

GOVERNMENT OF PUNJAB
DEPARTMENT OF SCIENCE, TECHNOLOGY AND ENVIRONMENT
(STE Branch)

ORDER

Whereas, in order to maintain ecological balance, prevent environmental degradation and to avoid human health hazard in the State, it is necessary and expedient to take steps under sections 5 and 7 of the Environment (Protection) Act, 1986 and Rules framed there under.

And whereas, in the recent past, a number of units using pyrolysis process for the extraction of fuel oil from waste rubber tyres are being set up.

And whereas, there have been public complaints regarding the pollution caused by such units and a few accidents have also occurred in such plants on account of inappropriate operation of the pyrolysis reactor as well as due to inadequate pollution abatement and safety measures adopted by these plants.

And whereas, the matter was considered in 78th meeting of the State Competent Authority-cum-Site Appraisal Committee (SCA-cum-SAC) held on 4/9/2012. During the meeting, it was felt necessary that before giving site clearance by SAC and Consent to Establish (NOC) by the PPCB, uniform guidelines for the siting as well as pollution abatement/ safety measures to be adopted by these units are required to be framed.

And whereas, a sub-committee comprising experts in the field and officers of the PPCB was constituted vide Board's office order no. SCA/2012/P-48345 dated 1/10/2012 to carry out a study of the existing units engaged in the processes for manufacturing fuel oil, carbon black and gas by using old / used tyres, waste plastic and rubber as raw material with pyrolysis process, so as to assess the pollution potential and recommend measures required for regulation.

And whereas, this sub-committee submitted its report in June, 2013. After considering the report, the PPCB constituted another sub-committee of experts on 7/10/2013 to go into further details of the process & other requirements and give its recommendations.

And whereas, on the basis of the recommendations made by these two sub-committees of experts and approvals received from the departments concerned, draft guidelines were prepared for the location of the waste tyre based Pyrolysis Plants and pollution prevention and safety measures required to be adopted by them.

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And whereas, the draft guidelines were put in public domain on the official website of PPCB on 18/02/2014 and a public notice was got published in the leading English & Vernacular newspapers on 20/02/2014 for inviting public suggestions/ objections on the draft guidelines by 25/02/2014.

And whereas, the objections / suggestions received were considered by the Chairman, PPCB in a meeting held on 26/02/2014 with the members of the two sub-committees, officers of the departments concerned and representatives of the pyrolysis industry.

And whereas, after considering all the objections/suggestions, the draft guidelines were amended and placed before the Board for approval in its meeting held on 21.3.2014. The draft guidelines, so placed before the Board, were deliberated upon in detail in the light of the pollution problem being experienced from the existing units and draft guidelines were further amended as per the decision taken by the Board.

And whereas, the draft guidelines as approved by the Board were further sent to the departments concerned by the Board for their views and the notification was prepared by the Board after incorporating the inputs from the departments.

And whereas, CTP vide letter No. 4898 dt. 28.8.2014 informed the board that the Master Plans of various Municipal Corporations and other towns prepared by their department have been examined and it has been observed that in majority of cases, the designated industrial zones of the master plans fall within the distances as prescribed from various bench marks mentioned in the policy under subject i.e. 5 Kms and 2 Kms. from Municipal Corporation limits and all other town/city limits respectively. If these distances are adhered to for the approval of new pyrolysis plants, then no such plant will be able to come up in the designated industrial zones of the majority of master plans, because of the above said reason. It was, therefore, advised that the distances especially the distance 5 Kms. from Municipal Corporation and 2 Kms. from Municipal Committee limits need to be reviewed so that no difficulty is faced for the approval of these plants at later stage.

Therefore upon considering all these points, the final policy was approved by the Board in its meeting held on 10th Sep. 2014 and recommended to the State Govt. for issuance of office order. Accordingly, the government, in exercise of the powers conferred upon it under section 3(2)(v)(vi), 5 and 7 of the Environment (Protection) Act, 1986 and rule 4 of the Environment (Protection) Rules, 1986, issues the following guidelines for the siting of the waste-tyre

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based Pyrolysis Plants and pollution prevention / safety measures to be adopted by such units.

(A) FOR NEW PLANTS

(I) Location and siting guidelines:

Considering the pollution potential and accidental hazards, such plants shall be allowable only within the designated industrial zones (Notified/approved Focal Points, Industrial estates/areas, designated industrial land use areas) of the Master Plan (Statutory/Non-Statutory).

(II) Site clearance from the Site Appraisal Committee

All new units shall have to obtain site clearance from the Site Appraisal Committee (SAC) /Department of Factories under the Factories Act, 1948, irrespective of their location. The exemption from obtaining site clearance by units proposed to be located in the designated/approved areas such as industrial area/ industrial estate/ industrial focal point / approved industrial park/ industrial zone of the master plan/ draft master plan as given vide Government of Punjab, Deptt. of Labour (Directorate of Factories Wing) letter no. 7345-59 dated 27/08/2013 will not be applicable in case of the pyrolysis plants. The representatives of departments concerned of SAC shall strictly keep in view the nature of the adjoining industries while making recommendations to the SAC for the grant of site clearance to these projects.

(III) Minimum capacity allowed

Keeping in view the viability and expertise required for the plant, the plants with a minimum reactor capacity of 5 Tonne/batch will only be allowed.

(IV) Minimum area requirement

In view the requirement of green belt requirement and open area to be left for the movement of fire-brigade vehicles, minimum area required for the plant shall be as under:

S.No.	Total Reactor Capacity	Minimum Area Requirement
1	5 to 10 Tonne/batch	3000 Sq.m
2	>10 to 15 Tonne/ batch	1 acre
3	>15 to 20 Tonne/batch	1.5 acre
4	>20 Tonne/batch	2 acres

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CODE OF PRACTICE AND POLLUTION ABATEMENT MEASURES FOR ALL UNITS.

(V) Complete ban on import of raw-material (waste tyres, scrap etc.)

All units, including existing ones, shall be allowed to process the waste tyres generated from within the State of Punjab only. Procurement / Import of scrap tyres/waste rubber products from foreign off-shores or even from other states within the country shall not be allowed.

(VI) Pollution Abatement Measures

- (i) For the initial heating of the reactor, all authorized fuels are allowed. The emissions emitted from the fuel burning should be passed through an alkali scrubber before discharging these into the atmosphere through a stack of minimum 30 mts. height for proper dispersion of the gases.
- (ii) The furnace for heating the reactor should be optimally designed and operated so that proper burning of the fuel can take place and generation of Carbon monoxide (CO) emissions is minimized
- (iii) The uncondensed gases should be flared through a properly designed flare mechanism at a minimum height of 10 mts from the ground level or 3 mts above the height of the nearest building, whichever is more.
- (iv) The carbon powder produced should be removed from the reactor in completely closed and 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 carbon black will be bagged in the HDPE bags and the bags shall be properly sealed. Only one exhaust after the bagging plant shall be allowed and the same should be attached to a stack of minimum 30 mts. height after passing through a suitable APCD such as Alkali Scrubber to prevent dust/odour emissions.
- (v) The unit should carry out stack and ambient air quality monitoring for SO₂, RSPM, CO and HCs at least once in three months from a recognized laboratory. 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 various products and by-products.

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- (vi) Wastewater generated from the oil-water separator should not be discharged anywhere and should be mixed with the carbon powder, which may be sold to the cement manufacturing plants or other such industries.
- (vii) The generation, transportation and disposal of carbon black powder to the cement manufacturing plants or any other such industry will be recorded through proper manifest system and no third party should be involved in its disposal.

(VII) PROVIDING GREEN BELT AND OPEN AREAS

A green belt of minimum 4 mts. width all along the boundary of the plant should be developed with minimum three rows of broad-leaved trees.

Open space to be left after the green belt for the movement of the fire-tenders should be 6.0 mts. all around the plant or as per the requirement of National Building Code of India (NBC) – 2005, whichever is more. And any amendments from time to time will be applicable at that time. No material is allowed to be stored in this open space.

(VIII) Storage of raw-material, product and by-products

The raw material, product (oil) and carbon powder (by-product) shall be stored in areas separate/distinct from, the processing area (shed where the reactors are installed) , open space provided for green belt and open space for movement of fire tender.

(IX) Location of Flare Room

The flare room should be located at the farthest place from the processing shed in an area other than the green belt and open space.

(X) SAFETY MEASURES

- (i) At least three digital pressure and temperature gauges outside the reactor should be provided which should be easily readable to a person on the floor for accurate measurement of the reactor pressure and temperature.
- (ii) There will be one emergency exit route for the pyrolytic gases in the reactor operated through a spring loaded valve which should automatically open in case of any emergency e.g. uncontrolled rise in reactor pressure. The exit should be connected with the existing APCD / Stack provided with the reactor for the discharge of emissions from the fuel burning.

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- (iii) Arrangements for water sprinkling on the reactor will be provided which will get automatically activated along with the activation of pressure release valve.
- (iv) A sensor for CO gas will be installed in the main working area to ensure that concentration of CO in the working area does not exceed the prescribed limits for occupational safety and health. It will also be coupled with a warning/alarm system so that the plant operator can take adequate steps to rectify the situation.
- (v) Appropriate Onsite emergency plan, as per 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.
- (vi) The plant will be operated under the continuous supervision of a qualified person with a minimum of two years experience in a similar process.
- (vii) All the persons/workers in the premises should wear an air filter mask to avoid inhaling of the fine carbon black particles.
- (viii) Plants will conform to all safety measures as provided in Factories Act, 1948 and fire safety norms.
- (ix) The plants will maintain good house-keeping and will ensure that no raw material, products and by-products get spilled inside or outside the plant.

GUIDELINES FOR EXISTING PLANTS

Existing plants implies those plants which have already been granted the statutory approvals such as site clearance by SAC /consent to establish/consent to operate by the PPCB under the Water Act, 1974 and Air Act, 1981 or those which had applied to SAC on or before 31.3.2013.

- (a) The existing units as defined above and which have applied for site clearance to Site Appraisal Committee under Factories Act, 1948 prior to 31.3.2013 shall be allowed to operate only if they fulfill the following criterion-
 - i) Their premises have open space all along the boundary @ 1/2 mt. wide for green belt and 6 mt. wide for movement of fire tender.
 - ii) Such plants conform to pollution abatement/safety measures as mentioned at point No. V, VI, VIII, IX and X of Para A of this notification.)
 - iii) Such plants are granted site clearance by the Site Appraisal Committee/Deptt. of Factories under Factories Act, 1948.

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iii) Such plants are granted consent to establish/consent to operate by PPCB.

(b) *Provided that those existing units which meet with the stipulation of 6 metre wide open space and ½ metre wide green belt but do not conform to pollution abatement/safety measures as mentioned at point No. V, VI, VIII, IX and X of Para A of this notification shall be allowed six months time to conform to the aforementioned measures.*

They shall be further required to deposit immediately on publication of this notification, a bank guarantee @ Rs.1,00,000/- per reactor, valid for one year, to the PPCB, as a surety to implement the aforesaid measures within the stipulated time period.

The units which fail to implement the aforesaid measures within the stipulated 6 months period shall not be allowed to operate and action shall be initiated under the relevant provisions of Water (Prevention & Control of Pollution) Act, 1974 and/or u/s 31-A of Air (Prevention & Control of Pollution) Act, 1981 against them.

(c) All those existing plants which do not meet with the stipulation of 6 metre wide open space and ½ metre wide green belt and also do not conform to the pollution control and safety requirements as mentioned at point V, VI, VIII, IX & X of Part-A of the office order, shall not be allowed to operate. Appropriate action in this regard, under the relevant provisions of the Water (Prevention & Control of Pollution) Act, 1974 and/or under the Air (Prevention & Control of Pollution) Act, 1981, will be initiated against such units by the Punjab Pollution Control Board.

Dated : Chandigarh, the
15-10-2014

Seema Jain, IAS,
Secretary to Govt. of Punjab,
Deptt. of Science, Technology
and Environment.

Endst. No.10/46/2014-STE(5)/325542 Dated: 15/10/2014

A copy is forwarded to the following for information & necessary action:-

1. All the Principal Secretaries/Financial Commissioners/ Administrative Secretaries in the State of Punjab.
2. All the Deputy Commissioners in the State of Punjab.
3. Chairman, Punjab Pollution Control Board, Patiala.

