Central Pollution Control Board
HWM Division, Delhi

Sub: Minutes of the Eighth Meeting of the Technical Expert Committee for "Evaluation of proposal for utilization of the hazardous wastes under Rule 11 of the Hazardous Waste (Management, Handling & Transboundary) Rules, 2008".

1. The Eighth Meeting of the Technical Expert Committee on "Evaluation of proposals for utilization of the hazardous wastes as a supplementary resource or for energy recovery, or after processing" was held at CPCB, Delhi on 18.06.2013. List of the participants is enclosed at ***Annexure I***.

2. Shri B. Vinod Babu, I/c HWMD, welcomed the members and invitees of the Committee and informed that 15 applications (new cases) have been received for approval under Rule 11 of the HWM Rules 2008 and all the applicants as referred below have been asked to make technical presentation before this committee;

(i) M/s Metakani Resources, Odisha
(ii) M/s Subhra Chemicals, Odisha
(iii) M/s Eastern Electrodes & Coke Pvt. Ltd., West Bengal
(iv) M/s Ambica Industries, Gujarat
(v) M/s Howrah Chemicals & Solvent, West Bengal
(vi) M/s Vinayak Chemicals, Gujarat
(vii) M/s Pooja Environment, Gujarat
(viii) M/s The Phosphate Company limited, west Bengal
(ix) M/s Resource Recycling Industries, Rajasthan
(x) M/s S P Refractories Pvt. Ltd., Maharashtra
(xi) M/s Monarch Catalyst Pvt. Ltd., Maharashtra
(xii) M/s Philips Electronics India Limited
(xiii) M/s Wecycle Inc, Rajasthan
(xiv) M/s Shanark Industries Pvt. Ltd.
(xv) M/s Metacast International

As suggested by the Committee, the following 03 applicants (old cases) were also requested to make presentation:

(xvi) M/s Goodwill Inorganics, Rajasthan
(xvii) M/s Unique Chemicals, Rajasthan
(xviii) M/s Shree Laxmi Products, Rajasthan

3. The applicants listed at (i) to (xiii) & (xvi) made technical presentation before the committee. M/s Metacast International, at Sl. No. (xv) above, intimated their inability to attend and requested to consider their case based on information submitted by them. The committee also reviewed some of the old cases along with the aforesaid new proposals. The details of the proposals considered along with the recommendations of the committee are given at ***Annexure – II- A & B*** respectively.

4. The recommendations of the committee regarding grant of approval for utilization of hazardous waste subsequent to the trial runs/ joint inspection by CPCB and SPCB are given at ***Annexure – III.***

5. The recommendations of the committee regarding grant of renewal permission for utilization of hazardous waste subsequent to the inspection by CPCB are given at ***Annexure – IV.***

6. Referring to the sampling and analysis of parameters during trial utilization, it was recommended by the committee that the sampling/monitoring of samples during the trial operation may be carried out jointly in presence of CPCB and SPCB officials by engaging 3rd party laboratories (accredited by NABL/EPA) and the test results of samples shall be submitted directly to the concerned Zonal Office of CPCB. The cost of analysis shall be borne by the proponent. If possible, Zonal Office of CPCB and SPCB may also conduct joint sampling.

7. In case of proposals for utilization of similar hazardous wastes, adopting similar processes and monitoring protocol permitted earlier by CPCB and standardized; SPCB's may permit trial utilization studies for such proposals wherein CPCB shall also participate. Formal approval for utilization shall be issued only by CPCB after verifying the trial utilization reports as per the recommendation of TEC. However, proposal with any changes in raw material mix or product mix shall be dealt by CPCB.

8. However, in some of the cases, CPCB based upon the recommendations of the committee may consider permitting utilization based on joint inspection of the installed facilities by CPCB and SPCB.

9. No further application for utilization of anode butts would be permitted since many applications have already come up against only 03 smelters generating used anode butts.

10. The Meeting ended with vote of thanks to the Chair.

Annexure I

CENTRAL POLLUTION CONTROL BOARD
DELHI- 110 032

Date: June 18, 2013

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

Eighth Meeting of the Technical Expert Committee for Evaluation of proposal for utilization of the hazardous wastes as a supplementary resource or for energy recovery, or after processing.

List of Participants

S. No	Name	Designation	Member of the Committee / Invitee
1.	Shri R.K. Garg	Former Managing Director, Indian Rare Earths Ltd.	Chairperson
2.	Dr. K.P. Nyati	-	Member
3.	Shri R. K. Vashist	Sr. Advisor, PDIL, Noida	Representing Member of the committee on behalf of PDIL
4.	Dr. G.S Dang	Former Sc. F, Indian Institute of Petroleum, Dehradun	Special Invitee
5.	Dr. (Ms.) Chhanda Chowdhury	Director (HSMD), MoEF	Special Invitee
6.	Shri B. Vinod Babu	Senior Environmental Engineer & I/c HWMD, CPCB, Delhi	Member Convener
7.	Shri Bharat K Sharma	Senior Environmental Engineer, HWMD, CPCB, Delhi	Invitee
8.	Shri G. Rambabu	Assistant Environmental Engineer HWMD, CPCB, Delhi	Invitee

Annexure-II (A)

Recommendation of the committee for New proposals for approval under Rule 11 of the Hazardous Waste (Management, Handling & Transboundary) Rules, 2008.

S. No	Name of the Industry	HW as Raw Material & Product	Process	Recommendations
1.	M/s Wecycle Inc E -72, Riico Growth Center, Dholpur, Rajasthan-	(i) Spent Pot Line (SPL) to be utilized for manufacturing Carbon Additives Flux (ii) Spent Anode Butt (HW Sch.-II, Class-B) to be utilized for manufacturing Electrode Carbon Paste	(i) Crushing & sizing of the Spent Pot Line by adding detoxifying compound followed by thermal treatment above 500 °C, (ii) The bath material on outer surface in the used anode butt is mechanically chipped off followed by crushing and sizing. This material is proportionately blended with coal tar pitch & petroleum coke to manufacture Electrode Carbon Paste.	The proposal explained by proponent for utilization of SPL was not convincing. However, the committee suggested the proponent to bring with him representative of user industry (who would being prospective utilizer of product made from Spent Pot Line) in the next meeting. The committee that the presenter has no practical and scientific observed. With regard to the facility installed for utilization of spent anode butt, the proponent has explained the process of removal of the fluoride layer by vibration cum grinding machine. The committee recommended that facility may be inspected by CPCB to ascertain the feasibility and effectiveness of environmental protection systems. In case the installed facilities are found to be satisfactory, permission may be granted for utilization of used anode butt for one year. Further, Fluoride emissions in stack and work zone of furnace shall be jointly monitored by CPCB and SPCB where the electrode carbon paste so produced within three months of plant operation during the said permitted period.
2.	M/s Metakani Resources Jhunjhunwala House, Nandpara, Sambalpur, Odisha-768001	Used Anode Butt to be utilized for manufacturing of Electrode Carbon Paste	Used Anode Butt is cleaned in a shot blasting machine followed by grinding & crushing, screening and mixing with coke and coal tar pitch	The unit has installed plant and machineries. It was recommended that a joint inspection by officials of CPCB and SPCB may be carried out to verify the same. In case the installed facilities are found to be satisfactory, trial utilization permission may be granted for utilization of used anode butt after recommendation of TEC and thereafter permission for one year shall be granted. Further, Fluoride emissions in stack and work zone of furnace shall be jointly monitored by CPCB and SPCB where the electrode carbon paste so produced within three months of plant operation during the said permitted period.
3.	M/s Eastern Electrodes & Coke Pvt. Ltd. Sarpi, Madhaiganj Road, Durgapur, Dist. – Burdwan			Since the unit is proposing to install plant and machineries similar to the other units permitted by CPCB, it was recommended that the proponent shall install the proposed suitable shot-blaster facility and other facilities along with requisite pollution control equipment and inform so that the unit can be inspected jointly by officials of CPCB and SPCB. In case the installed facilities are found to be satisfactory, permission may be granted for utilization of used anode butt for one year. Further, Fluoride emissions in stack and work zone of furnace shall be jointly monitored by CPCB and SPCB where the electrode carbon paste so produced within three months of plant operation during the said permitted period.

S. No	Name of the Industry	HW as Raw Material & Product	Process	Recommendations
4.	M/s Metacast International Bohidarnuapali, P.O. Sankarma, Sambalpur - 768006	Waste Anode Butt (HW Sch.-II, Class-B) to be utilized for manufacturing Carburiser	The unit has already been granted permission for utilization of Used Anode Butt @ 28 metric tons/day for manufacturing 1500 metric tons/month of Electrode Carbon Paste. However, the unit proposes to manufacture carburizer @ 1920 metric tons/month, in addition to 1500 metric tons/month of Electrode Carbon Paste, by utilizing used anode butt in the same plant except for blending of crushed cleaned anode butt with calcined petroleum coke in a ratio of 1:1.	It was recommended that the proponent shall send details of the ferroalloy unit where they propose to send the carburizer manufactured from used anode butt. During trial utilization, study shall be carried jointly by CPCB and SPCB for fluoride emission in work zone and source emission at such furnace unit.
5.	M/s Shubhra Chemicals Room no. – 77, 1st Floor, O.M.P. market complex, Cuttack – 753003, Orissa	Spent Pot Lining (SPL) (HW Category Sc-I, 11.2) to be utilized for manufacturing Fuel grade Carbon	SPL is crushed into small pieces followed by spraying of lime water. The wet material is subjected to indirect heating at 600-700^{0}C in a furnace. The material is then pulverized followed by treatment with lime in hot water (100^{0}C) in a rotary drum reaction vessel. The treated material is filtered and washed and again subjected to 600-700^{0}C in the furnace. After the heat treatment, the material is mixed with 3% lime and 3% molasses followed by briquetting and drying so as to obtain Fuel grade carbon.	The committee observed that so far only lab scale studies are done and the process may have marginal economic viability. However, since the proponent wants to go ahead, trial run is recommended for producing furnace grade carbon. During trial run utilization, the proponent may look for alternate methods for removal of CN from SPL, explore the possibility of producing NaAlF3 and use the carbon product for electrode/pot liner manufacturing. Trial run permission for utilization of SPL may be given for a period of 90 days by procuring SPL @ 200 tons/month. During which, monitoring of Fluoride in stack & work zone and Cyanide in stack shall be carried out jointly in presence of CPCB and SPCB officials. Further, Fluoride emissions in stack and work zone of furnace, where the recovered carbon will be utilized during the said trial run, shall also be monitored jointly by CPCB and SPCB. The unit shall submit the details of furnace units where the furnace grade carbon so recovered will be utilized. At any given time, the unit shall not procure and store more than 100 tons of SLP.
6.	M/s Ambica Industries C1/B 457, G.I.D.C. Estate, Sachin, Surat – 394230	Spent Solvent to be utilized for manufacturing Distilled/ Recovered Solvents	Distillation of Spent solvent followed by condensation of vapours to produce Distilled/ Recovered Solvents.	It was recommended that: (i) in case the solvent to be recovered is having boiling point of 100^{0}C and above, the unit may use water as cooling medium for condenser whereas for solvent with low boiling point (i.e. <100^{0}C), the unit shall install secondary condenser with chilled water/brine as cooling medium, which is not installed yet. (ii) barrels/drums in which the spent solvent is
7.	M/s Howrah Chemicals & Solvent Domjur Amta Road, Dakhinbary, P.O. Dakhin Jhaparah, Howrah - 5	Waste solvent to be utilized for manufacturing of Distilled mixed solvents		

S. No	Name of the Industry	HW as Raw Material & Product	Process	Recommendations
				received shall be sent back to same unit from where the material is received or the unit shall install necessary barrels/drums cleaning facility; (iii) fire safety audit of the facility shall be carried out and minimum degree of manual handling of solvents shall be ensured. Upon completion of above, a joint inspection of the units by officials of CPCB and SPCB may be carried out. In case the installed facilities are found to be satisfactory, permission may be granted for utilization of used anode butt for one year.
8.	M/s Vinayak Chemicals Plot No. 330/A, Road No. 33, GIDC, Sachin – 394230, Dist – Surat (Gujarat)	Iron sludge/grinding sludge to be utilized for manufacturing Ferrous Sulphate	Iron scrap and spent sulphuric acid is taken in the reaction vessel followed by filtration, crystallization and centrifuging.	The representatives of the unit were not able to clarify technical queries made by the committee members. They have also informed that they do not have any technical person with them. Further the proposal submitted was lacking necessary technical inputs. The committee expressed concern about the built up of contaminants in mother liquor separated after crystallization. The waste characteristics are also required to be analyzed. The committee therefore recommended that the proponent shall carry out characterization of the raw material, the expected process residues, no of cycles of recycling mother liquor, methods of disposal of various waste streams etc. and make technical presentation on the same in next meeting of the committee.
9.	M/s Pooja Environment H- 50, India Textile Market, Ring road, Surat – 395 002	Spent acid to be utilized for manufacturing Ferrous Sulphate	Iron scrap and spent sulphuric acid are taken in the reaction vessel followed by filtration, crystallization and centrifuging.	
10.	M/s Monarch Catalyst Pvt. Ltd. F -½ & A- 94, MIDC, Phase), Dombivti (E) Thane - 421203	Spent catalyst (carbon/alumina based) to be utilized for manufacturing of metal catalysts of Palladium, Platinum, Ruthenium & Rhodium	Incineration of spent catalyst followed by selective leaching, purification, crystallization and drying. Separate facility is provided for processing of catalysts of Palladium, Platinum, Ruthenium & Rhodium.	The committee recommended for trial utilization of spent catalysts containing Palladium, Platinum, Ruthenium & Rhodium jointly in presence of CPCB and SPCB officials. The unit shall submit material balance for each of the four aforesaid spent catalyst and based on which quantity of spent catalyst may be permitted for procurement of the same for trial utilization equivalent to 30 days for aforesaid trial utilization jointly in presence of CPCB and SPCB officials. The members of this committee may also be invited during the aforesaid trial utilization jointly in presence of CPCB and SPCB official.
11.	M/s S P Refractories Pvt. Ltd. M – 10, M -11/2, MIDC, Hingna, Nagpur – 480001	Spent Alumina (silica alumina catalyst) from petroleum refineries be utilized for manufacturing Calcium Aluminate (High Alumina refractory Cement for refractory)	Spent alumina directly feed Into the rotary kiln for calcination at 1100° C. The calcined material is then powdered, mixed with hydrated lime and subjected to heat at 1500° C to form clinker which is powdered and sold as Calcium Aluminate	It was recommended that the unit shall submit: (i) Material balance for manufacturing Calcium Aluminate Refractory cement by utilizing Spent alumina; (ii) The details of infrastructure available for storage of spent alumina; (iii) The details of air pollution control devices Upon receipt of above and found satisfactory, permission for trial utilization may be given by procuring spent alumina equivalent to 20 days utilization during which monitoring shall be conducted jointly in presence of CPCB and SPCB

S. No	Name of the Industry	HW as Raw Material & Product	Process	Recommendations
			Refractory cement.	officials with respect to parameters (Particulate Matter, CO, NO_X, SO_2 and heavy metals).
12.	M/s Shanark Industries Pvt. Ltd. A-26/6, MIDC Butibore, Nagpur – 441122	Spent Alumina to be utilized for manufacturing High Alumina Refractory Cement	Process of utilization not mentioned in the application.	The committee observed that the unit was asked to submit following information: a. Name & process description of the industries from where Spent Alumina is collected for utilization b. Detailed characteristics of the Spent Alumina c. Details of provision made for storage of Spent Alumina, hazardous waste generated during utilization process, etc and their mode of disposal d. Material Balance for utilization of Spent Alumina e. Details of Pollution Control Devices installed; and f. Treatment/utilization/disposal details of waste water generated during the process No information has been received from the unit and none of the representative of the unit was available to brief about proposal of utilization. It was recommended that the proponent be asked to submit proper application. Upon receipt of the same, proponent be invited again for technical presentation in the next meeting of the committee.
13.	M/s Resource Recycling Industries, Rajasthan	Spent catalyst utilized for manufacturing of Metallic Oxides	Spent catalysts are subjected to thermal treatment in rotary kiln.	The committee observed that the proponent is already registered (granted by CPCB) for recycling of spent catalysts (Zn, Ni, Cu) listed in Schedule-IV of the HWM Rules, 2008, and now proposes to re-process spent alumina, spent catalyst containing palladium and tungsten in the same facility using similar process. The committee recommends that utilization of spent alumina may be permitted, within the total capacity already permitted for recycling of other catalysts listed in Schedule-IV. However, for utilization of spent catalysts containing tungsten and palladium, trial utilization of 400MT of the same is recommended jointly in presence of CPCB and SPCB officials wherein emission shall be measured in respect of Particulate matter, SO_2, and relevant heavy metals.
14.	M/s Philips Electronics India Limited Phase- 9, Industrial Area, Sas Nagar, Mohali -160 062, Punjab	Spent Acid containing Molybdenum compound, (which is in-house generated) to be utilized for production of Molybdenum Trioxide.	Spent Acid containing Molybdenum compound is generated in-house during acid pickling process of tungsten filaments. The said spent acid is heated to 125-135°C followed by filtering of slurry to remove molybdenum oxide cake. Sulphuric acid as filtrate will be sold to third party.	The committee recommends that trial of utilization of spent acids containing Molybdenum compounds be permitted to produce molybdenum trioxide for a period of 30 days for quantity of 60MT. Monitoring shall be conducted jointly by CPCB and SPCB to study the utilization process. The unit shall submit characteristics of the sulphuric acid generated during the process and units to whom the same is intended to be sold and their utilization process.
15.	M/s The Phosphate Company limited 47, Ramakrishna Road Rishra –712248,	Silica Sludge to be utilized for manufacturing of Single Super	The Silica sludge generated from scrubber of its SSP plant to be mixed with the product (i.e. SSP)	The committee observed that the material is coming from its own process and gets utilized in the process itself. The committee recommended that trial utilization

S. No	Name of the Industry	HW as Raw Material & Product	Process	Recommendations
	Hooghly, West Bengal	Phosphate	itself as filler.	may be permitted for ten days jointly in presence of CPCB and SPCB officials wherein Fluoride emissions in source/work zone shall be monitored.

Annexure II-B

Recommendation of the Technical Expert Committee on Old Cases for approval under the Rule 11 of the Hazardous Waste (Management, Handling & Transboundary) Rules, 2008

S. No	Name of the Industry	HW utilized & Product manufactured and Process	Background	Recommendations
1.	M/s Goodwill Inorganics E – 159-A,Opp. Police Chowki, Mewar industrial Area, Madri, Udaipur – 313003,Rajasthan	Hydro Fluoro Silicic acid to be utilized for manufacturing Sodium Silico Fluoride **Process** Hydro fluo silicic acid and sodium chloride solution mixed in the reactor and passed through centrifuge unit followed by drying to produce the final product.	The committee in its earlier meeting had asked to install alkali scrubber and bag filter. However, the unit vide its letter dated 29.11.2012 informed that there is no need to install alkali scrubber and bag filter. The committee in its subsequent meeting on 06.12.2012 recommended that the proponent may be called in the next TEC meeting to discuss these issues.	The issues regarding alkali scrubber & bag filter were discussed. It was recommended that the unit shall install wet scrubber with the stack. Further, the unit shall obtain permission from SPCB for discharge of treated wastewater or install suitable effluent evaporation system.
2.	M/s Unique Chemicals B-172-173, M.I.A. Road no. 3, Madri, Udaipur, Rajasthan-313003	Hydro Fluoro Silicic acid (HW Sch.-II, Class-E) to be utilized for manufacturing Sodium Silico Fluoride **Process** Hydro fluo silicic acid and sodium chloride solution mixed in the reactor and passed through centrifuge unit followed by drying to produce the final product.	The committee in its earlier meeting had decided to invite proponent in next meeting to explain process details along with details of unit processes adopted and the pollution control systems w.r.t air, water & solid waste and safety system etc. to enable the committee to evaluate the same. Further, the applicants were also asked to provide the following information/documents: a) Name of the industries to whom the Sodium Silico Fluoride will be sold. b) Details of storage and process area (i.e. flooring & shed details and their size) supported with photographs. c) Characteristics of Hydro fluoro silicic acid proposed for utilization. d) Concentration of TDS and Fluoride in wastewater including feasibility of zero discharge. e) Details of mode of disposal of the sludge generated. f) Material balance for	The committee observed that the unit has not provided the information as decided in the seventh meeting of the committee. Further the unit has also not replied about invitation sent to them for explaining process details along with details of unit process adopted and the pollution control systems w.r.t air, water & solid waste and safety system etc. to enable the committee to evaluate the same. Accordingly, it was recommended that the unit may be given a final opportunity to appear in the next meeting of this committee along with details sought failing which the proposal shall be deemed to be withdrawn by the applicant.
3.	M/s Shree Lakhmi Products E-71,MIA,Madri,Udaipur, Rajasthan-313003	Hydro Fluo Silicic acid (HW Sch.-II, Class-E) to be utilized for manufacturing Sodium Silico Fluoride **Process** Hydro fluo silicic acid and sodium chloride solution mixed in the reactor and passed through centrifuge unit followed by drying to		

		produce the final product.	utilization of Hydro fluoro silicic acid. However, no response has been received from the applicants.	
4.	M/s Gujarat terce Lab No. 140/P, Village, ramnagar, Ta kalol, Distt. Gandhinagar, Gujarat	(i) Glycerine Foot Wax to be utilized for manufacturing Artificial coal (ii) Copper Etching Residue to be utilized for manufacturing Copper Sulphate	The committee in its previous meeting recommended that in respect of copper etching residue, upon installation of multi effect Evaporator, the proponent shall inform CPCB and based upon verification of such installation by ZO, CPCB, permission for conducting trial run in presence of CPCB/SPCB officials may be given without referring the same again to the committee. The verification report has been received from CPCB Zonal Office and some limitations have been outlined in the report. The same may be discussed for grant of trial run permission.	The committee reviewed the report from CPCB Zonal Office and recommended that the unit shall: (i) Install hood over the reaction tanks for copper sulphate and ferrous sulphate. The hood shall be followed by scrubber, blower and stack. (ii) Upgrade solar drying pits by providing pucca flooring and dyke wall or other suitable arrangements for drying ferrous sulphate Upon installation/upgradation as above and submission of relevant supporting photographs and analysis report, permission may be granted for trial utilization of Copper Etching Residue for ten days. With regard to utilization of Glycerine Foot Wax, the unit shall provide halogen content and details of impurities (chemical constituents) present in Glycerin Foot wax.
5.	M/s Jay Minerals , P.No 1, S.No 5, Dhichada, bedi Port Road, City Dhichada, Distt Jamnager (Gujarat)	Used anode butt (HW category Sc.-II, Class-B) be utilized for manufacturing Electrode Carbon Paste/ Carbon coke	The unit has been issued trial run permission in presence of CPCB/SPCB officials as per the recommendation of the committee in its previous meeting. However, the unit has requested that only verification shall be carried out through inspection of CPCB/SPCB officials referring decision taken in the 3rd meeting of the TEC.	It was recommended that trial run along with relevant sampling at the unit shall be carried out jointly in presence of CPCB and SPCB official. Further, jointly in presence of CPCB and SPCB official, Fluoride shall also be monitored in Stack and work zone of furnace where Electrode Carbon Paste/ Carbon coke (produced by utilizing used anode butt) will be utilized.
6.	M/s Shikhar Ferro Pivate Limited. Khasra No. 868/2, Village- Kotri, Tehsil & District- Bhilwara (Rajasthan)	waste/residue containing oil (Category 5.2 of Schedule I of the HWM Rules, 2008 generated from grinding mill section of Ball & Roller Bearings manufacturing units to be utilized for manufacturing of Ferrous Sulphate by reacting with Sulphuric acid followed by filter pressing and crystallization.	The committee in its previous meeting observed that the plant machinery is under installation. The committee recommended that laboratory scale utilization be conducted by the proponent wherein; a) Material balance w.r.t Cr, Ni, Mn in the oil and water based sludge, product and residue be carried out. b) The product $FeSO_4$ as produced from utilizing grinding iron dust shall be analyzed for Cr, Ni and Mn and compared with BIS/relevant specification for Ferrous Sulphate. (since the waste contains Cr, Ni and Mn and the product $FeSO_4$ is expected to be used as coagulant in water	The material balance and other details submitted were reviewed by the committee. Accordingly, the committee recommended following: (i) For treatment of effluent generated from floor washing/reactor wash/vehicle wash/spillages/scrubber bleed etc. and mother liquor, if any, the unit shall install an effluent treatment plant. Further, the unit shall submit usage plan of treated water so as to meet zero discharge condition. (ii) The unit shall become member of TSDF for disposal of hazardous waste and a copy of such membership shall be submitted. Upon installation of the same and submission of relevant supporting photographs/documents, trial run for ten days may be permitted in jointly presence of CPCB and SPCB officials by procuring 60 Metric Tons of waste/residue containing oil (Category 5.2 of Schedule I of the HWM Rules, 2008. Sulphuric acid mist shall not exceed 35mg/Nm^3 in the stack. The Ferrous Sulphate so produced shall be utilized only for

			treatment) The aforesaid information shall be submitted to CPCB for discussion in the next committee meeting. In view of above, the proponent has submitted aforesaid analysis report and comparision and the same may be discussed by the committee.	industrial purposes.
7.	Tata Motors Limited	ETP sludge, generated from in-house operation, to be utilized for manufacturing cement based pavement tiles/ blocks/ bricks.	The committee in its previous meeting recommended that the unit shall: I. Provide details of dried sludge handling crushing and mixing operations ensuring dust control measures. II. Submit the samples of tiles/ blocks/ bricks at laboratory scale for conducting TCLP analysis for heavy metals at CPCB lab/NABL accreted laboratory. The charges for the same shall be borne by the unit. If the result of the above analysis are found to be satisfactory and after the requisite facility has been installed and verified by CPCB/SPCB permission for utilizing ETP sludge may be given initially for a period of one year Accordingly, the unit submitted each sample of paver block and brick along with proposed process of utilization and inertial separators/Facbric collectors/wet scrubbers. The samples were forwarded to laboratory of M/s SGS India Pvt. Ltd. for TCLP analysis of Ni, Cd, Zn, Cr, Cu, Pb, Fe, As, Sb and Co. The results of the same have been sent by M/s SGS India Ltd. Further, the unit also submitted	The TCLP analysis report of paver block and brick, as forwarded by M/s SGS India Ltd., was reviewed. The committee recommended installing plant and machineries along with suitable pollution control devices after obtaining permission from Uttarakhand Environment Protection & Pollution Control Board. Upon aforesaid installation, trial run utilization of ETP sludge, generated from its own operation, may be permitted for a period of 15 days jointly in presence of CPCB and SPCB official. The report of the said trial run may be placed before this committee for considering permission of utilization of ETP sludge for manufacturing paver pavement tiles/blocks//bricks.

Annexure III

Recommendation of the Technical Expert Committee on Grant of approval after trial run under the provision of Rule 11 of the Hazardous Waste (Management, Handling & Transboundary) Rules, 2008

S. No	Name of the Industry	HW as Raw Material & Product	Background	8th TEC meeting recommendation
1.	M/s Royal black Powder Plot No. 7, GIDC Palej, Tal. & Distt. Bharuch, Gujarat	Carbon Soot & Spent Carbon from GNFC, Bharuch (Gujarat)to be utilized for manufacturing Black powder	As per the recommendation of the technical expert committee in its previous meeting, trial run report has been received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	The inspection report from Zonal Offices of CPCB was reviewed and it was observed black powder is produced by mere separation of finer and coarser Carbon Soot & Spent Carbon of Gujarat Narmada valley Fertilizers & Chemicals Limited, Bharuch. The so produced coarser black powder would be sold to fertilizer manufacturers to use as manure and finer black powder to the manufacturers of low quality belts, boots and other plastic products. It was recommended that the unit may be called in next meeting of the committee to explain about utilization of black powder having high Chromium and nickel as observed in the analysis report.
2.	M/s Hindustan Platinum C – 122 TTC Industrial Area, Pawane, navi Mumbai - 400763	Spent Precious Metal Catalyst to be utilized for manufacturing Precious Metal	As per the recommendation of the TEC in its previous meeting, trial run report has been received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	The inspection report from Zonal Offices of CPCB was reviewed and it was observed that air pollution control devices have not been installed in any of the five incinerators. However, a new incinerator along with air pollution control device is under installation. Accordingly, it was recommended that: (i) upon commissioning of the said incinerator along with air pollution control device and intimation to CPCB, the same may be verified by the Chairman of the Committee. (ii) The unit shall submit a copy of TSDF membership for disposal of hazardous waste generated during utilization process (iii) The unit shall submit analysis report of relevant parameters (w.r.t. Schedule II of the HWM Rules) in Alumina and Silica generated after utilization process so as to decide its disposal/utilization requirement. If the same found to be satisfactory, permission may be granted for utilization of Spent Catalyst containing Platinum, Palladium, Rhodium Ruthenium and Silver (Sl. No. 1.7; 4.2 and 28.2 of the Schedule I of the HWM Rules 2008) @ 5000 MTA for one year for producing Silver and Silver alloyed contacts, Bimetal contacts/ Platinum Labwares/Platinum Gold Spinnerettes/Other items manufactured from Silver, Gold, Platinum etc.
3.	M/s Krasoma Plot No. 254 Sector III, Pithampur Distt Dhar, Madhya pradesh	Waste Pickling Liquid to be utilized for manufacturing Ferric Chloride	As per the recommendation of the technical expert committee in its previous meeting, trial run report has been received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	The inspection report from Zonal Offices of CPCB was reviewed and it was observed that the unit has not installed effluent treatment plant and fume collection hood over the reactors followed by air pollution control device. The CPCB inspection report reveals spillage of spent acid and product (i.e. Ferric Chloride) from storage tanks. Further, the unit does not have membership from TSDF for disposal of hazardous waste. Accordingly, the committee recommends following: (i) For treatment of effluent generated from

S. No	Name of the Industry	HW as Raw Material & Product	Background	8th TEC meeting recommendation
				floor washing/reactor wash/vehicle wash/spillages/scrubber bleed etc. and mother liquor, if any, the unit shall install an effluent treatment plant. Further, the unit shall submit usage plan of treated water so as to meet zero discharge condition as stipulated in the consent to operate issued by the MP SPCB. (ii) The unit shall install fume collection hood over the reactors followed by scrubber and stack. (iii) Proper transferring arrangement shall be installed for storage tanks and acid prrof flooring shall be made around storage tanks. The same shall be under covered shed. (iv) The unit shall become member of TSDF for disposal of hazardous waste and a copy of such membership shall be submitted. (v) Chlorine sensor shall be installed. Upon installation of the same and submission of relevant supporting photographs, permission may be granted for utilization of 4,800 MT/year for producing Ferric Chloride for one year. However, the unit shall ensure that Ferric Chloride so produced shall be utilized only for industrial purposes and Hydrochloric acid vapour and mist shall not exceed 35mg/Nm^3 in the stack.
5.	M/s JK Tyres Note Mudran Nagar, Mysore - 570003	Utilization of ink sludge from M/s Bhartiya Reserve Bank Note Mudran (P) Limited in, boiler of M/s JK Tyres	As per the recommendation of the TEC, trial run report has been received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	The committee observed that the trial utilization study was conducted in spreader stroker type of boiler (Vikrat Tyre Plant-1) of 20 tons per hour steam generation. The utilization was carried out upto 5% in 95-100 TPD coal consumption The result indicate that the emission values for Particulate Matter were 41 - 56 mg/Nm3 during trial utilization against 43mg/Nm3 prior to utilization The heavy metals, SO_2, NOx, CO, CO_2 and Hg concentrations show marginal or no increment during trial utilization, though the values are within the stipulated emission norms for HW incinerator. However large variation was observed in CO & CO_2 values. In view of above the committee recommends that (i) Temporary permission for utilization of ink sludge not exceed 1% of the coal feed be given for stroker boiler for a period of four months. During these period, the unit shall monitor stack emission monitoring w.r.t heavy metals, PM, CO, TOC and O_2 and report be submitted to CPCB. (ii) Further, trial utilization study may also be carried out in their existing 28 TPH fluidized bed boiler unit -2.
6.	M/s Malana Silver Nitrate Recycling Unit Village Rampur Gujjaran, Thsil Moonak , Distt-Sangrur (Punjab)	Spent fixer (hypo) solution of photograph/X-ray films to utilized to	As per the recommendation of the technical expert committee in its previous meeting, trial run report has been	The committee observed that, as per the recommendation of the 7th meeting of this committee and the report of ZO, the unit has submitted characteristics of spent hypo solution, installed centrifuge for filtration, scrubber for pot furnace emission and solar evaporation pit (with

S. No	Name of the Industry	HW as Raw Material & Product	Background	8th TEC meeting recommendation
		recover Silver	received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	rain cover) for waste water and submitted photographs as proof of the same. In view of the above, the committee recommends grant of permission for utilization of silver nitrate for one year @ 60 kg/year to recover Silver
7.	M/s Barkha Enterprises, Ranpur, Kota, Rajasthan	Spent catalyst containing Mercury (impregnated in activated carbon) to be utilized for manufacturing mercury	As per the recommendation of the TEC, trial run report has been received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	The inspection report from Zonal Offices of CPCB was reviewed and it was recommended that permission may be granted for utilization of Spent Catalyst containing mercury compound from M/s Shriram Vinyl & Chemical Industries, Kota, @ 10 metric ton/month for one year for producing mercury. The unit shall utilize suitable chemicals for reactive scrubbing of mercury vapours to form mercury sulphide or install activated carbon filter at the scrubber outlet. upon completion of the above and submission of relevant supporting documents, photographs as a proof of the same, permission may be granted for utilization of Spent catalyst containing Mercury
8.	M/s M.M. Minerals Ichinda, Rairangpur, Mayurbhanj, Orissa - 757043	Sludge from gas cleaning plant of ferro manganese furnace to be utilized for manufacturing Manganese Oxide	As per the recommendation of the TEC, trial run report has been received from Zonal Offices of CPCB. The same may be discussed for grant of permission.	The committee recommends the utilization of Gas Cleaning Plant (GCP) sludge from Ferro Alloy furnace, as a supplementary resource in manufacturing manganese oxide from manganese ore, not exceeding 50% of the feed mix with the following recommendations (i) mechanised handling of the material in loading, crushing, and feeding so as to reduce fugitive emission; (ii) cover the conveyer belt and transfer points. upon completion of the above and submission of relevant supporting documents, photographs as a proof of the same, permission may be granted for utilization of Sludge from gas cleaning plant @ of 500MT/Month for manufacturing Manganese Oxide

Annexure IV

Recommendation of the Technical Expert Committee on Renewal Permission of Grant under the provision of Rule 11 of the Hazardous Waste (Management, Handling & Transboundary) Rules, 2008

S. No	Name of the Industry	HW as Raw Material & Product	Background	Remarks
1.	M/s Sumak Pigments A-25 Manjusha Manohar garden, jai Bhavani Road,Nashik - 422102	Spent acid containing Molybdenum compound for manufacturing Ammonium and Sodium Molybdate	The unit was earlier granted permission for utilization of Spent acid containing Molybdenum compound Ammonium and Sodium Molybdate @ 5 MT/M of one year. Later the unit applied for renewal of permission along with enhancement of capacity to 25 MT/M. Zonal Office, CPCB was requested to send report in this regard. Inspection report from Zonal Office, CPCB, has been received. The unit was asked to provide the following: a) Details of hazardous waste procurement (i.e. spent acid containing molybdenum) be supplemented with manifest documents as required under the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008. b) Records of the by-product (liquid micro nutrient) and product (Sodium/ Ammonium Molybdate) generated (i.e. details of quantity generated and sold along with the name of industries to whom the product & by-product has been sold). c) Reports of Ambient Air Quality /fugitive/emission monitoring carried out during the permitted period. d) Clarification on the existence of ETP and generation of paint sludge as reported in the environment statement submitted by you. The reply received in this regard from the unit and inspection report from CPCB Zonal Office may be discussed for grant of renewal permission.	The committee reviewed the Zonal Office, CPCB inspection report and subsequent correspondence from the unit. It was observed that it does not have ETP and mother liquor/washings generated at various steps of the process including water used for scrubbing are recycled/reused in the subsequent batches and sold as liquid micronutrient after three cycles. The MPCB has granted Consent for the manufacture of liquid micronutrient @ 21 T/M. It was recommended that renewal permission for utilization of Spent Acid (containing Molybdenum compound) may initially be granted for 6 months. During this period the units utilizing aforesaid mother liquor/washings/scrubbing liquid as liquid micronutrient may be asked about method/process of its utilization, specification, characterization and use of fertilizer being produced from the same.
2.	M/s Tata Chemicals P O Durgachak haldia distt - Purba Medinipur West Bengal - 721602	ETP Sludge by mixing with Gypsum to be used by cement	The unit has applied for renewal of permission earlier granted for one year (i) not more than 0.015% of the ETP Sludge generated from its own ETP	The committee reviewed the inspection report of Zonal Office, CPCB. Accordingly renewal permission may be granted of 5 years validity for utilization of (i) the ETP Sludge generated from its own

S. No	Name of the Industry	HW as Raw Material & Product	Background	Remarks
		plant and Sulfur Sludge as filler in Single Super Phosphate plant	Plant by mixing with Gypsum and (ii) Sulphur sludge generated from their own Sulphuric Acid Plant as filler not more than 0.3%. Zonal Office, CPCB was requested to send report in this regard. Inspection report from Zonal Office, CPCB, has been received and the same may be discussed for grant of renewal permission.	ETP Plant by mixing with Gypsum upto a maximum of 0.015%and (ii) Sulphur sludge generated from their own Sulphuric Acid Plant as filler not more than 0.3% of SSP.
3.	M/s Chem Sale Shankar Ganj, Garh Road, Hapur - 245101	Spent chrome solution to be utilized for manufacturing of Chromium & Iron salts	The unit was earlier granted permission for utilization of Spent chromic acid for manufacturing of Chromate & dichromate salts @ 10KL/M for one year. Later the unit applied for renewal of permission along with enhancement of capacity to 15 KL/M. CPCB, ZO, Lucknow was requested to carry out random checks and also submit the inspection report along with recommendations. The inspection report from CPCB Zonal Office has been received and the same may be discussed for grant of renewal permission.	The inspection report from Zonal Office of CPCB was reviewed and it was observed that: a) The Spent Chromic Acid from Spillage collection pit is collected manually (by bucket) for reuse in the process. b) A bypass drain is connected with the domestic drain c) For treatment of process effluent, an ETP is operated but record of its operation is not maintained. Accordingly, the committee recommended that the unit shall: a) install a mechanical arrangement such as pump for transferring Spent Chromic Acid from Spillage collection pit to reactor; and b) close the bypass drain and a septic tank for disposal of domestic effluent shall be installed. Upon commissioning of above and submission of relevant photographs in support, the unit may be granted renewal permission for five years for utilization of Spent chromic acid for manufacturing of Chromate & dichromate salts @15KL/month. The unit shall ensure maintaining record of its ETP operation regularly.
4.	M/s Shri Balaji Chemicals Industries 351,Sch. No. 74-C, Vijay Nagar, Indore-10(M.P.)	Spent Acid to be utilized for manufacturing of (i) Ferrous Chloride (Aqueous Solution) (ii) Ferrous Chloride (Tetra hydrate and anhydrous) (iii)Ferrous Sulphate (Aqueous Solution) and (iv)Ferrous Sulphate (hepta,	The unit was earlier granted permission for utilization for one year. Later the unit applied for renewal of permission. However, a three months temporary permission was issued to the unit wherein CPCB Zonal Office shall verify the utilization, adequacy of scrubber installed. The inspection report from CPCB Zonal Office has been received and the same may be discussed for grant of renewal permission.	The inspection report from Zonal Office of CPCB was reviewed and it was observed that the unit has not installed effluent treatment plant. Accordingly, the committee recommended following: (i) For treatment of effluent generated from floor washing/reactor wash/vehicle wash/spillages/scrubber bleed etc. and mother liquor, if any, the unit shall install an effluent treatment plant. Further, the unit shall submit usage plan of treated water so as to meet zero discharge condition as stipulated in the consent to operate issued by the MP SPCB. (ii) The unit shall submit a copy of TSDF membership.

S. No	Name of the Industry	HW as Raw Material & Product	Background	Remarks
		mono and anhydrous)		Upon installation of the same and submission of relevant supporting photographs/documents, permission may be granted for utilization of Spent Acid containing Hydrochloric Acid and Sulphuric Acid @ 20 MT/year for one year for producing (i) Ferrous Chloride (Aqueous Solution); (ii) Ferrous Chloride (Tetra hydrate and anhydrous); (iii)Ferrous Sulphate (Aqueous Solution) and (iv)Ferrous Sulphate (hepta, mono and anhydrous). However, the unit shall ensure that Ferric Chloride so produced shall be utilized only for industrial purposes and Hydrochloric acid vapour and mist and Sulphuric acid mist shall not exceed 35mg/Nm^3 and 50 mg/Nm^3 respectively in the stack.