

Minutes of 37th meeting of the Technical Review Committee (TRC) under the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 held on 3rd June 2015 under the chairmanship of Shri R.K.Garg

The decisions of the Ministry as per the agenda are as follows:

AGENDA ITEM NO 2.1: Finalization of Standard Operating Procedures with regard to import of Waste Pneumatic Tyres for recycling- reg

Waste pneumatic tyres are imported in the country for recycling, resource recovery and for utilization as supplementary resource. The committee noted that as per UNEP guidelines, waste pneumatic tyre is defined as a tyre that cannot be used for its original intended use any further. However, such waste pneumatic tyres may be re-treaded for further use or can be recovered by being cut, shredded and then used in several applications, such as footwear, sports ground surfaces and carpets. They can also be used in the form of tyre-derived fuel for energy recovery.

As per HWM Rules, 2008, 'waste pneumatic tyres' are listed at item no B-3140 of Schedule-III and can be imported into the country only for the purpose of resource recovery, recycling or 'direct re-use' and require prior permission from this Ministry or import. However, as per the OM No: F. No.23-4/2009-HSMD dated 24/11/2014 issued by MoEF, import of used tyres for direct re-use has been prohibited in the country. Further, used pneumatic tyres have not been categorized as hazardous wastes as per Schedule-I and II of HW Rules, 2008. Provisions under HWM Rules, 2008 may only apply in case of import of waste pneumatic tyres.

The main constituents of used tyres are steel, rubber and fibre in varied proportions depending upon the duty of the tyre. The environmental and safety concerns in the recycling arise due to fire hazard, emission of fibre and fine carbon particles and odour nuisance.

Applications for import of waste pneumatic tyres are considered for actual users on case to case basis having requisite permissions and adequate facilities. The major recycling and recovery purpose for which waste tyres are used in the country are as follows:

- (a) Crumb rubber and downstream products
- (b) Utilization/Co-processing in Cement Kilns
- (c) Tyre Pyrolysis Oil

On the basis of detailed deliberations the SOP as recommended by the committee is as given below.

Decision: SOP for import of waste pneumatic tyre for manufacturing of crumb rubber

I Documents required:

A person desirous to import waste pneumatic tyres shall comply with following documentary requirement:

- i. He should be an actual user
- ii. Shall possess valid consent to establish granted by the State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) under the Water (Prevention and Control of Pollution) Act, 1974 (25 of 1974) and Air (Prevention and Control of Pollution) Act 1981 (21 of 1981);
- iii. The applicant unit should possess 'consent to operate' issued by concerned State Pollution Board under the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act 1981
- iv. Certificate of fire clearance from concerned authorities.
- v. Documents showing proof of compliance with the minimum required facilities in the form of photographs, video, documents etc.

- vi. Should possess valid IEC certificate issued by office of the DGFT

II Minimum required facilities and operating practices

(a) Production of Crumb rubber/ reclaimed rubber

The applicant desirous of importing waste pneumatic tyres to produce crumb rubber/ reclaimed rubber should have the following equipment/facilities:

- i. De-beading machine without manual intervention or with safety guards wherever manual intervention is involved, to ensure safety of workers.
- ii. Strip cutter and chip making machines should have safety guards to ensure safety of workers.
- iii. The Cracker/ Shredder should have adequate arrangement for capturing fibre and fugitive particulates leading to cyclone separator/bag filters. The cracker/shredder should also have magnetic separators to remove any iron particles. For controlling the noise from these machines they should have acoustic enclosure.
- iv. The grinder/ pulveriser which further reduce the crumb size should necessarily have adequate arrangements to extract fibres and fine particles through suction and bag filters.
- v. All the conveyors, vibrating screens and transfer points including packing should be covered and fitted with suction system connected to bag filters.
- vi. The whole process area should have proper ventilation system.
- vii. Adequate fire fighting arrangements in terms of fire hydrants have to be installed in the premise of the units in such a way that it should cover all the areas of the plot.
- viii. All workers should have personal protective equipment/gadgets such as safety apron, masks, shoes, gloves, goggles, helmet and earplugs.

(b) Production of Reclaimed Rubber

In addition to the above requirement the following environmental safeguards should be provided during the process of converting the crumb rubber into reclaimed rubber:

- i. Guards should be provided on machines where manual feeding is involved;
- ii. Adequate ventilation system should be provided in the process area in view of the high temperature environment and generation of fumes;

AGENDA ITEM NO 02: Finalization of Standard Operating Procedures with regard to import of Used PET Bottle Scrap/ plastic scrap for recycling -reg.

PET Bottle Scrap is recycled for production of PET flakes or polyester fibers for use in the making of staple fibre, pillows, carpets, polyester sheets, strapping.

The committee observed that plastics are synthetic organic materials produced by polymerization. There are two main types of plastics: thermoplastics and thermoset polymers. Thermoplastics are those which repeatedly soften and melt so that they can be recycled into new plastics products. Examples are polyethylene, polystyrene and polyvinyl chloride, Polyethylene-terephthalate (PET) among others. Thermosets plastic can melt and take shape only once and cannot be recycled by repeated heat treatments; Examples are Polyester, Polyurethane foam, Bakelite, Urea-formaldehyde, Melamine, Epoxy.

Poly-ethylene-terephthalate (PET) is a thermoplastic produced from ethylene glycol and terephthalic acid. Globally, there is rapid increase in use of PET based beverage bottles. Virgin PET bottles are widely used for packing carbonated beverages, mineral water, shampoos etc. Large quantities of used/scrap bottles are thus generated which can be recycled.

Recycled PET flakes are used as the raw material for a range of products that would otherwise be made from virgin material. These include polyester fibres (a base material for the

production of clothing, pillows, carpets, etc.), polyester sheets, strapping, or back into PET bottles. Technologies are also available to produce food grade plastic, from used PET bottles by hydrolyzing down to monomers, which are purified and then re-polymerised to make new PET.

The SOP for import of PET bottle scraps for recycling as recommended by the TRC is as given below:

Decision: SOP for import of PET bottle scraps

Permission for import of PET Bottle Scrap or used PET bottle flakes may be permitted to actual users having requisite permissions and adequate facilities for recycling of PET Bottle Scrap to produce PET flakes or fibers (to make staple fibre, pillows, carpets, polyester sheets, strapping etc.) or non-food grade PET bottles.

I Documents required:

Any person who intends to import used PET bottles scrap (for recycling) has to have the following:

- i. Valid consent to operate from concerned State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) under the Water (Prevention and Control of Pollution) Act, 1974 (25 of 1974) and the Air (Prevention and Control of Pollution) Act 1981 (21 of 1981);
- ii. Registration as per the provisions under Rule-9 (b) of Plastic (Management & Handling) Rules, 2011 from the concerned State Pollution Control Board.
- iii. Fire safety certificate from the concerned department/authority.

II Requisite facilities and standard operating procedures for PET recycling units:

- i. The raw material i.e. bales of used PET bottle scrap should be received and stored only under a shed with impervious flooring.

- ii. The unit should have a mechanized washing line comprising of conveyor, crusher, wet separation of caps and labels from PET chips/flakes, alkaline/detergent hot washing followed by rinsing with hot water . There should not be any spillage of water during washing cycle and also there has to be a proper system of collecting labels and crushed caps.
- iii. After washing the chips are conveyed pneumatically to the dryer and then filled in the bags or conveyed directly to the fibre making section.
- iv. The crushed caps and the labels should be kept in a proper storage area and disposed to the registered recyclers of waste plastic.
- v. The unit should have ETP for effluent generated in the washing line. The treated waste water should be recycled within the plant to the extent possible. The sludge from ETP should be stored under covered shed and disposed off as per the conditions stipulated by the SPCB.
- vi. The unit should have the adequate arrangements for fire-fighting.
- vii. The unit should install adequate pollution control devices so as to comply with norms as stipulated in Consent to Operate.

AGENDA ITEM NO 03: Finalization of Standard Operating Procedures with regard to import of lead scrap for Secondary Lead Recycling Units-reg.

Lead scrap/waste such as scrap full lead acid battery, Lead acid battery plates and other lead scrap are imported for recycling for production of lead through secondary recycling procedures.

The SOP for import of lead waste/scrap as recommended by the Committee is as given below:

Decision: SOP for import of lead waste/scrap

Documents Required

- i. Valid registration from the concerned SPCB/PCC. The guidelines for registering lead recycling units have already been prepared and are enclosed as **Annexure 1**.
- ii. Valid CTOs and authorization;
- iii. The lab analysis reports of stack emissions, waste waters, ambient air, work zone environment, soil and ground water specially in respect of lead content;
- iv. The latest blood analysis report in respect of lead of workers engaged in the unit from accredited laboratories;
- v. The application must specifically be only for fully drained used lead acid batteries, as un-drained batteries' import is not permitted;
- vi. The proof for mechanical battery breaking equipment with acoustic enclosure, dust and fume extraction system as well as wet separation system for lead and plastic for full batteries.

II Requisite facilities and standard operating procedures for lead recycling units:

- i. Type of furnace installed (Rotary/Mandir Bhatti)
 - a. Rotary furnace with suction hood connected with APCS over the charging point exists.
 - b. Mandir Bhatti with suction hood connected with APCS over the charging point and molten metal tapping point exists.
- ii. Furnace connected with expansion chamber, cooling tubes/ducts, Cyclone/Multi Cyclone, Bag filter with pulse jet/mechanical shaker arrangement, Alkaline Scrubber with arrangement of alkali dosing, & connected with ETP, ID fan and stack of minimum 30 meter height as shown in the enclosed process flow sheet.

- iii. Separate and secured covered space for storage of residue generated after recycling of lead bearing waste. The floor of the storage area should be impervious.
- iv. Separate covered storage space for 1 raw material having impervious acid proof flooring and finished products.
- v. ETP based on physic-chemical treatment of wastewater
- vi. Manual battery breaking area should have acid proof flooring with acid collection pit connected with ETP
- vii. Each stack should have a port-hole (as per specifications given in CPCB document COINDS-III) with platform for stack monitoring. There should be an easy ladder for safe access to stack monitoring platform.
- viii. Battery-Breaking Processes: After draining the acid there are two modes of dismantling/breaking of batteries before battery plates are processed for smelting. The first mode is manual where the battery is cut from the top, plates are removed and left over acid is drained. The second mode is where the battery is mechanically broken along with the casing.
 - i. The facilities required for manual dismantling include suction hood, connected to the pollution control device, arrangement for washing of the plastic components before being sent for recycling and acidic water neutralization facility. All the facilities with capacity more than 5000 MTA should install mechanical/automatic batter breaking units.
 - ii. Facilities required for mechanical/automatic breaking include arrangements for noise control and dust and fume extraction system and acidic collection / neutralization facilities and ETP for treatment of lead and acidic wastewater
- ix. Adequate facilities for collection and storage of ETP sludge and slags.

x. SPCBs/PCCs may prescribe the following standards for Emission/Discharge for Lead

- a) Lead in work area, NIOSH 8-hr avg (mg/m^3) : 0.05
- b) Lead in emission through stack (mg/Nm^3) * :10.0
(already notified)
- c) Lead in effluents (mg/l) :0.10
(notified general standard)
- d) Lead in factory premises near boundary wall 24-hr avg ($\mu\text{g}/\text{m}^3$) : 1.0
(* Nm^3 – normal cubic meter)
- e) Workers Blood lead levels: As a practice, all lead related units should periodically examine their workers at least once in year for lead level in blood as well as urine. Persons with higher lead levels (greater than 42 micrograms /dl) should be shifted immediately to non-lead activity areas and given special medical treatment till the lead levels come back to acceptable level (10- micrograms /dl).

xi. Steps to minimize fugitive emissions of Lead

- i. The design of hood/fume collection system from the smelting/refining operations (from metal tapping point, charging doors, furnace joints etc.) should be capable of collecting lead emissions and transfer to the air pollution control system.
- ii. The storage and handling of all the raw materials, intermediates and products should be in covered area/shed having concrete floors and mechanized equipment should be used to handle these materials as far as possible.
- iii. The floors in the loading area should be kept wet through sprinklers to reduce the chances of lead particles/dust getting airborne.
- iv. Any water used for washing, rain water etc, should be collected through separate pits (to delink this from the regular drain) for removing metallic lead etc and the pit should have fine screens for passage of clear water.

- v. The movement of vehicles to the administrative/working/production areas should ensure that only the trucks/vehicles involved in the material handling/transportation reach the work areas, and their tyres are washed before they leave these areas.

AGENDA ITEM NO 04: Representation from M/s Apple India Private Limited to obtain clarification on the permissibility of import of refurbished goods into India.

The application pertained to import of 1,00,000 and 2,50,000 nos. of I-phone and I-pad and was considered during the Expert Committee meeting. The committee noted that the list of items to be imported was too large and purpose of import was not apparent. Further, Chartered Engineer Certificate was also not enclosed with the application. The committee suggested calling the applicant for presentation. The applicant in response submitted clarification informing that they are contemplating exploring the market for refurbished EEE in India and accordingly, the application was submitted in the Ministry. Since the refurbished goods are still not identified, they are unable to submit the CEC from the exporting country.

Decision: The Committee so far has not recommended import of old consumer electronic items like mobiles, laptops, televisions etc. for the purpose of trading. The items proposed to be imported are known to have short functional life and are prone to become obsolete in short period of time. Therefore, generation of e-waste would become quicker in the country. The Ministry therefore did not recommend import of such items for trading purpose.

GRANT OF REGISTRATION BY SPCBS/PCCS

Any person who desires to set up a recycling unit for recycling of lead bearing waste such as scrap lead acid battery, Lead acid battery plates and other lead scrap/ashes/residues, Rains, Radio, Racks, Rakes, Ropes, Rents, Relay and Rails should submit an application in form 5 of HW (M, H &TM) Rules, 2008, accompanied with copies of the following documents as per Rule 8 of the said Rules for the grant of the registration to concerned SPCBs/PCCs.

- i. Consent to establish granted by the State Pollution Control Boards/Pollution Control Committees(SPCBs/PCCs) under the Water (Prevention and Control of Pollution) Act, 1974 (25 of 1974) and the Air (Prevention and Control of Pollution) Act 1981 (21 of 1981);
- ii. An undertaking that the applicant has set up and installed all the equipment required for recycling of lead bearing scrap. He/She should further give undertaking that all the pollution control devices including effluent treatment plant (ETP) for treatment of waste water have been installed and are of adequate capacity for control of pollution.
- iii. Certificate of registration issued by the District Industry Centre or any other government agency authorized in this regard;
- iv. Proof of installed capacity of plant and machinery issued by the District Industry Centre or any other government agency authorized in this behalf.
- v. Proposed Membership of common TSDF for final disposal of slag after recycling of lead bearing waste;
- vi. Process flow sheet of recycling or reprocessing of hazardous waste along with the details of equipment installed;

- vii. Details of Air Pollution Control Systems (APCS) installed in the unit along with the diagram and their specification;
- viii. Details of Effluent Treatment Plant (ETP) with for treatment of acidic wastewater and discharge from scrubber
- ix. Details of on-site secured storage facility of slags (covered) generated during the process
- x. Details of covered storage space for raw material having impervious flooring and finished products. Acid proof flooring in batteries storage and breaking areas.

After receiving the application, the designated officer/officers should examine it and the shortcomings if any be communicated to the applicant within 7 working days of receiving the application.

After obtaining the required information/documents from the applicant, a dry inspection has to be carried out by the concerned SPCBs/PCCs for verification of the installed facilities. In the inspection report, the inspecting officer/officers shall certify that he has seen the recycling facility and also shall detail out the pollution control equipment installed in the recycling unit and put his signature.

On the basis of inspection report the SPCBs/PCCS, after being satisfied that the applicant is having environmentally sound technology and possesses, requisite technical capabilities, adequate facilities and equipment, shall grant registration. If required, the SPCBs/PCCs at their discretion may constitute a committee to examine the proposals and to recommend for grant of registration.

The Registration Certificate shall be issued in the form of a pass book wherein the details of procurement of lead bearing waste has to be entered and endorsed by the supplier.

All registration certificates cum pass books issued by CPCB in the past should be withdrawn with immediate effect and a new registration certificate-cum-passbook in lieu of the earlier CPCB registration certificate cum pass book shall be issued by the concerned SPCBs/PCCs for period of validity not exceeding 5 years. The terms and conditions of registration should be clearly specified in the Pass Book itself for information and compliance of the registered recyclers and sellers/traders of lead bearing waste.

The registration issued is valid for a period of five years, unless the operation is discontinued by the unit or the registration is suspended or cancelled for any violation of rules/conditions specified in registration certificate.

SPCBs/PCCs is expected to dispose applications for registration as stipulated in the HW Rules 2008.

Within a period of six months from grant of registration, SPCBs/PCCs shall carry out performance evaluation of the pollution control devices including ETP for assessing adequacy (meaning whether capable of controlling pollution or not) of pollution control equipment. The inspection report has to be certified by the inspecting officer/officers that he has seen all the pollution control devices which are part of APCS including ETP in running condition and the devices are capable of controlling pollution.

The list of the registered recyclers or reprocessors should be regularly updated and placed on the official website of the concerned SPCBs/PCCs. Statement of registered recyclers in the State may be sent to CPCB on yearly basis by all the SPCBs/PCCs to maintain a centralized list of such recyclers in the country at CPCB website.

Apart from valid registration, the registered recycling facility can only operate if it has valid 'consent to operate' under the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act 1981 and valid authorization as per HW(H,M&TM), Rules 2008 for generation, storage, handling and disposal of lead bearing waste.