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Standard Operating Procedure(SOP) for Recycling of Waste Tyre Scrap for the recovery of Tyre Pyrolysis Oil, Pyro Gas and Char in Tyre Pyrolysis Oil (TPO) Units

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Central Pollution Control Board

(Ministry of Environment, Forest & Climate Change, Government of India)

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CPCB

STANDARD OPERATING PROCEDURE
for
Recycling of Waste Tyre Scrap for the recovery of Tyre Pyrolysis Oil, Pyro Gas and Char in Tyre Pyrolysis Oil (TPO) Units

1.0 Background

In the matter of OA No. 400 of 2019 and in compliance of the Hon'ble NGT order dated 06-01-2020, seven (07) Tyre Pyrolysis Oil (TPO) Units comprising of three (03) advance batch automated tyre pyrolysis plants, three (03) existing batch units and one (01) continuous tyre pyrolysis plants were studied under the guidance of experts from NEERI and IIT Delhi. Further study of 70 TPO units were carried out with the help of SPCBs. As per the study advanced batch automated process (ABAP) and continuous tyre pyrolysis process had demonstrated compliance with regard to work zone limits and no significant impact on ambient air quality.

The study further observed that existing batch TPO Units need additional features such as PLC based control arrangement, bypass arrangement for pyro gas from reactor door to primary condenser, installation of gas sensors, pressure, temperature gauges at reactor & storage tank, gas /fire alarm system, flaring of entire pyro gas during emergency, arrangement for re-circulation of pyro gas for reactor's heating, provision for flaring of pyro gas, suction hoods over the gate of reactor and char bagging area, water sprinkler system and mechanized arrangement for removal of char and steel scrap and arrangement of Nitrogen gas (N_2) purging to address environmental and safety concerns.

In the same matter, the Hon'ble NGT vide its order dated 25.10.2021 directed to issue appropriate SoP covering siting criteria, threshold limit of a plant, carrying capacity, standards for effluents, emissions and hazardous or other waste, safety aspects to prevent accidents and for protection of public health. Accordingly, in consultation with expert members from NEERI & IIT-Delhi, the existing SoP was revised w.r.t Recycling of Waste Tyre Scrap for the recovery of Tyre Pyrolysis Oil, Pyro Gas and Char in Tyre Pyrolysis Oil (TPO) Unit.

1.1 Pyrolysis process

Pyrolysis is a thermal degradation process carried out in the absence of oxygen /air in a vessel or a chamber, so that the combustion of material does not take place. It is a process in which organic materials are thermally decomposed into simpler compounds in the temperature range of 400 – 500 °C in an oxygen-free environment. **Fig. 1** shows the

schematic diagram of waste scrap tyre pyrolysis process. Since the products of thermal decomposition are released at different temperature having varying molecular structure, the products are in all phases i.e. solid, liquid and gas. Pyrolysis of tyres and rubber products produce pyrolysis oils, pyrolysis gas (pyro-gas), char and steel. The products generated in tyre pyrolysis are as follows:

A) **Pyro Gas**: 20 to 35 percent of a tyre's energy content is typically converted into a combustible gas (Pyro Gas) that is used to fuel the pyrolysis process or is combusted in a flare before it is released. Typically, the components of pyro gas are H_2, H_2S, CO, CO_2, CH_4, C_2H_4, C_3H_6 and other light hydrocarbons.
B) **Pyro Oil**: 35 to 50 percent of the output from the process is transformed into a liquid product that varies in quality from saleable fuel oil to lower-value oil blend stock.
C) **Char**: The residual solid product (referred as char constitutes 25 to 40 percent of the output and contains a mixture of carbon, silica, titanium dioxide, zinc, steel etc.
D) **Steel**: The thin wire, which is used for reinforcement of tyre is extracted out during pyrolysis and is collected at the end, sold in the market as scrap steel.

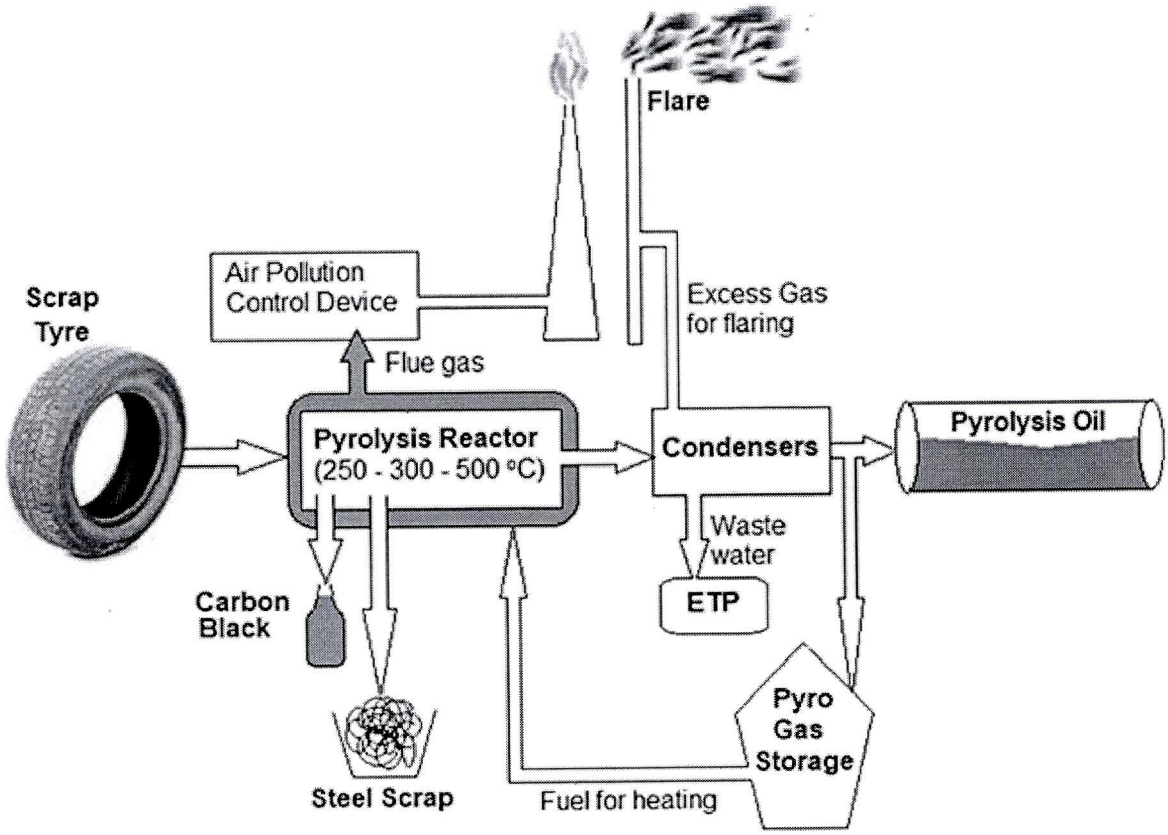

Fig. 1: Schematic diagram of waste tyre pyrolysis process

The quantity and quality of each product depends on many process variables, including temperature, pressure, and residence time. A preferred quality trye pyrolysis oil would have molecular weight little above its boiling temperature under normal temperature and pressure. This would help in efficient combustion, and less of soot formation. Waste tyre pyrolysis plant operators are expected to have a control on rate of heating and condensation so as to produce high-quality oils with high calorific values comparable with diesel and gasoline type fuels.

Two types of Pyrolysis process are in operation in India. Batch Type and Continuous Pyrolysis process. In both type of pyrolysis processes, the final product remains the same. Most of the tyre pyrolysis units in the country are based on batch processes technology having different types of process control, safety mechanism, raw material, finish product and waste handling facilities. There is a need to standardize the operations and facilities at Tyre Pyrolysis Oil (TPO) Units to achieve environmentally sound and safe operation of these units.

From the study carried out, it was observed that Advanced Batch Automated Process (ABAP) and continuous tyre pyrolysis process had no significant impact on ambient air quality. Therefore, for standardizing the batch type pyrolysis operations, Advanced Batch Automated Process (ABAP) type TPO Unit shall only be allowed.

2.0 Siting Criteria, Carrying Capacity and Standard Operating Procedures (SoP) for Advanced Batch Automated Process (ABAP) type TPO units:

2.1 Siting Criteria for ABAP type TPO Units

The siting criteria is applicable only to new /proposed units. New ABAP type TPO unit shall be allowed only in the industrial areas/land.

(I) **Siting criteria for ABAP type TPO Units:**

The criteria for siting of ABAP type TPO units depends on the following facts:

i) There are no organized continuous process emissions in tyre pyrolysis process.
ii) The air pollutant emission in ABAP type TPO unit is from burning of fuel for heating purpose and intermittent flaring of excess pyro gas or its emergency release;
iii) The plot area of the TPO Unit carries more weightage as the emission from TPO unit does not affect far away community, instead it is the immediate neighbourhood that is affected. Char, being large size particle if spilled in the plant premises during its handling cannot travel to larger distance under the influence of wind;
iv) The environmental concern from TPO Unit is spillage of Char in the work zone while removing it from the reactor and its subsequent packing into the

bags. The influence zone due to this spillage is limited within the premise of the unit;

v) The odour from TPO Unit are localized and confined to premises and adjacent areas.

Followings are the criteria for site consideration for new units:

i) New ABAP type TPO Unit having individual reactor capacity of 10 tonnes to 20 tonnes should only be allowed;

ii) Considering the possible impacts in neighbourhood, TPO Unit having cumulative maximum batch capacity up to 60 tonnes per day (TPD) only be allowed within a premises and this is applicable for new ABAP type Units /expansion in existing batch type TPO Unit.

iii) Beyond cumulative batch capacity of 60 TPD, only continuous process type TPO unit be allowed in case of setting up of new ABAP type units or expansion in existing TPO Unit in a single premises.

iv) For new ABAP type TPO Unit the minimum plot area shall be 3000 square meters for a single reactor of 10 to 12 tonnes capacity and the area will increase by 750 square meters for every additional reactor of capacity 10 to 12 tonnes and will increase up to 6000 square meters.

v) For new proposed ABAP type TPO unit the minimum plot area shall be 4000 square meters for a single batch reactor of 20 tonnes capacity and the area will increase by 1000 square meter for every additional reactor and will increase up to 6000 square meters.

vi) For new proposed continuous TPO unit the minimum plot area should be 7000 square meters irrespective of number of reactors.

(II) Green Belt Requirement

The green belt should be as per consent conditions or as per the guidelines of Central and State Government and in no case less than 5% of the total area of the plot.

(III) Movement of Fire-Tenders

Paved road to be provided for movement of the fire-tenders. No material is allowed to be stored (no obstruction) on this paved road. SPCBs /PCCs to ensure this requirement, while issuing new CTE/CTO.

2.2 Carrying Capacity of the area for siting of ABAP type Tyre Pyrolysis Oil (TPO) Units

The committee constituted by the Hon'ble NGT in the is of the view that carrying capacity may not be required in case of individual Tyre Pyrolysis Units of capacity 10 - 60 TPD, since these are small pyrolytic operations with no process emissions and there are only flue gas emissions due to combustion of fuels for reactors or in flare stacks.

In order to minimize impact on adjacent areas, the minimum plot area as stipulated in section 2.1 is required by the unit.

2.3 Threshold Limits for Tyre Pyrolysis Oil (TPO) Units (New TPO Units and expansions in Existing TPO units)

The threshold limit is applicable to new /proposed units or expansion in the existing units. Followings are the threshold limits for the TPO units:

i) New ABAP type TPO units or expansion in existing units having cumulative batch capacity up to 60 TPD only shall be allowed.
ii) Beyond cumulative batch capacity of 60 TPD for new units or expansion in existing units, only continuous type TPO unit shall be allowed.

2.4 Standard Operating Procedure (SoP) of ABAP type TPO Units

A) Minimum Requirement for Environmentally Sound Operation:

2.4.1	Unit should have a valid Consent to Establish (CTE), Consent to Operate (CTO) under Water and Air Act and Authorization under the Hazardous and Other Waste (M & TM) Rules, 2016 issued by SPCB / PCC & Fire Safety Certificate issued by the concerned department.
2.4.2	Unit to comply with emission & effluents standards as prescribed by the concerned SPCBs/ PCCs in consent to operate (CTO) under Air and Water Act. Further the management of Hazardous waste generated has to be done as per the conditions prescribed in the authorization issued by the SPCBs / PCCs under the Hazardous and Other Waste (M & TM) Rules, 2016.
2.4.3	The feed to ABAP type reactor has to be in the form of used tyre scrap – whole tyres /cut tyres / chips / shred /mulch /granules etc.
2.4.4	Initial heating of the reactor has to be done either by using pyro gas stored during previous cycle or by use of pyro water / purge water (oil mix water) / oil water emulsion, or by tyre pyrolysis oil or any other fuel approved by concerned SPCBs /PCCs. After generation of pyro gas, the same is to be used for the purpose of heating reactor. The flue gas should be vented out to the environment through an alkaline scrubber with mist eliminator attached to a chimney of at least 30 meters height. Plants to install adequate air pollution control devices (APCDs) for controlling flue gas emissions.

2.4.5	A compressor / air blower has to be installed for mixing of air with pyro water for ensuring proper burning while using pyro water/purge water during initial heating.
2.4.6	In order to control fugitive emissions from the reactor shell during operation, its proper sealing should be ensured.
2.4.7	ABAP type TPO units to construct or install a sufficient capacity suction hood / industrial dust collector attached to a bag filter at feeding door and same should must be operational at the time of removal of steel scrap wire and char from the reactor.
2.4.8	Suction hoods also to be installed at all the transfer points across the work zone such as at char bagging area etc. to control fugitive emissions. All suction hood to be connected to a common manifold leading to alkaline scrubber with mist eliminator attached with stack of 30 m height (installed for venting out flue gas emissions).
2.4.9	Unit to ensure no spillage of char during removal/ unloading of steel scrap from the reactor. The flooring should be paved/ concretized along with proper slope and drains for movement of steel scrap. This operation to be made cleaner by use of vacuum cleaner after each batch operation.
2.4.10	Unit to install water sprinkling system for prevention of fugitive emission at the all transfer points for arresting fugitives.
2.4.11	The removal of char should be through a mechanized system. The unloading of char from the reactor is to be done under controlled conditions in such a manner that the material inside the reactor is not open to the atmosphere at any point of time. The char shall be bagged in the HDPE bags with proper sealing. It should be ensured that no spillage take place during the collection of the char in the bags. The removal of char should be started only after Nitrogen purging.
2.4.12	A permanent arrangement should be made for Nitrogen purging. Pre-filled nitrogen gas cylinders will not be allowed to use for purging. All units to have PLC based Nitrogen generator as per the following requirement:

Number of Reactors	Nitrogen Generator capacity (Nm^3/h)	Storage Tank Capacity (Liters)
1	3	1000
2	5	1500
3	7	2000
4	10	3000
> 4	12	4000

2.4.13	Excess pyro gas if any should be flared through properly designed flaring system of adequate capacity considering the emergency situation

	in which the entire gas may have to be flared. The flaring should be done at a minimum height of 30 meter.
2.4.14	Unit to install Programme Logic Controller (PLC) based system for control of temperature and pressure inside the reactor.
2.4.15	Unit to install Programme Logic Controller (PLC) based auto activation for stopping of gas supply to the burner and for switching off the burners in case of increase of pressure and temperature inside the reactor.
2.4.16	Unit to install PLC based auto activation of bypass arrangements for bypassing the pyro gas from reactor to first separator tank in case of blocking /chocking of outlet vent inside the reactor or direct bypass for flaring
2.4.17	Unit to install PLC based carbon monoxide (CO) gas sensors connected with sirens (hooters) in case of release of CO.
2.4.18	The collection of the oil from the condensers should be in closed vessel and storage also should be in closed metallic tanks. (Oil / Liquid is stored at atmospheric pressure in metallic tank. Since this is not pressureized tank, there is no need of vent. The presence of vent releases low molecular weight HC into the air and creates odour, which is objected by the neighbourhood.) There should be no manual handling of oil. Transfer of oil should be carried out through pumps.
2.4.19	Unit to connect first separator tank with the oil storage tank for storing heavy oil fraction. There should not be any release valve at the first separator tank.
2.4.20	At the end of the pyrolysis process the reactor has to be cooled before the removal of char. During cooling process, the reactor should be purged with Nitrogen gas.
2.4.21	The removal of char should be started after the reactor temperature comes down to below 50 ^{o}C or first separator tank temperature comes down to 40 ^{0}C.
2.4.22	The inside temperature of the reactor should not exceed 500 ^{0}C and the first separator tank temperature should not exceed 450 ^{0}C during the entire batch operation.
2.4.23	Waste water (Pyro water/Purge water/Oil mixed water/oil water emulsion) generated during the process should not be discharged anywhere and:

i)	Should be treated in suitable ETP of sufficient capacity. Oily sludge should be disposed through TSDF or can used to make char briquettes, for subsequent transfer /sale to the cement manufacturing plants or other such industries having authorization for co – processing or;

a. ETP discharge may be used for briquettes manufacturing. The briquettes so manufactured shall be disposed through processing in cement kiln

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b. ETP sludge may be used for briquettes manufacturing. The briquettes so manufactured shall be disposed through processing in cement kiln.

ii)	Pyro water/Purge water /Oil mixed water/oil water emulsion may be used for briquettes manufacturing in a briquetting plant by mixing it with sawdust and char in suitable proportions. These briquettes so manufactured using the pyro water/purge water/oil mixed water/oil water emulsion and char are to be utilized only in processes where temperature is 1000 ^{0}C or more to avoid emissions of obnoxious gases; or
iii)	Pyro water/Purge water/ oil mix water/oil water emulsion should be used for Initial heating of the reactor.

2.4.24	Unit to ensure that treated water be re-used in unit itself & there is zero effluent discharge.
2.4.25	Unit to have a covered /closed separate storage tank for storage of pyro water /purge water /oil mix water/ oil water emulsion. The pyro water be transferred from final storage tank to pyro water / purge water / oil mix water / oil water emulsion storage tank in closed loop through pumps.
2.4.26	Unit should carry out stack and ambient air quality monitoring for SO_2, PM and CO at least once in six months from a recognized laboratory at identified monitoring location. The unit shall maintain a log book for recording the plant, operation, monitoring of the stack emissions and ambient air quality, generation & utilization of wastewater & sale of various products and by-products.
2.4.27	The transportation of Char should be done in bags (small or jumbo) in closed vehicles to ensure that there is no spillage of char during their transportation.
2.4.28	The transportation of Tyre Pyrolysis Oil (TPO) should strictly be done in closed tankers to ensure that there is no spillage of TPO during their transportation.
2.4.29	The char generated in the process shall be utilized either in co-processing in the cement industry or its quality be upgraded to Recovered Carbon Black (RCB). RCB may be used as raw material for manufacture of new tyre and other processes.
2.4.30	The Tyre Pyrolysis Oil and char shall be stored in areas separate / distinct from the processing area (shed where the reactors are installed). Tyres shall be stored in earmarked area / open area on a paved platform.

B. Safety Measure to be adopted

2.4.31	Automatic control systems such as Programmed Logic Control (PLC) shall be adopted for measurement and control of temperature and pressure along with safety inter-locks in case of increase of temperature or pressure to cut off heating of the reactor should be provided. It should be ensured that the reactor is under positive pressure at all the time.
2.4.32	A sensor for CO gas to be installed in the working area to ensure that concentration of CO in the working area does not exceed the prescribed limits for occupational safety and health as per Factory Act 1948. It will also be coupled with a warning /alarm system so that the plant operator can take adequate steps to rectify the situation.
2.4.33	Sensors along with alarm system should be provided at all the transfer points throughout the plant to detect any leakage of flammable vapours from the system.
2.4.34	Fire detectors, sprinklers and fire hydrant with necessary pumping system and water storage should be provided in the process area, product and raw material storage area.
2.4.35	Unit to install fire hydrant system connected directly to the water tank and DG set for direct electric supply. Unit should also have ABC type fire extinguisher cylinders & fire buckets filled with sand and water.
2.4.36	The safety instruction for safe operation of plant will be displayed at the gate, plant working area and other critical places. Further, training will be imparted to the workers for safe operation of these plants.
2.4.37	On site emergency plan, as per the requirements under the Factories Act, 1948, will be made and implemented to handle any accident, fire/ leakage or any other emergency situation. All such measures shall include raw material storage, product storage and handling thereof.
2.4.38	The plant will be operated under the continuous supervision of a qualified person having experience of running such units.
2.4.39	All the persons /workers in the premises should wear an air filter mask to avoid inhaling of the fine char particles.
2.4.40	Unit will maintain good house-keeping and will ensure that no raw material products and wastes get spilled inside or outside the plant.
2.4.41	Unit to carry out annual health check-up of all the employees working in the unit & submit its report to concerned SPCBs/PCCs on annual basis.
2.4.42	Workers should be trained to handle fire. Workers should be given mock drill exercise for fire hazard incident. Assuming fire at the hatch door due to leakage of pyro-gas, what action, the workers should do? Training to use CO_2 type fire extingushers. Regular visit and inspection to check the training to workers.

2.5 Continuous Process (New & Existing):

A. Minimum Requirement for Environmentally Sound Operation:

2.5.1	Unit should have a valid Consent to Establish (CTE) and Consent to Operate (CTO) under Water and Air Act and Authorization under the Hazardous & Other Waste (M&TM) Rules, 2016 issued by SPCB /PCC & Fire Safety Certificate issued by the concerned department.
2.5.2	Unit to comply with emission & effluents standards as prescribed by the concerned SPCB/PCC in consent to operate (CTO) under Water and Air Act. Further the management of Hazardous Waste generated to be done as per the conditions prescribed in the authorization issued by the SPCB/PCC under the Hazardous Waste (M&TM) Rules, 2016.
2.5.3	The feeding system should be provided with an air-lock arrangement so that no air enters the reactor during feeding.
2.5.4	Initial heating of the reactor to be done either by using pyro gas stored during previous cycle itself or by use of purge water (oil mix water)/oil water emulsion, or by tyre pyrolysis oil or any other fuel approved by concerned SPCBs/PCCs. After generation of pyro gas, the same is to be used for the purpose of heating reactor. The flue gas should be vented out into the environment through alkaline scrubber with mist eliminator attached with a chimney of at least 30 meters height. Plants to install adequate air pollution control devices (APCDs) for controlling flue gas emissions.
2.5.5	A compressor or any other suitable arrangement has to be made /installed for mixing of air with pyro water for ensuring proper burning while using pyro water/purge water during initial heating.
2.5.6	In order to control fugitive emissions from the reactor during operation, proper sealing should be ensured.
2.5.7	Excess pyro gas if any should be flared through properly designed flaring system of adequate capacity considering the emergency situation in which the entire gas may have to be flared. The flaring should be done at a minimum height of 30 m.
2.5.8	The collection of the oil from the condensers should be in a closed vessel and storage also should be in closed tanks with suitable vents. There should be no manual handling of oil. Transfer of oil should be through pumps.
2.5.9	The removal of char should be through a mechanized system. The unloading of char from the reactor is to be done under controlled conditions through a pneumatic /screw conveyor system in such a manner that the contents of the reactor are not open to the atmosphere at any point of time. The end of the conveyor system shall be attached to a bagging plant where all the char will be bagged in the HDPE bags with proper sealing. It should be ensured that no spillage taken place during the collection of the char in the bags. Moreover, an air-lock should be provided to ensure no entry of air into the reactor.

2.5.10	Water sprinklers to be installed at the transfer points for arresting fugitives.
2.5.11	The char generated in the process shall be utilized either in co-processing in the cement industry or its quality be upgraded to Recovered Carbon Black (RCB). RCB may be used as raw material for manufacture of new tyre and other processes.
2.5.12	Waste water (Pyro water/Purge water/Oil mixed water/oil water emulsion) generated during the process should not be discharged anywhere and:

i)	Should be treated in suitable ETP of sufficient capacity. Oily sludge should be disposed through TSDF or can used to make char briquettes, for subsequent transfer /sale to the cement manufacturing plants or other such industries having authorization for co – processing or;

a. ETP discharge may be used for briquettes manufacturing. The briquettes so manufactured shall be disposed through processing in cement kiln

b. ETP sludge may be used for briquettes manufacturing. The briquettes so manufactured shall be disposed through processing in cement kiln.

ii)	Pyro water/Purge water /Oil mixed water/oil water emulsion may be used for briquettes manufacturing in a briquetting plant by mixing it with sawdust and char in suitable proportions. These briquettes so manufactured using the pyro water/purge water/oil mixed water/oil water emulsion and char are to be utilized only in processes where temperature is 1000 ^{0}C or more to avoid emissions of obnoxious gases; or
iii)	Pyro water/Purge water/ oil mix water/oil water emulsion should be used for Initial heating of the reactor.

2.5.13	TPO Units to ensure that treated water be re-used in the unit itself & there is zero effluent discharge.
2.5.14	The transportation of Char and Tyre Pyrolysis Oil (TPO) should strictly be done in closed vehicles to ensure that there is no spillage of char or oil during their transportation.
2.5.15	The generation, transportation and disposal of char to the cement manufacturing plants shall be recorded
2.5.16	The Tyre Pyrolysis Oil (Product) and char shall be stored in areas separate / distinct from the processing area (shed where the reactors are installed). Tyres shall be stored in earmarked sheds/open area on a raised cement concrete platform.

2.5.17	The unit should carry out stack and ambient air quality monitoring for SO2, PM, and CO at least once in six months from a recognized laboratory at identified monitoring location. The unit will maintain a log book for recording the plant operation, monitoring of the stack emissions and ambient air quality, generation & utilization of wastewater & sale of products and wastes.

B. Safety Measure to be adopted

2.5.18	Automatic control systems such as Programmed Logic Control (PLC) shall be adopted for measurement and control of temperature and pressure along with safety interlocks in case of increase of temperature or pressure to cut off heating of the reactor should be provide.
2.5.19	A sensor for CO gas to be installed in the working area to ensure that concentration of CO in the working area does not exceed the prescribed limits for occupational safety and health as per Factory Act 1948. It will also be coupled with a warning/alarm system so that the plant operator can take adequate steps to rectify the situation.
2.5.20	Sensors along with alarm system should be provided at all the transfer points throughout the plant to detect any leakage of flammable vapors from the system.
2.5.21	Excess pyro gas if any should be flared through properly designed flaring system of adequate capacity considering the emergency situation in which the entire gas may have to be flared. The flaring should be done at a minimum height of 30 meters.
2.5.22	Fire detectors, sprinklers and fire hydrant with necessary pumping system and water storage should be provided in the process area, product and raw material storage area.
2.5.23	The TPO unit shall possess fire clearance certificates issued by concerned departments.
2.5.24	The safety instruction for safe operation of plant will be displayed at the gate, plant working area and other critical places. Further, training will be imparted to the workers for safe operation of these plants. On site emergency plan, as per the requirements under the Factories Act, 1948, will be made and implemented to handle any accident, fire/ leakage or any other emergency situation. All such measures shall include raw material storage, product storage and handling thereof.
2.5.25	The plant will be operated under the continuous supervision of a qualified person having experience of running such units. All the persons/workers in the premises should wear an air filter mask to avoid inhaling of the fine char particles.
2.5.26	Units will maintain good house-keeping and will ensure that no raw material products and wastes get spilled inside or outside the plant.

2.5.27	Units to carry out annual health check-up of all the employees working in the unit & submit its report to concerned SPCBs /PCCs on annual basis.
2.5.28	Units operators shall have insurance cover for workers, plant & machinery and materials.
2.5.29	Workers should be given mock drill exercise for fire hazard incident.

C. General conditions applicable to all plants (Batch & Continuous):

2.5.30	The Tyre Pyrolysis Units (Continuous and Advanced Batch Automated Pyrolysis) are categorized into Orange category. Unit to register on the Waste Tyre EPR Portal of CPCB.
2.5.31	The Tyre Pyrolysis Oil unit to fulfill fuel quality as specified by Ministry of Petroleum and Natural Gas / Bureau of Indian Standards as and when the same gets notified.
2.5.32	In line with the policy adopted by MoEF&CC, Unit shall not to import waste tyres for the purpose of TPO production. Unit to use only indigenous generated waste tyre (i.e. Waste tyre generated in India only). Also unit to sell its products to Actual Users only.
2.5.33	Unit to maintain record on consumption of waste tyre along with details of its procurement source, Details & quantity of products, details of actual users to whom products have been sold.
2.5.34	Unit to submit its annual report on the EPR Portal and also to the concerned SPCB providing details on annual production of TPO, Char, Steel & other products including details of sources of purchasing waste tyre and also details of actual users to whom products have been sold within the time frame as prescribed on the Portal. The annual report to be supported with electricity bills of the financial year for which annual return has been submitted.
2.5.35	Units have to report daily waste generation, disposal data on National Hazardous Waste Tracking system as and when such system gets implemented by CPCB.

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