

Central Pollution Control Board
Waste Management - II Division, Delhi

Sub: Minutes of the 25th virtual meeting of the Technical Expert Committee (TEC) for “Evaluation of proposals for utilization of hazardous and other wastes under Hazardous and Other Wastes (Management and Transboundary Movement) (HOWM) Rules, 2016”.

1. 25th meeting of TEC for “Evaluation of proposals received from various industries for utilization of hazardous and other wastes under Rule 9 of HOWM Rules, 2016” was organized virtually on July 30, 2021.
2. Sh. Anil C. Ranveer, Member Convener & Sc. E, Waste Management-II Division, CPCB, Delhi, welcomed the Chairman and members of the committee. List of the participants is enclosed at **Annexure A**.
3. Sh. Anil C. Ranveer, placed the Rule 9 (2) of HOWM Rules, 2016 position before the committee for discussion. The TEC has discussed the Rule position, definition and delegated power to CPCB in detail. TEC recommended that, if any trial run for utilization of particular hazardous waste has conducted and found successful by complying the environmental norms, then the unit (where trial run has conducted) may be granted permission for utilization of hazardous waste till the preparation of Standard Operating Procedures (SoP) by CPCB.
4. SoPs & Checklist of Minimal Requisite facilities for utilization of hazardous waste prepared by WM-II Division, CPCB, based on trial study reports were reviewed by TEC. Details of the same and recommendations of the committee are as below:

Sl. No.	Draft SoP	TEC Recommendations
1.	SoP for utilization of Aluminium Dross for production of Aluminium metal and Aluminium oxide briquette.	TEC observed that CPCB has already prepared 03 SoPs for utilization of aluminium dross. However, on detailed discussion, it was observed that this proposal for utilization of Aluminium dross is different. Relevant conditions of previous SoPs may be incorporated & considered for finalization of the SoP. Due to travel restrictions in Odisha for Covid-19, CPCB has conducted trial run through OSPCB. After deliberating on trial run report submitted by OSPCB, the TEC has observed that following information shall be required from OSPCB: 1) Analysis carried out by OSPCB to cross-verify the results of laboratory. 2) Ammonia emission curtailment measures to be prescribed by the inspecting team.



		<p>3) Material balance during trial run for each stages of utilization process.</p> <p>Further, draft SoP has been discussed in detail and following suggestions need to be incorporated:</p> <p>During the utilization of Aluminum dross, total 03 final products namely; i) Molten Aluminium metal, ii) Aluminium metal iii) Aluminium oxide briquette has been formed. Specific temperature value shall not be mentioned in the SoP. Size of the plant shall be modified based on the material balance receiving from OSPCB. Fugitive emission standards for prescribed parameters shall be made stringent on the basis of trial run. Minimum requisite facilities for each of utilization process may be defined separately.</p> <p>In view of above, the committee recommended that after receiving complete information from OSPCB and incorporating the same along with above suggestions, SoP shall be finalized.</p> <p>Meanwhile, CPCB may grant the approval for utilization of aluminum dross to the unit as per Rule- 9(2) of HOWM, Rules, 2016.</p>
2.	<p>SoP for utilization of Spent Hydrochloric Acid (generated from glass manufacturing industry) for manufacturing of Calcium Chloride</p>	<p>TEC observed that <i>SoP for utilization of hazardous waste i.e. HCL</i> already exists. However, source of generation of hazardous waste is different in both of these cases.</p> <p>The TEC has further discussed the draft SoP and observed following:</p> <ul style="list-style-type: none"> i. Category of hazardous waste shall be mentioned as B15 (Inorganic Acid) of Schedule-II. ii. Fugitive emission parameters shall be made stringent based on the trial run monitored values. iii. Water and Sludge generated from filter press and ETP is reused in the utilization process. Sludge generated from reaction vessel has to be disposed to TSDF. <p>Based on above, the committee recommended that after incorporating above suggestions, SoP shall be finalized.</p>



3.	SoP for utilization of resin and glue waste as supplementary fuel in tile manufacturing industry	<p>TEC has deliberated on the SoP and it is observed that: Resin and glue are polymers based material hence there may be chance of emitting VOCs and dioxins.</p> <p>After detailed discussion, TEC suggested following:</p> <ol style="list-style-type: none"> i. Minimum temperature shall be 900 °C in chain stove after which hazardous waste may be utilized. There must be provision for minimum automation in the process such as temperature sensor with chain stove. ii. FRP shall be completely restricted. iii. Plastics content in hazardous waste shall be restricted to less than 5%. iv. Utilization of HW shall be only in tile manufacturing industry. v. Fuel other than coal shall not be allowed with hazardous waste. The proportion of coal: hazardous waste shall be restricted to 85:15. <p>Based on above, the committee recommended that after incorporating above suggestions, SoP shall be finalized.</p>
4.	SoP for utilization of spent acid containing HCl (generated as waste pickling liquor from Steel Industries) for Regeneration of HCl acid and production of Ferric Oxide	<p>Upon deliberation, the committee observed following:</p> <ol style="list-style-type: none"> i. Hazardous waste i.e. spent (acid) pickling liquor generated from Steel production industry is categorized as 13.1 of Schedule I. ii. No residue generation during utilization process. iii. After regeneration of HCl acid the same is sent back to Steel industries for use in pickling process. <p>In view of above, the committee recommended that after incorporating above observations, SoP shall be finalized.</p>

5. Sh. D.M. Thaker, Unit Head, HW Cell GPCB requested TEC to consider the proposal of utilization of spent aluminium chloride generated from Dyes and Dye intermediate industry to be used as coagulant in CETP as table agenda.

TEC observed that, the case was already discussed in its 9th meeting & recommended for trial run. Thereafter, the trial run report was discussed in its 13th meeting, wherein, TEC found major deviation in analysis results of inspection team and laboratory



engaged by unit as well as non-compliances to the treated effluent standards as per consent issued by GPCB & recommended for repeat trial run with same protocol. Representative of the CETP-Vatva presented that, non-compliance in outlet norms are due to influent stream quality, variation in influent stream volume & design capacity of CETP (influent volume higher than design capacity of CETP). He also added that, there is no difference in COD of outlet stream by using spent Poly Aluminium Chloride (PAC) and fresh PAC. Further, CETP has upgraded its tertiary treatment to comply the norms issued by GPCB. As per the opinion of TEC, it is necessary to assess the monitoring report of treated water carefully to avoid any chances of contamination.

Therefore, TEC recommended for submission of detailed proposal from CETP Vatva for further consideration and may be placed before subsequent TEC after receiving the proposals.

6. The meeting ended with vote of thanks to chair.



Annexure A

**CENTRAL POLLUTION CONTROL BOARD
DELHI- 110 032**

List of Participants

Sl. No	Name	Designation and Organization	Member of the Committee / Invitee
1.	Dr. R.K. Singh	Retired Scientist 'F', Bureau of Indian Standard, New Delhi	Chairman
2.	Dr. C.S. Sharma	Ex. Additional Director, CPCB, Delhi	Member
3.	Prof. Rajeev Gupta	Department of Chemistry, University of Delhi, Delhi	Member
4.	Dr. A K Swar	Chief Environmental Engineer, State Pollution Control Board, Odisha	Member
5.	Sh. D. M. Thaker	Unit Head, Hazardous Waste Cell, Gujarat Pollution Control Board, Gandhi Nagar, Gujarat	Member
6.	Sh. B. Vinod Babu	Nodal Officer, Waste Management, CPCB, Delhi	Member
7.	Sh. Dinabandhu Gouda	Head, IPC-I, CPCB, Delhi	Member
8.	Sh A. Sudhakar	Head, WM-II, CPCB, Delhi	Invitee
9.	Sh. Anil C Ranveer	Scientist E, WM-II Div., CPCB, Delhi	Member Convener
10.	Sh. Shashikant Lokhande	Scientist E, CPCB-RD, Pune	Invitee
11.	Ms. P. K. Selvi	Scientist D, CPCB-RD, Bengaluru	Invitee
12.	Sh. Y K Saxena	Scientist C, CPCB-RD, Bhopal	Invitee
13.	Sh. Mohd Salik	SRF, WM-II Division, CPCB, Delhi	Invitee
14.	Sh. M. V. Srinivas	JRF, WM-II Division, CPCB, Delhi	Invitee

