

Central Pollution Control Board
HWM Division, Delhi

Sub: Minutes of the Fourth Meeting of the Technical Expert Committee for “Evaluation of proposal for utilization of the hazardous and other wastes under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016”.

1. Fourth meeting of the Technical Expert Committee on “Evaluation of proposal for utilization of the hazardous and other wastes under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016” was held at CPCB, Delhi on 30.01.2017. List of the participants is enclosed at **Annexure I**.
2. Shri Bharat K Sharma, Additional Director, HWMD, welcomed the members and invitees of the Committee. The following 05 draft Standard Operating Procedures (SoPs) & Check list of Minimal Requisite facilities for utilization of hazardous waste, prepared by HWMD, CPCB, based on trial study conducted in accordance with the trial run monitoring protocol, were reviewed by TEC.

S. No	Agenda	TEC Recommendations
1.	Standard Operating Procedure (SoP) for utilization of Silica Sludge as a filler in Single Super Phosphate Industry	<p>The committee observed that the silica sludge contains 1600mg/kg of fluoride concentration in the product which may leach into soil. Further application of product as a fertilizer in land may increase fluoride concentration.</p> <p>In case the proponent wishes to utilize the said silica sludge, the proponent should first treat the fluoride in the silica sludge into non-leachable form in silica sludge. TCLP test shall be conducted in own lab and also in NABL accredited lab and submit the TCLP result to CPCB. After receiving TCLP result, case may be discussed in TEC meeting.</p> <p>Further, committee observed that the proponent also generates hydro-fluoro silicic acid as scrubber bleed waste. The proponent shall ensure that utilization of hydro fluoro silicic acid is carried out by a user who possesses authorization from SPCB/PCC for utilizing the same in accordance with provisions laid down under Rule 9 of HOWM Rules, 2016. The matter may also be brought to the notice of West Bengal Pollution Control Board.</p>
2.	Standard Operating Procedure (SoP) for utilization of Sulphur Muck as a filler in Complex Fertilizer	The Committee observed that the Sulphur Muck contains about 66% of sulphur in elemental form which, when used as a filler in proposed complex

— R. K. Singh — 1

		<p>fertilizer, may not help in plant growth. Further, sulphur as elemental form may not be good for soil quality.</p> <p>The proponent could not provide any supporting information in support of using sulphur in elemental form in complex fertilizer.</p> <p>Therefore, the committee does not recommend such utilisation proposal.</p>
3.	Standard Operating Procedure (SoP) for utilization of Spent carbon, generated in manufacturing of urea fertilizer, as a resource in Carbon Black manufacturing.	SoP & Checklist of Minimal Requisite Facilities for the said utilization of carbon slurry @ 5 % to the product i.e Carbon black manufactured, as recommended by TEC after incorporating suggestions, is given at <u>Annexure – II.</u>
4.	Standard Operating Procedure (SoP) for utilization of Tungsten scrap generated from insert tips scrap, mining bits scraps and drill bits scrap to manufacture Tungsten powder.	SoP & Checklist of Minimal Requisite Facilities for the said utilization, as recommended by TEC after incorporating suggestions, is given at <u>Annexure – III.</u>
5.	Standard Operating Procedure (SoP) for utilization of Spent Alumina generated from polymerization in SWING unit of Petrochemical plant for manufacturing of Refractory material like Insulation bricks, Mortar, Castables, High Alumina bricks and High Alumina Refractory Binder.	SoP & Checklist of Minimal Requisite Facilities for the said utilization, as recommended by TEC after incorporating suggestions, is given at <u>Annexure – IV.</u>

3. The following applicants as referred below have been asked to make technical presentation before this committee;

- (i) M/s Aarti Drugs Ltd., Plot No. G-60, MIDC, Tarapur, Tal. & Dist.: - Thane, Maharashtra.
- (ii) M/s Chiripal Industries Limited Plot No. 174-176, Sajipur-Gopalpur, PiranaRoad, Piplej, Ahmedabad - 382405 (Gujarat)
- (iii) M/s Anjaniya chemicals. Plot o. A2/172, GIDC, Nandesari, Dist: Vadodara, Gujarat.
- (iv) M/s. AnupamRasayan India Ltd. (Unit-1), Plot no.8104, 8109, 8110, 8111 & 268/1, Sachin GIDC Estate, Ta: Choryasi, Dist-Surat, Gujarat – 394230

R. K. Singh

4. The applicants listed at (i) to (iv) made technical presentations before the committee. The details of the proposals along with the recommendations of the committee are given at Annexure – V.
5. The applicant, M/s. Gajanan Ferro Pvt. Ltd, Jamshedpur, Jharkhand, was also communicated to make technical presentation before the committee about their utilization proposal. However, they informed through email about their unavailability and requested to give them an opportunity in subsequent meeting. It was decided that the applicant may be invited for technical presentation in subsequent meeting so as to evaluate their utilization proposal.
6. The next meeting of the committee has tentatively been scheduled on 16/2/2017.
7. The meeting ended with vote of thanks to the Chair.

— R. K. Singh —

Annexure I

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

Date: January 30, 2017

Venue: 2nd Floor, Conference room, Parivesh Bhawan, CPCB, Delhi- 110 032

Fourth Meeting of the Technical Expert Committee for "Evaluation of proposal for utilization of the hazardous and other wastes under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

List of Participants

S. No	Name	Designation	Member of the Committee / Invitee
1.	Dr R.K. Singh	Retired Scientist 'F', Bureau of Indian Standard.	Chairperson
2.	Prof. Rajeev Gupta	Department of Chemistry University of Delhi	Member
3.	Shri A.V. Shah	Environmental Engineer, Gujarat Pollution Control Board	Member
4.	Shri Paras Nath	Regional Officer, Ghaziabad, U.P. Pollution Control Board	Member
5.	Shri Deenbandhu Gauda	Additional Director, PCI-I, CPCB, Delhi	Member
6.	Sh. Bharat K Sharma	Additional Director, HWMD, CPCB, Delhi	Convener
8.	Sh. G. Rambabu	Environmental Engineer, HWMD, CPCB, Delhi	Invitee
9.	Ms. Deepti Kapil	Environmental Engineer, HWMD, CPCB, Delhi	Invitee
9.	Ms. Vineeta	SSA, HWMD, CPCB, Delhi	Invitee
10.	Dr. Chandan Singh	Research Associate, HWMD, CPCB, Delhi	Invitee
11.	Dr. Sandeep Kumar Dixit	Research Associate, HWMD, CPCB, Delhi	Invitee

R. K. Singh

Recommendation of the committee for proposals for approval under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

S.No	Name of the Industry	HW as Raw Material	Product	Process	Recommendations
1.	M/s Aarti Drugs Ltd., Plot No. G-60, MIDC, Tarapur, Tal. & Dist.:- Thane, Maharashtra.	Distillation Residue, Process waste/ Residue and Organic Liquid [Catagey-28.1 of Schedule I of HOWM Rules, 2016]	Energy Recovery in Boilers	The unit has proposed to utilize Distillation Residue, Process waste/ Residue and Organic Liquid [Catagey-28.1 of Schedule I of HOWM Rules, 2016, generated during manufacturing of various drugs like Ciprofloxacin, Metformin, Diclofinac Sodium and Bulk drugs] for energy recovery in waste Heat Recovery Boiler (WHRB) to generate the Steam which is utilized in process for heating purpose.	<p>The committee observed that the proposed steam generation is by utilizing heat indirectly from flue gas generated from incineration of Distillation Residue, Process waste/ Residue and Organic Liquid. Thus, the proposal is not to utilize hazardous wastes but to thermally destroy the same by incineration and recover heat from the flue gas. Heat recovery from incineration system has also been recommended in CPCB published guidelines for common hazardous waste incineration. Therefore, such heat recovery from incineration system does not require approval from CPCB under Rule 9 of the HOWM Rules, 2016.</p> <p>It was also observed that single chamber incinerator is being used for disposal of said wastes whereas standards of incineration for Pharmaceutical (Manufacturing and Formulation) industry notified vide G.S.R.149 (E), dated 4.3.2009 under the Environment (Protection) Second Amendment Rules, 2009, prescribes only two chamber incinerator except for gaseous hazardous waste incinerator. Thus, the matter may be brought to the notice of Maharashtra PCB for examination and enforcement of the said provisions of the Rules.</p>
2.	M/s Chiripal Industries Limited Plot No. 174-176, Sajipur-Gopalpur, Pirana Road, Piplej, Ahmedabad - 382405 (Gujarat)	Spent Sulphuric Acid [Catagey-26.3 of Schedule I of HOWM Rules, 2016] generated during manufacturing of Torquoise Blue and Pigment Alpha Blue	In treatment of waste water	The unit has proposed utilization of the said Spent Sulphuric Acid as neutralizer in its Effluent Treatment Plant.	The committee observed that the unit proposes to discharge its treated effluent as inlet to CETP. Utilization of spent Sulphuric Acid in captive ETP may conserve use of fresh acid in neutralization. However, it is required to ascertain that the addition of above spent acid does not affect the efficacy of CETP in downstream, which may be studied for possible impacts on treatability of waste water in both i.e captive ETP and CETP. Use of Spent Acid may affect performance of captive ETP and CETP w.r.t. performance parameters namely COD, Ammonical Nitrogen, Colour, MLSS, etc.

R. K. Singh

S.No	Name of the Industry	HW as Raw Material	Product	Process	Recommendations
					<p>In view of above, the unit shall first obtain concurrence of CETP operator for accepting its treated effluent when spent acid is used during trial study.</p> <p>Upon submission of the said concurrence of CETP operator, draft trial protocol may be prepared by CPCB which may be discussed in subsequent TEC meeting.</p>
1.	M/s Anjaniya chemicals. Plot no.A2/172, GIDC, Nandesari, Dist: Vadodara, Gujarat.	Spent Sodium Bromide/Potassium Bromide/Hydrogen Bromide [Class C-2 of Schedule II of HOWM Rules, 2016]	To produce Bromine and Sodium Bromide/Potassium Bromide/Ammonium Bromide	<p>Process involves slow addition of Sulphuric Acid in a reactor having Spent Sodium Bromide solution. After addition of acid, acidic solution is filtered using Nutch filter. The filtrate is transferred to second reactor and heated with the help of Boils steam followed by slow addition of Chlorine gas. During this Bromine gas is liberated and which is condensed and it is converted into the liquid bromine and collected in small bottles.</p> <p>For production of Sodium Bromide/Potassium Bromide/Ammonium Bromide, addition of Sodium Hydroxide (in case of NaBr)/Potassium Bromide (in case of KBr)/Ammonium Hydroxide (in case of NH4Br) is mixed with Spent Hydrogen Bromide solution till pH is reaches around 6.5 and heated for 2 hours. After completion of reaction, reaction mass is drowning in crystallizer. The mother liquor is concentrated till Sodium bromide is precipitated. Finally, product is centrifuged and mother liquor is recycled.</p>	<p>The committee recommended for conducting a trail run study for utilization of Spent Sodium Bromide/Potassium Bromide/Hydrogen Bromide for production of Bromine. Trial monitoring protocol for the same is given at Appendix A.</p> <p>With regard to utilization of Hydrogen Bromide for production of Sodium Bromide/Potassium Bromide and Ammonium Bromide, the proponent withdrew the said utilization proposal.</p>

R. K. Singh

S.No	Name of the Industry	HW as Raw Material	Product	Process	Recommendations
4.	M/s. Anupam Rasayan India Ltd. (Unit-1), Plot no.8104, 8109, 8110, 8111 & 268/1, Sachin GIDC Estate, Ta: Choryasi, Dist-Surat, Gujarat - 394230	Nitrosyl Sulphuric Acid [item No. 15 at note 7 of Class B of Schedule II of HOWM Rules, 2016]	Phenol and Ether derivatives from Aniline Derivatives	Process involves the mixing of Aniline derivative with Sulphuric Acid and Nitrosyl Sulphuric Acid to get diazotized product. The diazotized mass is hydrolyzed using water and mixed Xylene which gives crude Phenol/Biphenyl ether derivative. The crude derivative is purified by vacuum distillation.	The committee recommended for conducting a trial run for utilization of said waste. However, the unit, where Spent Nitrosyl Sulphuric Acid is proposed to be generated, is not yet operational. The proponent shall inform to CPCB about the operational condition of waste generating unit. Upon receipt of the same trial run permission may be granted to M/s. Anupam Rasayan India Ltd., Dist-Surat, Gujarat, as per the trial run protocol prepared by CPCB and given at Appendix B.

R. K. Singh