes/No)	Does it comply with requisite manifest document (Yes/No)

9. Whether the inventory of spent solvent recovery units as at (8) above, is published on SPCB/PCC's website? If yes, please provide the website link of the same:
10. Number of interaction programme conducted to create awareness and sensitization on HOWM Rules, 2016 with all the stakeholder industries of spent solvent generation/utilization.
  - a) Prior to issuance of CPCB directions dated 30/01/2019:
  - b) After issuance of CPCB directions dated 30/01/2019:

\*\*\*\*



**Draft protocol/guidelines for SPCBs/PCCs on preparation of  
Hazardous Waste Inventory**

**Salient Points:**

Methodology to be adopted for inventorisation of hazardous waste generation and its management

**A) Identification of hazardous waste generating units**

- (a) Based on the processes listed in Schedule I:
- (b) Based on Schedule-II concentration limits
- (c) Recycling/Utilisation/prep-processing facility
- (d) Hazardous generating form enforcement of other regulations such as Domestic hazardous waste categorised under Solid Waste Management Rules (2016), fluorescent and mercury containing lamp listed under E-waste Management Rules, 2016
- (e) Hazardous and Other waste imported /exported for recycling/utilisation (listed under Schedule III)
- (f) Other waste (indigenously generated within the country)
- (g) Hazardous waste generators for obtaining authorisation
- (h) Waste collection facility
- (i) Treatment Storage and Disposal Facility (TSDF)

**B) Preparation of Inventory**

1. Collection of data through annual returns submitted by all the occupiers (HW generating units/recyclers/utilisers/pre-processors/co-processors/waste collectors/operator of disposal facility)
2. To verify the data provided by the occupiers by conducting in-depth study of all or 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;

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) Actual Weighing:** This methodology may be adopted for waste like tarry wastes, heavy metal filtration residues and waste arising from organic chemicals manufacturing units and rolling mills or where the wastes could be collected in a drum or bag and subsequently be weighed.

3. This estimation of waste generation factor derived from the above method will help to cross check the information provided by the industry in particular sector. This can also be used for estimation of waste generation where information is not available for the particular size of production in the selected sector.
4. The information collected shall be compiled and presented as per formats circulated by CPCB.

#### C) Guidelines for selection of Industries to cross check the inventory

1. In case, total number of Hazardous Waste (HW), generating industries are < 500 Nos. - about 10 to 15 %, of the total identified HW generating industry in the respective State / UTs or atleast 50 No. of HW generating industries, which is ever is more be selected for cross verification of the inventory.
2. If total HW generating industries in the respective State/UT are < 50 No, then cross verification be carried out in all the HW generating industry.
3. In case, where no HW generating industry are reported in the respective State/UT, industries be identified to carryout in-depth studies w.r.t likely to fall under Hazardous Waste category. For such cases samples may also be collected and analysed for relevant parameters or analysis results be verified as per Schedule II of the HOWM Rules, 2016.
4. The above selection for cross verification should be such that the units falls under Schedule 1 & 2 of the HOWM Rules, 2016, covering large, medium and small scale industry (depending on the quantum of HW generated); recycler; utiliser; co-processor; collection facility and disposal facility. The units which have already been inspected during last six months should not be considered for such cross verification
5. In case, where the total HW generating industries reported are more than 500 Nos. - about 15 to 20 %, of the total identified HW generating industry in the respective State / UTs or atleast 100 Nos. of HW generating industries, which is ever is more be selected for cross verification of the inventory.

\*\*\*\*\*