Tyre

MAHARASHTRA POLLUTION CONTROL BOARD, MUMBAI

Kalpataru Point, 2nd to 4th Floor, Near Sion Circle, Sion (East), Mumbai 400 022

NOTIFICATION

No. Bo/P & L Divn./B-2144

Notification under Section 17(1) (b) and (h) of the Air (Prevention & Control of Pollution) Act, 1981 in respect of prescribing Guidelines for the Regulation of the Tyre-Retreading Activity for their Safe Reuse and Disposal of Used Tyres at the end of Life Cycle in the State of Maharashtra.

WHEREAS, the Maharashtra Pollution Control Board had constituted a Committee to propose suitable Draft Guidelines / Regulations for the activities of Tyre Retreading for their Safe Reuse and Disposal of Used Tyres at the end of Life Cycle and Tyre Recycling (Pyrolysis) as well as to impose necessary prohibitions and restrictions on the activities of burning of tyres ;

AND WHEREAS, the Committee constituted by the MPCB for the above purposes has submitted a detailed Report on Draft Guidelines for Tyre Retreading, Tyre Pyrolysis Process (Recycling) as well as Prohibitions & Restrictions on Burning of Tyres (June, 2014) in pursuance of the order dtd.5/5/2014 passed by the Hon'ble National Green Tribunal, Western Zone Bench, Pune in the Application No. 43/2013 filed by Asim Sarode & Anr. *V/s.* MPCB & Ors ;

AND WHEREAS, in the compliance of the Hon'bie NGT Judgment dtd.6/9/2014, the Maharashtra Pollution Control Board has further assigned the work of conducting scientific study on the Life Cycle Assessment of used tyres and frame suitable guidelines/regulations to IIT Powai, Bombay. The IIT Powai, Bombay has submitted the Report on Inputs for Regulations and/or Guidelines for Safe Reuses and Disposal of Used Tyre at the End of Life Cycle. After perusal of the said report, the Maharashtra Pollution Control Board has incorporated the inputs of IIT Powai, Bombay in the Guidelines ;

AND WHEREAS, the Maharashtra Pollution Control Board has forwarded the Draft Guidelines to the Environment Deptt., Govt. of Maharashtra *vide* letter dtd. 13/4/2015, 4/11/2015 & 23/3/2016 respectively, to issue appropriate Notification in respect of the Regulation of Tyre Retreading for their Safe Reuse and Disposal of Used Tyres at the end of Life Cycle, Tyre Pyrolysis Process (Recycling) as well as Prohibitions & Restrictions on Burning of Tyres.

AND WHEREAS, the Environment Department, Government of Maharashtra has communicated its approval for Publication of Guidelines for Regulation of Tyre Retreading Activities in the State of Maharashtra vide their letter dtd.4/4/2016.

NOW THEREFORE, the Maharashtra Pollution Control Board is issuing the following Guidelines for Siting for Regulation of Tyre Retreading Activities, for their Safe Reuse and Disposal of Used Tyres at the end of Life Cycle in the State of Maharashtra.

I. Definition :

(A) *Tyre Retreading.*— The process involved of tyre retreading is collecting tyres from the customers like transporters, fleet owners and travelers for the purpose of retreading of the damaged part of the tyre, which is simple repairing process, having very less pollution potential.

(B) *Tyre Pyrolysis Process (Recycling) Activities.*—The Tyre Pyrolysis Process devised for recovery of fuel oil, carbon black and scrap iron wires etc.

(C) *Burning of Tyres.*—The open tyre burning is more toxic and mutagenic and it includes "criteria" pollutants such as particulates, carbon monoxides (CO), sulfur oxides (S02), oxides of nitrogen (NOx) and volatile organic compounds(VOCs) as well as "non-criteria" hazardous air pollutants (HAPs).

II. Applicability of Guidelines.— The said Regulation/Policy will be applicable to tyre manufacturers, tyre importers as well as traders equally and for all vehicles (except for medical equipment, hospital equipments, trolleys, mobility chairs and such medical gear used and recommended by doctors). No tyre manufacturers/importers/traders will be excluded for any reason whatsoever. Also, this proposed Regulation/Policy will be applicable to all vehicle owners, including private, governmental, public/private institutional, traders, local self governments, diplomatic institutions/ visitors and military/defense vehicles.

III. Tyre Retreading.— MPCB on the basis of the Report submitted by the Committee has come to the conclusion that the criteria for "Distinguishing emergency service tyre retreaders from commercial tyre retreaders" is necessary. The roadside or service area for vehicles or fuel in stations based on small scale tyre retreaders typically providing retreading services on emergency basis or help in performing the task of slack journey in the form of repairs to tyres on small scale basis are not to be covered under the grant of consent regime by the MPCB, The following Guidelines are recommended by the MPCB on the basis of the recommendations of the Committee accepted by the MPCB for proper regulation of retreading activity.

The activity of retreading should adopt complete Life Cycle Approach by keeping proper record of material balance of all the raw material.

(1) Since, tyre is highly combustible material, high safety measures are 'required to be adopted. However, the small scale activity of tyre molding/repairing in garages in the small scale less than 15 tyres per day in the form of repair with molding small portion may not require to obtain consent from MPCB on account of its scale and the predominant nature of repairing activity.

(2) The small shops by the Roadside doing tyre moulding only in the form of repairs and maintenance of tyres also may not require to obtain consent from MPCB.

(3) However, if the garage is covered under grant of consent on account of its scale, the conditions for environment protection and compliance of environmental norms will be imposed in the Consent granted by MPCB. However, smaller re-trader without processing and doing manual operations are not covered under the consent regime as stated above, being recovery of metal/tyre waste/ engaged in manual repairs, may not be brought under consent regime.

(4) The criteria for the "Distinguishing Emergency Service Tyre Retreaders" from the "Commercial Tyre Retreaders", though nebulous need to be attributed for implementation of the said tyre retreading rules as under :—

(a) The roadside or service area for vehicles or fuel in stations based on small scale tyre retreaders typically providing service for the vehicles, which would like to obtain retreading services on emergency service or help on the way to performing their task slack journey, such small scale re-treaders are found situated most likely next to tyre puncture repairer or vehicle maintenance garage on highways and vehicle rest stops. The small scale trading installations are typically retread 15 or less tyres (on an average on a daily basis). The burden of proof of proving that the installation happens to be the so called "Distinguishing Emergency Service Tyre Retreaders", lies on the entrepreneur and the supporting documents for the claim could be including vat returns, service tax returns etc. However, they should ensure that waste tyre or its part in repairing should be sent for further recycling and nothing should be thrown unattended in the public premises and it should be properly disposed off, by way of adopting Life Cycle Approach.

(b) The "commercial tyre retreaders" are distinguishing from the small scale retreaders above by the virtue of the capacity of retreading typically dozens of tyres per day. Such facilities received the end-of-life tyres through an organized network of service seekers network with them and sending them tyres for retreading.

(c) **Monitoring of "Distinguishing Emergency Service Tyre Retreaders"**

The monitoring of these category units shall be done by local authority, which is permitting them to construct and operate that establishment. The said local authority shall monitor following conditions.

(*i*) The retreading of one tyre generates 1 to 1.5 Kg. of scrap rubber. It shall be properly collected and disposed to recyclers. It should not dump in nearby areas unscientifically.

(*ii*) Fire wood, coal, fuel used for conducting retreading operations shall be properly stored and so as to minimize fire hazards.

(*iii*) Upon using the above fuel, fume and smoke will be generated. For the public health point of view, generated gaseous pollution should be vented off using chimney/stack having height from sealing should not be shorter than 1 meter. In case of taller adjacent buildings surrounding the installation, the stack height shall be maintained at 1 meter taller than the tallest adjoining building. **(JD APC to comments about the height of chimney required)**

IV. Tyre Pyrolysis Process (Tyre Recycling).– There are two types of tyre pyrolysis plants in Maharashtra (a) Batch Process; & (b) Continuous Process. The Life Cycle Approach has been observed to be adopted in both the batch & continuous process of tyre pyrolysis. The feed stock (solid products & residue of waste tyres) continuously feed up. Polymer decomposed and vaporized through break-chemical bonds. The system operates within a temperature range of 250°C to 500°C. At the temperature above 250°C, shredded tyres release increasing amount of liquid oil products and gases. Pyrolysis process produces an excess of energy and it is safe to operate compared to high pressure blasting and other issues. In the process, oil, carbon black and gases in the form of energy generated. The Guidelines to regulate tyre pyrolysis activity are as under:–

(1) *Pollution Control Measures* :

(*i*) The tyre during process of pyrolysis at a temperature above approximately 250 °C release liquid oil, it shall be stored in a suitable tanks in a safe condition.

(*ii*) Carbon Black shall be conveyed through hydraulic/screw conveyor in closed conditions. It can also be conveyed, collected and handled by using any advanced suitable technology. The carbon black shall be bagged in HDPE/ leak proof bags with proper sealing.

(*iii*) The excess uncondensed gases from the reactor shall be stored under compressed conditions in a tank of suitable design. The collected gases can be used as a fuel instead of wood during the start up of the reactor. The excess uncondensed gases can be flared in a scientifically designed flaring system.

(*iv*) No wood/coal allowed as fuel in such plants, however in case of startup, wood/coal may be permitted. The fuel gases generated from burning of fuel may be released through the stack of minimum height 11 meters from the ground level or as per local Regulation.

(*v*) The oil mixed water shall be reused in the process. The obnoxious gases generation shall be avoided from the waste water. The product shall be stored in a covered shed only. They shall not store in outside the shed. The raw material waste tyres shall be stored in earmarked open area.

(*vi*) The industry shall ensure that there are no leakages from the reactor, pipelines etc. Adequate arrangements will also be made for control of fugitive emissions generated from handling of raw materials/products. In batch process, sufficient break about 12 hrs. is required to be kept from the safety point of view in order to avoid any sort of explosion due to continuous heating process. Therefore, the equipment after one batch process, can be kept unused to cool down it to the normal temperature of the environment.

(*vii*) The unit will maintain log book of the plant operation, monitoring of the ambient air quality, generation and utilization of wastewater. The unit should able to demonstrate credible mass balance including solid, liquid, slurry generation during processing and production of these stipulated products and byproducts.

(2) Safety arrangements :

(*i*) Suitable sensor for gas, temperature and pressure shall be installed inside the reactor to regulate safe operation of the reactor. All the relevant sensors for process and fugitive emissions including Carbon Monoxide, Hydro Carbon, Methane shall be installed.

(*ii*) The adequate arrangement for firefighting approved by the competent authority shall be installed.

(*iii*) Copy of certificate obtained from the relevant department for firefighting and other safety issues will be submitted to the State Board.

(*iv*) Industry shall bring minimum 33% of the available open land under green coverage/ plantation to curb smell if any being emitted from the process or stored tyres.

(*v*) The applicant of pyrolysis units shall maintain good housekeeping and take adequate measures for the control of smell and other pollutants so as not to cause nuisance to surrounding areas/habitation.

3) *Regulatory compliances*.— The unit shall comply with the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and Rules made there under. The units shall also obtain necessary consent from MPCB and comply with the conditions mentioned. They shall also comply with these guidelines.

V. Prohibitions and Restrictions on Burning of Tyres.— The Committee constituted by MPCB has examined the main cause in respect of burning of tyres in an open area by miscreant elements or on a small scale typically for protection from severe cold during winter season.

The Committee was of the opinion that the reason behind throwing used tyres in waste dump sites should be curbed in the first place. This is a part of the larger phenomenon routinely occurring in our country including burning of Municipal Solid Waste (MSW) or burning of Combustible Waste Materials and Industrial Waste Residues. As regards to burning of the tyres by protestors, it is also part of a larger problem erupting once in a while at unspecified and non-predictable location. A look at the prints media and other historical data indicates that the protestors resort to burning of scrap plastic, vehicles parked on roads, railway wagons and bogies and even house property including foam couches and wooden furniture.

However, the Committee was of the view that the availabilities of tyres for burning as part of protest can be more effectively curbed through offering incentives and market based benefits and introduction of deposit schemes implemented at the time of buying of tyres, which can be further recycled, reprocessed and reused. The following Guidelines/Regulations are therefore recommended by the Committee and accepted by the MPCB:

1. *To take action against hazardous emissions caused due to tyre burning in the public places* :– As per the recommendations of the committee duly accepted by the MPCB, the State Government in exercise of the powers conferred upon it under Sub section 5 of section 19 of the Air (Prevention and Control of Pollution) Act, 1981 and in consultation with MPCB hereby prohibiting burning of tyres in air pollution control areas in the State of Maharashtra.

The Law and Order Enforcing Agencies particularly, the Police Department and the Office of District Collector are the Competent Authorities to take appropriate action against the violators under the Bombay Police Act and the Criminal Procedure Code.

2. *Encouraging retreading, reusing and recycling of waste/used tyres* .— As per the recommendations of the Committee and duly accepted by the State Government, proper solution for minimizing the act of burning of tyres can be achieved only after creating an implementing a system for recycling, retreading and reuse of used tyres, more particularly, by adopting Life Cycle Approach by encouraging and facilitating reuse and recycle of tyres.

3. The tyre manufacturers and the importers of tyres should be held responsible for disposal of used tyres under "EPR" i.e. *"Extended Producer Responsibility"*. The Department of Transportation shall collect environmental charges targeted at eco-friendly disposal of tyres at the end of life through contributing to the specially created escrow account. All the manufacturers and importers/traders would be held responsible for contributing (either number or mass basis i.e. per 1000 tyres or per tone of tyres) prescribed environmental charges.

4. The Department of Transportation (or any other appropriate Authority) shall develop policies and business models in consultation with the Department of Environment and Department of Industries and utilize the escrow fund to encourage and facilitate services and industry to ensure eco-friendly disposal of tyres.

5. The service providers having capability of shredding used tyres and bagging them should also be developed and a network of shredders and transporters should be established to ensure supply of shredded rubber tyres to pyrolysis installations.

6. The awareness should be spread within the community and the environmental responsibilities of individuals should be published with the help of schools, citizens groups by creating "Muhalla Safety and Environmental Committee."

7. The Authorities responsible for implementation of these Guidelines and their use in the State shall be Home Department, Urban Development Department, Rural Development Department, Government of Maharashtra; All District Collectors, Maharashtra Pollution Control Board, All the Chief Executive officers of Zilha Parishad, All the District Superintendant of Police, All Municipal Corporations / Councils for their respective jurisdiction and powers.

This is issued with the approval of the Environment Department, Government of Maharashtra.

Mumbai
Dated 31st May 2016.

DR. P. ANBALAGAN,
Member-Secretary.