BEFORE THE HONBLE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI
Original Application No 400 of 2019

IN THE MATTER OF: -

Social Action for Forest and Environment (SAFE) Applicant

Versus

Union of India & Ors. Respondents

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Place: DELHI

Dated: 05.11.2022

REPORT IN COMPLIANCE OF HON'BLE NGT, PRINCIPAL BENCH, NEW DELHI'S ORDER DATED 25.10.2021 IN THE MATTER OF ORIGINAL APPLICATION NO. 400/2019 (SOCIAL ACTION FOR FOREST AND ENVIRONMENT (SAFE) VS. UNION OF INDIA AND OTHERS.)

CENTRAL POLLUTION CONTROL BOARD DELHI

November, 2022

Content

Summary

i. In consultation with expert members from NEERI & IIT-Delhi, CPCB has developed SoPs w.r.t "Recycling of Waste Tyre Scrap for production of Tyre Pyrolysis Oil in Tyre Pyrolysis Units (TPO units). CPCB has studied the existing guidelines of SPCBs w.r.t TPO units, study of 07 TPO units carried out by CPCB, study of 70 TPO units carried out with the help of concerned SPCBs and also the recommendations of the petitioner i.e. Social Action for Forest & Environment (SAFE).

ii. MoEF &CC notified the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022 on 21-07-2022 where regime of extended producer responsibility (EPR) for waste tyre have been introduced. The SOP was revised and aligned with the Amendments Rules as above. The draft of revised SOP was placed on the web site of CPCB and also circulated among stakeholder for seeking suggestions and comments. The last date of submission of comments was 31-10-2022. The comments are being compiled for finalising the SOP. The finalised SOP will be forwarded to MoEF & CC for their concurrence.

ii. CPCB has compiled compliance report of 17 states where TPO units are existing presently. The compliance report along with CPCB's observations on the same is enclosed in this report.

   a) There are 757 Tyre Pyrolysis units (TPO Units) situated in 17 states of the country. Maximum number of units are in the state of UP (148) followed by Haryana (101), Rajasthan (95) and Maharashtra (85).

   b) Out of 757 units, 349 units are complying with consent conditions and SOP of MoEF &CC, 216 units are non- complying.

   c) Around 192 TPO units are closed. Most of the closed units are closed in compliance of CPCB's directions dated 04.12. 2019.

   d) Out of total 757 units, 749 units are operating on batch process and 08 units are based on continuous process.

iii. CPCB has complied the detailed study of 10 % TPO units. The complied reports along with outcome arrived from these studies is enclosed in this report.

   a. Studies have been carried out for 70 TPO units through SPCBs/PCCs. The study established the conclusion as arrived through earlier studies of 07 TPO units.

   b. Out of 70 units, most of the TPO units are 1st generation batch process units and are lacking on advanced features such as PLC system, sensors/alarms in case of emergency, provisions for purging, facilities for storage of excess pyro-gas, proper flaring system etc.

   c. Questionnaire based surveys were carried out by SPCBs for the assessment of health and odour issues amongst nearby residents and workers of the units. Based on the questionnaires the issues of health and odour were not observed in any case.

1. Background & Chronology

In the original application O.A. No.400/2019 (Social Action for Forest and Environment (SAFE) vs. Union of India and Others.) the issue under consideration is management of waste tyres/end of life tyres (ELTs) by tyre pyrolysis industries which are regulated under Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 and Standard Operating Procedure published by MoEF & CC. Also, on 21st July 2022, MoEF &CC has notified the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022 where regime of extended producer responsibility (EPR) for waste tyre have been introduced.

The chronology of events in the matter is as below:

i. The Hon'ble NGT while hearing the matter on 25-04-2019, directed Central Pollution Control Board (CPCB) to submit a report on 'status of compliance of Rules in the tyre pyrolysis industries and remedial measures required'. In compliance, CPCB vide its affidavit dated 31-07-2019 submitted before the Hon'ble NGT compliance status report, environmental concerns in the Tyre Pyrolysis units and the remedial measures.

ii. In compliance of Hon'ble NGT order dated 19.09.2019 CPCB issued directions dated 04.12.2019 & 30.12.2019 under section 5 of E(P) Act, 1986 to 19 SPCBs/PCCs for closure of non-complying pyrolysis units, for strict vigilance & monitoring of complying industries, for regulating import of polluting hazardous waste material, for regulating location of tyre pyrolysis units in light of carrying capacity of the area and also safeguarding health of workers involved.

iii. The Hon'ble NGT vide its order dated 06-01-2020 directed CPCB to carry out studies with the involvement of NEERI and IIT, Delhi and based on the outcome of the study, further decision would be taken that whether existing batch/or advance batch automated unit is required or only continuous units be allowed.

iv. Due to COVID-19 pandemic related lock down, the study report was submitted before Hon'ble NGT on 23.10.2021. Seven (07) Tyre Pyrolysis units (TPO Units) comprising of three (03) advance batch automated tyre pyrolysis units, three (03) existing batch TPO units and one (01) continuous tyre pyrolysis units were studied. The study report observed that the advance batch tyre pyrolysis process 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 tyre pyrolysis units need additional features to overcome environmental concerns. The report recommended that all the existing batch tyre pyrolysis units to install additional features like 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 carbon residue (Char) bagging area, water sprinkler system and mechanized arrangement for removal of carbon residue (Char) and steel scrap and arrangement of Nitrogen(N2) purging. Further, CPCB was requested that existing SOP be revised.

v. The Hon'ble NGT in its order dated on 25.10. 2021 directed for following:

"Accordingly, further remedial action be taken by the CPCB in coordination with the State PCBs/PCCs for compliance of environmental norms, consistent with the Water and Air Acts, HOWM Rules and safety aspects to prevent accidents and for protection of public health. There is need for further studies on the subject of siting criteria, threshold limit of a plant, carrying capacity, standards for effluents, emissions and hazardous or other waste and monitoring mechanism, preferably with larger samples size which may preferably be 10% of the total units. The monitoring needs to be more extensive and prompt with reference to the category of the Tyre Pyrolysis Units – Red, Orange, Green or White. In the light of such further study, appropriate SOP needs to be issued promptly in view of potential for damage to the environment from the hazardous activities in question".

2. Action taken by CPCB in compliance with Hon'ble NGT's order of 25.10.2021

In compliance to the above directions, CPCB has taken following actions:

i. CPCB vide its letter dated 25.11.2021 asked concerned SPCBs (where TPO units exists) to ensure compliance of NGT's order and also carry out inspection of all tyre pyrolysis units in the State/UT to inspect their compliance status in terms of availability of requisite consent and status of compliance of the environmental norms. CPCB provided format for submission of the compliance report.

ii. CPCB convened meetings with all SPCBs/PCC to review status of compliance of Hon'ble NGTs order on 13.01.2022.

iii. In compliance to Hon'ble NGT order, CPCB prepared a study format and circulated amongst concerned SPCBs for carrying out detailed study in at least 10% of the operational TPO units in their respective states.

iv. CPCB convened meeting with concerned SPCBs through video conference (VC) on 04.07.2022 to review status of compliance in carrying out studies in 10% of the TPO units.

v. Studies have been carried out for 70 TPO units through SPCBs/PCCs. CPCB has done compilation and assessment of these studies for establishing the conclusion as arrived through earlier studies of 07 TPO units.

vi. In consultation with expert members from NEERI & IIT-Delhi, CPCB has revised the existing SoPs w.r.t "Recycling of Waste Tyre Scrap for production of Tyre Pyrolysis Oil in line with various concern raised. While revising the SoPs, CPCB

has studied the existing guidelines of SPCBs w.r.t TPO units, detailed study of 07 TPO units carried out by CPCB, study of 70 TPO units carried out with the help of concerned SPCBs and also the recommendations of the petitioner i.e. Social Action for Forest & Environment(SAFE).

vii. The SOP has been revised and aligned with the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022 notified on 21-07-2022. The draft of revised SOP was placed on the web site of CPCB and also circulated among stakeholder for seeking suggestions and comments. The last date of submission of comments was 31-10-2022. The comments are being compiled for finalising the draft. The finalised SOP will be forwarded to MoEF & CC for their concurrence.

3. Outcomes:

Following are the outcomes of CPCB's actions taken in compliance to Hon'ble NGT's order dated 25.10.2021:

i. CPCB has compiled compliance report of 17 states where TPO units are existing presently. The compliance report along with CPCB's observations on the same are at attached at **Annexure-I**.

ii. CPCB has complied the detailed study of 70 TPO units w.r.t. study of 10% units. Complied reports along with outcome arrived from these studies is attached at **Annexure-II.**

iii. In consultation with expert members from NEERI & IIT-Delhi, CPCB has developed SoPs w.r.t "Recycling of Waste Tyre Scrap for production of Tyre Pyrolysis Oil. CPCB has studied the existing guidelines of SPCBs w.r.t TPO units, detailed study of 07 TPO units carried out by CPCB, study of 70 TPO units carried out with the help of concerned SPCBs and also the recommendations of the petitioner i.e. Social Action for Forest & Environment (SAFE).

iv. The SOP has been revised and aligned with the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022 notified on 21-07-2022. The notification is at **Annexure – III.** The draft of revised SOP was placed on the web site of CPCB and also circulated among stakeholder for seeking suggestions and comments. The last date of submission of comments was 31-10-2022. The comments are being compiled for finalising the draft. The finalised version of SOP will be forwarded to MoEF & CC for their concurrence

Annexure-I

Compliance Status of Tyre Pyrolysis Units (TPO Units) in the country

i. There are 757 Tyre Pyrolysis units (TPO Units) situated in 17 states of the country. Maximum number of units are in the state of UP (148) followed by Haryana (101), Rajasthan (95) and Maharashtra (85).

ii. Out of 757 units, 349 units are complying with consent conditions and SOP of MoEF &CC, 216 units are non- complying.

iii. Actions against non-complying units like closure directions/show cause notices have been issued. Many of the non-complying units have been closed.

iv. Around 192 TPO units are closed. Most of the closed units are closed in compliance of CPCB's directions dated 04.12. 2019.

v. Out of total 757 units, 749 units are operating on batch process and 08 units are based on continuous process.

vi. Most of the SPCBs/PCCs have categorized TPO units under Red Category except for the States of Chhattisgarh, Haryana, J& K, U.P and Uttarakhand. In the States of Haryana & U.P, TPO units have been categorized under "Orange" category, while in the States of Chhattisgarh & Uttarakhand, some of the units are categorized under red and some are categorized under orange. In J&K while 05 units have been categorized under red category and one unit has been categorized under green.

The compliance status is summarized in the table below:

S.No	Name of State	Number of TPO units	Compliance Status		Closed/Self closed	Remarks
			Complying	Non-Complying		
1.	Andhra Pradesh State Pollution Control Board	39	21	18	-	Closure directions issued to 16 units and 02 units are self-closed
2.	Assam State Pollution Control Board	06	05	01	-	Closure Notice has been issued
3.	Chhattisgarh Environment Conservation Board	29	15	06	08	Closure direction issued to all the 06 units
4.	Haryana State Pollution Control Board	101	51	42	08	Closure directions issued to non-complying units
5.	J & K State Pollution Control Board	06	-	02	04	04 units are non-operational and self-closed. Actions initiated against the non-complying units
6.	Jharkhand State Pollution Control Board	13	05	04	04	-
7.	Karnataka State Pollution Control Board	34	12	19	03	-
8.	Kerala State Pollution Control Board	01	01	-	-	-
9.	Maharashtra State Pollution Control Board	85	32	24	29	-
10.	Madhya Pradesh State Pollution Control Board	64	26	11	27	Non-complying units have been issued notices.
11.	Odisha State Pollution Control Board	13	06	04	03	Actions initiated against non-complying units
12.	Punjab State Pollution Control Board	18	11	04	03	Actions initiated against non-complying units
13.	Rajasthan State Pollution Control Board	95	28	07	60	Actions initiated against non-complying units. Out of 60 closed, 35 units are closed by Board and 25 units are self-closed
14.	Tamil Nadu State Pollution Control	25	20	03	02	Actions initiated against non-complying unit
15.	Telangana State Pollution Control Board	61	43	07	11	Status of 02 units is not provided. Actions initiated non-complying units
16.	Uttar Pradesh State Pollution Control Board	148	71	53	24	ECC of Rs 1,23,37,185/-imposed on 15 units. Actions initiated against non-complying units
17.	Uttarakhand Pollution Control Board	19	02	11	06	-
	Total	757	349	216	192	-

2.0 State wise summary of the compliance reports submitted by SPCBs is as below:

I. Andhra Pradesh:

As per Andhra Pradesh Pollution Control Board (APPCB) there are 39 tyre pyrolysis units (TPO units) in the Andhra Pradesh. Out of 39 TPO units, 21 units are complying and 18 units are not complying. Out of 18 non-complying TPO units, 16 units have been closed by APPCB and 02 units are self-closed. The emission standard for PM is 115mg/Nm^3 and for effluent, general effluent standards as in Part A of schedule VI of the environment (Protection) Rules, 1986 are applicable. All the 39 TPO units are based on batch process and are categorized under Red Category by APPCB.

II. Assam:

As per Pollution Control Board Assam (PCBA) there are 06 tyre pyrolysis units (TPO units) in the State. Out of 06 TPO units, 05 units are complying, 01 unit is non-complying. Non complying unit has been issued closure notice. The emission standards have been prescribed for PM emissions and the same are as per Part D of Schedule VI of the Environment (Protection) Rules, 1986. All the 06 TPO units are based on batch process and are categorized under Red Category by PCBA.

III. Chhattisgarh:

As per Chhattisgarh Environment Conservation Board (CECB) there are 29 tyre pyrolysis units (TPO units) in the State. Out of 29 TPO units, 15 units are complying, 06 units are non- complying units and CECB has issued closure directions to all the 06 units, 08 units are self- closed. CECB has categorized two units as Orange while remaining have been categorized as Red. Out of 32 units, 31 units are based on batch process while 01 unit is of continuous type and yet to get CTO.

IV. Haryana:

As per Haryana SPCB there are 101 Tyre Pyrolysis Units (TPO units) in the State. Out of these 101 TPO units, 51 units are complying and 42 units are non- complying and 08 units are self-closed. All the 42 non-complying units have been closed by the Haryana Board. All the units have been categorized under Orange Category. Out of 101 units, 100 units are based on batch process while 01 unit is of continuous type. The emission and effluent standards prescribed are as per Schedule VI of the Environment (Protection) Rules, 1986.

V. Jammu & Kashmir:

As per Jammu & Kashmir Pollution Control Committee (J& K PCC), there are 06 tyre pyrolysis units (TPO units) in the State. Out of 06 TPO units, 04 units are non-operational and presently self-closed and remaining 02 units are non-complying. J&K PCC has initiated action against these two non-complying units. Out of 06 units, 05 units are based on batch process while 01 unit is of continuous type. Out of six units, five units have been categorized under Red Category while 01 unit is categorized as Green. The emission and effluent standards prescribed are as per CPCB norms.

VI. **Jharkhand:**

As per Jharkhand State Pollution Control Board (JSPCB) there are 13 tyre pyrolysis units (TPO units) in the State. Out of 13 TPO units only 05 units are complying, 04 units are non- complying and 04 units are self-closed. All the 13 TPO units are based on batch process and are categorized under Red Category by JSPCB. Report has not mentioned on applicable emission and effluent standards.

VII. **Karnataka:**

As per Karnataka State Pollution Control Board (KSPCB) there are 34 tyre pyrolysis units (TPO units) in the state. Out of 34 TPO units, 12 units are complying units, 19 units are non- complying. Three (03) units are closed. All the 34 TPO units are based on batch process and are categorized under Red Category by KSPCB. The emission standards for PM 150 mg/Nm^3. For effluent KSPCB has mentioned that the generated effluent is to be recycled.

VIII. **Kerala:**

As per Kerala State Pollution Control Board, there is 01 tyre pyrolysis unit (TPO unit) and the said unit is complying. The unit is based on batch process and is categorized under Red Category.

IX. **Maharashtra:**

As per Maharashtra Pollution Control Board (MPCB), there are 85 tyre pyrolysis units (TPO units) in the state. Out of 85 TPO units, 32 units are complying and 24 units are non- complying. 29 units are closed by MPCB which includes 24 non-complying units. Out of 33 complying units, 03 units are not in operation. Out of 85 units 01 unit is based on continuous process, while 02 units have been mentioned as advanced batch/semi-continuous process and remaining units are based on batch process. All the units have been categorized under Red Category. The emission and effluent standards prescribed are as per Schedule VI of the Environment (Protection) Rules, 1986.

X. **Madhya Pradesh:**

As per Madhya Pradesh State Pollution Control Board (MPPCB), there are 64 tyre pyrolysis units (TPO units) in the State. Out of 64 TPO units, 26 units are complying and 11 units are non-complying and 27 units are closed. All 11 non-complying units have been issued notices. All the TPO units are based on batch process and are categorized under Red Category. General emission and effluent standards as per Schedule-VI of the Environment (Protection) Rules, 1986 are applicable in these units.

XI. **Odisha:**

As per State Pollution Control Board, Odisha there are in total 13 tyre pyrolysis units (TPO units) in the State. Out of 13 TPO units, 06 units are complying, 04 units are non-complying and 03 units are self-closed. Actions initiated against non-complying units. All the TPO units are based on batch process and are categorized under Red Category. The emission standards applicable are as per Schedule VI of the Environment (Protection) Rules, 1986. As per the report submitted by SPCB, Odisha units are not allowed to discharge effluents.

XII. Punjab:

As per the Punjab Pollution Control Board (PPCB), there are 18 tyre pyrolysis units (TPO units). Out of 18 units 11 units are complying, 04 units are not complying, 02 units are closed by SPCB and 01 unit is self-closed. Action has been initiated against non-complying units. All the TPO units are based on batch process and are categorized under Red Category. The emission standards have been notified by the PPCB.

XIII. Rajasthan:

As per Rajasthan State Pollution Control Board there are 95 tyre pyrolysis units (TPO units). Out of these 95 TPO units, 60 units are presently lying closed and 35 units are in operation. Compliance status has been provided with respect to operational 35 units only. As per the report 28 units are complying and 07 units are non-complying. Action has been initiated against 07 non-complying units. Out of 60 closed units, 35 units are closed by Board while 25 units are self-closed. All the operational TPO units are based on batch process and are categorized under Red Category. General emission and effluent standards as per Schedule -VI of the Environment (Protection) Rules, 1986 are applicable in these units.

XIV. Tamil Nadu:

As per the Tamil Nadu Pollution Control Board (TNPCB) there are 25 tyre pyrolysis units (TPO units) in the State. Out of 25 TPO units 20 units are complying, 03 units are non- complying and 02 units are not in operation and closed. Action has been initiated against non-complying units. Out of 25 units, 21 units are based on batch process and 04 units are of continuous type. The TPO Units have been categorized under "Red" category.

XV. Telangana:

As per Telangana State Pollution Control Board (TSPCB) there are 61 tyre pyrolysis units (TPO Units) in the state. Out of 61 TPO units, 43 units are complying, 07 units are not complying and closure direction issued and presently closed. 11 units are closed. All the TPO units are based on batch process and are categorized under Red Category. The emission standard for PM is 115mg/Nm^3

XVI. Uttar Pradesh:

As per Uttar Pradesh Pollution Control Board (UPPCB), there are 148 tyre pyrolysis units (TPO Units) in the State. Out of 148 established TPO units, 71 units are complying, 53 units are non-complying, 22 units are self-closed, 02 units are dismantled. UPPCB has issued closure direction to 17 units and notices to 36 non complying units. UPPCB has imposed Environmental Compensation Charges of Rs. 1,23,37,185/- (Rupees one crore twenty-three lakh thirty- seven thousand one hundred eighty-five only) against 15 non-complying units. All the TPO units are based on batch process and are categorized under Orange Category.

XVII. Uttarakhand:

As per Uttarakhand Pollution Control Board (UPCB) there are 19 tyre pyrolysis units (TPO Units) in the state. Out of 19 TPO units, 02 units are complying, 11 units are non-complying and 06 units are closed. All the TPO units are based on batch process. 16 TPO units are categorized under Red Category and 03 units are categorized under Orange Category.

The state wise compliance status is given in the table below:

S.No	Name of State	Number of TPO units	Compliance Status		Closed		Technology Batch-B Continuous-C	Categorization	Action against non- complying units
			Complying	Non complying	By Board	Self			
1.	Andhra Pradesh State Pollution Control Board	39	21	18	-	-	B-39	Red	Yes
2.	Assam State Pollution Control Board	06	05	01	-	-	B-06	Red	Yes
3.	Chhattisgarh Environment Conservation Board	29	15	06	-	08	B-28 C-01	Orange/Red	Yes
4.	Haryana State Pollution Control Board	101	51	42	-	08	B-100 C-01	Orange	Yes
5.	J & K State Pollution Control Board	06	00	02	-	04	B-05 C-01	05 units Red and One unit under green	Yes
6.	Jharkhand State Pollution Control Board	13	05	04	-	04	B-13	Red	No
7.	Karnataka State Pollution Control Board	34	12	19	03	-	B-34	Red	Yes
8.	Kerala State Pollution Control Board	01	01	-	-	-	B-01	Red	-
9.	Maharashtra State Pollution Control Board	85	32	24	29	-	B-84 C-01	Red	Yes
10.	Madhya Pradesh State Pollution Control Board	64	26	11	27	-	B-64	Red	Yes
11.	Odisha State Pollution Control Board	13	06	04	-	03	B-13	Red	Yes
12.	Punjab State Pollution Control Board	18	11	04	02	01	B-18	Red	Yes
13.	Rajasthan State Pollution Control Board	95	28	07	35	25	B-95	Red	Yes
14.	Tamil Nadu State Pollution Control	25	20	03	-	02	B-21 C-04	Red	Yes
15.	Telangana State Pollution Control Board	61	43	07	08	03	B-61	Red	Yes
16.	Uttar Pradesh State Pollution Control Board	148	71	53	00	24	B-148	Orange	Yes
17.	Uttarakhand Pollution Control Board	19	02	11	00	06	B-19	Red/Orange	Yes
	Total	757	349	216	104	88	B-749, C- 08		

List of States where tyre pyrolysis industries are existing presently

S.No	Name of State Pollution Control Board / Pollution Control Committee	Number of Tyre Pyrolysis Industries in the State/UT
1.	Andhra Pradesh Pollution Control Board	39
2.	Assam Pollution Control Board	06
3.	Chhattisgarh Environment Conservation Board	29
4.	Haryana Pollution Control Board	101
5.	Jammu & Kashmir Pollution Control Board	06
6.	Jharkhand State Pollution Control Board	13
7.	Karnataka State Pollution Control Board	34
8.	Kerala Pollution Control Board	01
9.	Maharashtra Pollution Control Board	85
10.	M. P. Pollution Control Board	64
11.	Odisha State Pollution Control Board	13
12.	Punjab Pollution Control Board	18
13.	Rajasthan Pollution Control Board	95
14.	Tamil Nadu Pollution Control Board	25
15.	Telangana State Pollution Control Board	61
16.	U.P. Pollution Control Board	148
17.	Uttarakhand Environment Protection & Pollution Control Board	19
	Total number of Tyre Pyrolysis Units as reported by above 17 SPCBs/PCCs	757

List of States where Tyre Pyrolysis Units do not exist

S.No	Name of State Pollution Control Board / Pollution Control Committee	Number of Tyre Pyrolysis Industries in the State/UT
1.	Arunachal Pradesh Pollution Control Board	Nil
2.	Bihar Pollution Control Board	Nil (all closed)
3.	Goa Pollution Control Board	Nil
4.	Gujarat Pollution Control Board	Nil
5.	H. P. Pollution Control Board	Nil
6.	Manipur Pollution Control Board	Nil
7.	Meghalaya Pollution Control Board	Nil
8.	Mizoram Pollution Control Board	Nil
9.	Nagaland Pollution Control Board	Nil
10.	Sikkim Pollution Control Board	Nil
11.	Tripura Pollution Control Board	Nil
12.	West Bengal Pollution Control Board	Nil
13.	Chandigarh Pollution Control Committee	Nil
14.	Delhi Pollution Control Committee	Nil
15.	Daman, Diu & Dadra & Nagar Haveli Pollution Control Committee	Nil
16.	Lakshadweep Pollution Control Committee	Nil
17.	A & N Pollution Control Committee	Nil
18.	Pondicherry Pollution Control Committee	Nil

SPCBs and PCCs in their reports have given compliance status with respect to consent conditions and also with respect to the SoP of MoEF&CC.

Annexure-II

Study report of 10% Tyre Pyrolysis Units (TPO Units) in the country

1.0 Background

The Hon'ble NGT, Principal Bench, New Delhi, in the matter of original application O.A. No.400/2019 (Social Action for Forest and Environment (SAFE) vs. Union of India and Others.) while deliberating the issue about the management of waste tyres/end of life tyres (ELTs) by tyre pyrolysis industries which are regulated under Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 and Standard Operating Procedure published by MoEF & CC, has passed orders dated 25.4.2019, In compliance to the said order CPCB has submitted detailed report of seven (07) Tyre Pyrolysis Oil (TPO) units along with observation and recommendation. On the basis of said submission the Hon'ble NGT has issued an order dated 25-10-2021. The Hon'ble NGT directed CPCB for further study of 10% of the total TPO units in the country. The monitoring needs to be more extensive and prompt with reference to the category of the Tyre pyrolysis units – Red, Orange, Green or White

2.0 Action taken by CPCB in compliance with Hon'ble NGT's order

- In compliance of direction issued by The Hon'ble NGT in its order dated on 25.10. 2021 for studies of the 10 % TPO units in the country, CPCB vide its letter dated 25.11.2021 has written to all SPCBs/PCCs for ensuring compliance of all the TPO units.

- In compliance with the order dated 25.10.2021, CPCB vide its letter dated 06.06.2022 has written to all SPCBs/ for carrying out detailed studies in at least 10% of the Tyre Pyrolysis Units (TPO) in their respective states. CPCB provided a format for carrying out the study. The format prepared by CPCB has focused on the directions of Hon'ble NGT and has emphasized on the components of category of the Tyre Pyrolysis Units – Red, Orange, Green or White sitting criteria, threshold limit of a plant, carrying capacity, standards for effluents, emissions and hazardous or other waste and monitoring mechanism.

- Further SPCBs/PCCs were also required to carry out surveys amongst nearby residents and employees of the units for reporting on issues related to any health and odour due to the operation of these units. In reply of CPCB letter dated 06.06.2022 wherein inspection report of 10% of total tyre pyrolysis units in the state was sought in prescribed format

- CPCB has also carried out two review meeting with all SPCB for ensuring compliance of Hon'ble NGT's order

3.0 Outcomes

CPCB has received study reports of TPO units from the states of Andhra Pradesh, Assam, Chhattisgarh, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, and Uttarakhand, collectively the report of 70 TPO units are available with CPCB.

The compliance status of 10% tyre Pyrolysis Units is summarized in the table below:

S. No.	Name of State	Number of TPO units studied by SPCBs	Number of complying units	Number of non-complying units
1.	Andhra Pradesh	2	2	0
2.	Assam	3	3	0
3.	Chhattisgarh	6	6	0
4.	Haryana	3	3	0
5.	Karnataka	9	7	2
6.	Kerala	1	1	0
7.	Maharashtra	11	6	5
8.	Madhya Pradesh	7	0	7
9.	Odisha	1	1	0
10.	Punjab	4	3	1
11.	Rajasthan	5	4	1
12.	Telangana	5	5	0
13.	Tamil Nadu	5	5	0
14.	Uttar Pradesh	6	6	0
15.	Uttarakhand	2	2	0
	Total	**70**	**54**	**16**

4.0 Unit Wise study reports:

In compliance with the order dated 25.10.2021, CPCB vide its letter dated 06.06.2022 has written to all SPCBs/ for carrying out detailed studies in at least 10% of the Tyre Pyrolysis Units (TPO) in their respective states. CPCB provided a format for carrying out the study. The format prepared by CPCB has focused on the directions of Hon'ble NGT and has emphasized on the components of category of the Tyre Pyrolysis Units – Red, Orange, Green or White sitting criteria, threshold limit of a plant, carrying capacity, standards for effluents, emissions and hazardous or other waste and monitoring mechanism.

Further SPCBs/PCCs were also required to carry out surveys amongst nearby residents and employees of the units for reporting on issues related to any health and odour due to the operation of these units. Based on the reports submitted by SPCBs below are the unit wise summary of the studies carried out:

1. **M/s. Pioneer Renewables, Anantpur Dist, Andhra Pradesh**

M/s. Pioneer Renewables is located at Sy. No.823-A1 (Part) & 824-A3 (Part), Ravivenkatampalli (V), Chinnapolamada (GP), Tadipatri (M), Anantapur Dist. The Unit is based on Batch Technology and has one reactor of 10 tonneses capacity. Oil storage tanks are provided with vents. SPCB has issued and followed guidelines for the sitting of TPO units. This unit is located around agricultural land. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using pyrolysis oil for the purpose of initial heating of the reactor. The unit has a mechanized system for feeding and unloading from the reactor. The unit has provided scrubbers for the control of flue gas emissions. The unit has ETP and treated effluent is being reused in the unit itself. Hazardous waste generated is transported to a TSDF. The unit has been categorized under the red category by SPCB. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

2. **M/s Vigneshwara Renewables Private Limited , Nellore Dist, Andhra Pradesh**

M/s Vigneshwara Renewables Private Limited (formerly M/s Sai Srinivasa Private Limited is located at Sy no. 4/3A.,4/2A, 4/1 A , Pedapariya Village Ozili Mandal, SPSR Nellore District. The unit is based on batch technology and has two reactors with a capacity of 10 tonnes each. The oil storage tanks are provided with vents on the top. SPCB has issued and followed guidelines for sitting of TPO units. This unit is located around agricultural land. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using pyrolysis oil for the purpose of initial heating of the reactor. The unit has mechanized system for feeding and unloading from reactor. The unit has provided scrubbers for the control of flue gas emissions. The unit has ETP and treated effluent is being reused in the unit itself. Hazardous waste generated is transported to a TSDF. The unit has been categorized under red category by SPCB. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

3. **M/s GS Green, Guhawati , Assam**

M/s GS Green is located at Silasendurighopa Gauripur, North Guwahati, Assam. The unit is based on Batch Technology and has four reactors of 10 tonnes capacity each. Oil storage tanks are not provided with vents. The unit is located in an open area with vacant land around it. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using firewood for the purpose of initial heating of the reactor. The unit is not feeding tyre crumbs and is instead feeding tyres with steel in the reactor. The unit has installed PLC system for monitoring temperature in pressure. The unit has the facility of nitrogen purging. The unit has installed the ETP for treatment of effluent. The mechanical system is used for both loading as well as unloading in the reactor. The unit has installed adequate sensors. The unit has APCD for controlling flue gas emissions. The hazardous waste generated is properly stored and packed in a manner for suitable for safe handling. The unit has installed ETP for the treatment of effluent. The unit is categorized under the red category by SPCB. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

4. M/s Gupta Hitech Industries Pvt Ltd, Assam

M/s Gupta Hitech Industries Pvt Ltd is located at Silagaon, choukigate, changsari, Kamrup R Assam. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. Oil storage tanks are provided with vents. The unit is located in an open area with vacant land around it. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of the reactor. The unit is not feeding tyre crumbs and is instead feeding tyres with steel in the reactor. The unit has installed PLC system for monitoring temperature in pressure. The unit has a facility for nitrogen purging. The unit has installed ETP for the treatment of effluent. The mechanical system is used for both loading as well as unloading in the reactors has advocated that the devoiding of tyres from wires should not be done for better performance of the reactor. The unit has installed adequate sensors. The unit has APCD for controlling flue gas emissions. The unit has ETP for the treatment of effluent and the same is reused in the unit. The hazardous waste generated is properly stored and packed in a manner for suitable for safe handling. The unit has been categorized under the red category by SPCB. As per the monitoring results, the unit is complying with prescribed standards The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

5. M/s MPM Processor private limited, Guwahati, Assam

M/s MPM Processor private limited is located at Unit-2, Abhaypur, P.O-Collegenagar, Gauripur, Guwhati-781031. The unit is based on Batch Technology and has one reactor of 10 tonnes capacity. Oil storage tanks are provided with vents. The unit is located in an open area with unused land around it. The consented capacity, production quantity, and other details related to this unit is mentioned in table 2.0. This unit is using firewood for the purpose of initial heating of the reactor. The unit is not feeding tyre crumbs and is instead feeding tyres with steel in the reactor. The unit has installed PLC system for monitoring temperature in pressure. The unit has the facility of nitrogen purging. The unit has installed ETP for the treatment of effluent. The mechanical system is used for both loading as well as unloading in the reactor. The unit has installed adequate sensors. The unit has APCD for controlling flue gas emissions. The hazardous waste generated is properly stored and packed in a manner for suitable for safe handling. The unit has been categorized under red category by SPCB. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

6. M/s Shourya Recycling Pvt. Ltd., Champa, Chattissgarh

M/s Shourya Recycling Pvt. Ltd. is located at Gram-Madwa,Post-Basantpur Via Champa, Dist- Janjgir—Champa, Chhattisgarh. The unit is based on Batch Technology and has two reactors. Oil storage tanks are not provided with vents. The siting criteria is followed by SPCBs for locating this industry. The unit is located in an open area with unused land around it. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is tyre pyrolysis oil for the purpose of initial heating of the reactor. The unit has been categorized under the orange category by SPCB. The unit is installed with APCD for controlling flue gas emissions. The details on the loading and unloading procedure in the reactor are not provided. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

7. **M/s Bimal Enterprises, Chattissgarh**

M/s Bimal Enterprises is located at Village-Gaurmudi, Tehsil-Gharghoda, District — Raigarh (C.G.). The unit is based on Batch Technology and has two reactors. Oil storage tanks are not provided with vents. The siting criteria is followed by SPCBs for locating this industry. The unit is located in an open area with unused land around it. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is tyre pyrolysis oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there. by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

8. **M/s Ambika Hydro Carbons Pvt. Ltd., Chhattisgarh**

M/s Ambika Hydro Carbons Pvt. Ltd., is located at Village Lalmati The.-Lundra, Distt. Sarguja, (Chattissgarh). The unit is based on Batch Technology and has one reactor. Oil storage tanks are not provided with vents. The land use of area where this unit is located is not provided. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is tyre pyrolysis oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit is installed APCD for controlling flue gas emissions. The details on loading and unloading procedure in the reactor is not provided. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

9. **M/s Mahima Recycling Plant, Chhattisgarh**

M/s Mahima Recycling Plant is located at Village- Salora, Tehsil- Katghora, Distt. Korba. The unit is based on semi continuous Technology and has one reactor. Oil storage tanks are not provided with vents. The land use of area where this unit is located is not provided. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is tyre pyrolysis oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The emission and effluent standards have been prescribed by SPCBs. The unit is installed APCD for controlling flue gas emissions. The details on loading and unloading procedure in the reactor is not provided. The unit has also installed ETP for the treatment of effluent. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

10. **M/s Sankalp Ispat (India) Pvt. Ltd., Chhattisgarh**

M/s Sankalp Ispat (India) Pvt. Ltd. is located at P.H. No 21, Kh. No.11/2, 12/1, 15, Village Tada, Tehsil & Dist., Raipur (C.G.). The unit is based on Batch Technology and has two reactors of 8 tonnes capacity each. Oil storage tanks are not provided with vents. The unit is located in an industrial area and has empty land for three side. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is tyre pyrolysis oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit has also installed ETP for the treatment of effluent. The sludge from the waste water is used in co-processing in cement kilns. The details on loading and unloading procedure in the reactor is not provided. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

11. M/s J.C. Reclamations Plot, Chhattisgarh

M/s J.C. Reclamations is located at Plot No. -13 (Part), Industrial Area Siltara, Dist Raipur (C.G.). The unit is based on Batch Technology and has two reactors of 8 tonnes capacity each. Oil storage tanks are not provided with vents. The unit is located in an industrial area and has empty land on three side. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is tyre pyrolysis oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit has also installed ETP for the treatment of effluent. The sludge from the wastewater is used in co-processing in cement kilns. The details on loading and unloading procedure in the reactor is not provided. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

12. M/s Govind Fuel, Panchkula, Haryana

M/s Govind Fuel is located at Village-Tabar, Tehsil Barwala, Distt.-Panchkula, Haryana. The unit is based on Batch Technology and has one reactor. The siting criteria has been followed by SPCB for this unit. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under the orange category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit has also installed ETP for the treatment of effluent. The mechanical system is used for both loading as well as unloading in the reactor. As per the monitoring results the unit is complying with standards The unit is complying consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

13. M/s Ganesh Oil and Tyres, Jind Haryana

M/s Ganesh Oil and Tyres is located at Plot No -06& 07 HSIIDC Jind, Haryana. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The siting criteria has been followed while issuing CTE and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using HSD for the purpose of initial heating of the reactor. The unit has been categorized under the orange category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed with APCD for controlling flue gas emissions. The unit has also installed ETP for the treatment of effluent. The hazardous waste generated is sent to TSDF. As per the monitoring results, the unit is complying with standards. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

14. M/s Giriraj International, Jind, Haryana

M/s Giriraj International is located at Village-Jamni, Distt- Jind, Haryana. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The siting criteria has been followed while issuing CTE and this unit is located around agricultural land area. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using gas for the purpose of initial heating of reactor. The unit is categorized under the orange category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit has also installed ETP for the treatment of effluent. The hazardous waste generated is sent to TSDF. The unit is complying with

consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

15. M/s Sri Shivashakthi Rubber, Bengaluru, Karnataka

M/s Sri Shivashakthi Rubber is located at No.84-P4, 1st Phase, Jigari Industrial Area, Phase 1, Anekal Taluk Bengaluru. The unit is based on Batch Technology and has one reactor. The oil storage tank is provided with vent. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using gas for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The results of monitoring were found to be within prescribed limits. The unit is sending its waste water to a CETP. The waste generated in the unit is reused in the reactor for the purpose of energy recovery. The report does not contains monitoring results. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

16. M/s Maniyar Industry, Kalaburagi ,Karnataka

M/s Maniyar Industry is located at Plot No. 226/P1, Nandur, Kesartagi Industrial Area,Phase I, Kiadb, Tq &Dt. Kalaburagi. The unit is based on Batch Technology and has four reactors of 10 tonnes capacity each. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyro gas for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit is installed ETP. The unit is complying with consent conditions and SoPs. The survey of residents could not be done as there were no nearby residential units. Further, the employees of the unit refused to fill survey questioners.

17. M/s Sahara Fuel Energy, Kalaburagi, Karnataka

M/s Sahara Fuel Energy is located at Plot No.71/B, Nandur industrial Area, Kalaburagi. The unit is based on Batch Technology and has two reactors of 05 tonnes capacity each. This unit is located in an Industrial area. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using pyro gas for the purpose of initial heating of the reactor. The unit has been categorized under the red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit is installed ETP. The monitoring of the unit was not carried out by the Board. The unit is complying with consent conditions and SoPs. The survey of residents could not be done as there were no nearby residential units. Further, the employees of the unit refused to fill out survey questioners.

18. M/s Ramesh Tyres, Ramnagara, Karnataka

M/s Ramesh Tyres is located at Plot No.324-1,2nd phase, Kiadab Industrial Area, Haraholi, Kanakpura Taluk, Ramnagara District. The unit is based on Batch Technology and has two reactors. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyro gas for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for

both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit is sending its waste water to a CETP. The unit has not obtained authorization under hazardous waste rules. The monitoring of the unit was not carried out by the Board. The unit is not complying with consent conditions and SoPs. The survey of residents could not be done as there were no nearby residential units. Further, the employees of the unit refused to fill survey questioners. The SPCB is receiving repeated complaints of air pollution and odour. The unit is presently closed.

19. Shri Sai Hydrocarbon, Karnataka

Shri Sai Hydrocarbon is located at Plot No. 48 B, KIADB Industrial Area, Hoskota, Taluk, Bangalore, Rural, 562114. The unit is based on Batch Technology and has one reactor. The storage tank is provided with vent. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using briquettes for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for the treatment of effluent. As per the monitoring results the unit is complying with the prescribed standards. The unit is complying with consent conditions and SoPs. The unit is presently non-operational due to non-availability of raw material.

20. M/s Aditya Eco Fuel, Bengaluru, Karnataka

M/s Aditya Eco Fuel, is located at Plot No. 47, Sy.No.110, Dabaspet 1st Phase industrial Area, Yedahalli, Village, Sompura Hobli, Nelamangla Taluk, Bengaluru Rural District - 562111. The unit is based on Batch Technology and has one reactor of 12 tonneses capacity. The storage tank is provided with vent. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using briquettes for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for the treatment of effluent. As per the monitoring results the unit is complying with the prescribed standards. The unit is complying with consent conditions and SoPs.

21. M/s Sana Industries, Karnataka

M/s Sana Industries is located Plot no. 297 & 298, Nandur Industrial Area, Kalaburagi. The unit is based on Batch Technology and has two reactor of 05 tonnes capacity each. The storage tank is provided with vent. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyrogas for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for the treatment of effluent. As per the monitoring results the unit is complying with the prescribed standards. The unit is complying with consent conditions and SoPs. The survey of residents could not be done as there were no nearby residential units. Further, the employees of the unit refused to fill survey questioners

22. M/s Vten Group, Karnataka

M/s Vten Group, is located at Plot No. 180P2, Nandur Industrial Area, Kalaburagi, Karnataka. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The storage tank is provided with a vent. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyro gas for the purpose of initial heating of the reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for the treatment of effluent. SPCB has not carried out monitoring of the unit. The unit is complying with consent conditions and SoPs. The survey of residents could not be done as there were no nearby residential units. Further, the employees of the unit refused to fill out survey questionnaires.

23. M/s Jupiter Rubber Tec, Dist Ramanagara, Karnataka

M/s Jupiter Rubber Tec is located at PLOT NO.324K, II Phase, Harohalli Industrial Area, Kanakpura Taluk Ramanagara District. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. This unit is located in an Industrial area. The consented capacity, production quantity, and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of the reactor. The unit has been categorized under the red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has made arrangements with a CETP for the treatment of its effluent SPCB has not carried out monitoring of the unit the unit is not complying with consent conditions and SoPs. The survey of residents could not be done as there were no nearby residential units. Further, the employees of the unit refused to fill out survey questionnaires. Also repetitive complaints have been received against this unit. SPCB has issued show cause to this unit in June 2022.

24. M/s BDT Industries, Palakkad, Kerala

M/s BDT Industries is located at VII/463, Anupur Road, Ozhalappathy Village, Chittur Taluk, Palakkad, Kerala. The unit is based on Batch Technology and has two reactors of 10 tonneses capacity each. The oil storage tanks have been provided with vents. The siting criteria has been followed while issuing CTE and this unit is located around agricultural land area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using tyre pyrolysis oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. No trade effluent is generated by the unit. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odour are not there.

25. M/s Sarda Green Energies, Osmanabad Maharashtra

M/s. Sarda Green Energies is located at Plot No. A-30, MIDC Omerga, Ta. Omerga, Dist. Osmanabad. The unit is based on Batch Technology and has one reactor. The siting criteria has been followed while issuing CTE and this unit is located in MIDC industrial area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for

both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. The hazardous waste generated is sent to a TSDF. The unit is not carrying out proper handling of the carbon residue chargenerated and is not complying with SOP. State Board has initiated legal action against the unit. Based on surveys the issues of health and odour are not there.

26. M/s. Prasad Industries, Osmanabad, Maharashtra

M/s. Prasad Industries is located at Plot No. C-27, MIDC Omerga, Ta. Omerga, Dist. Osmanabad. The unit is based on Batch Technology and has one reactor. The siting criteria has been followed while issuing CTE and this unit is located in MIDC industrial area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. The hazardous waste generated is sent to a TSDF. The unit is not carrying out proper handling of the carbon residue char generated and is not complying with SOP. State Board has initiated legal action against the unit. Based on surveys the issues of health and odour are not there.

27. M/s Indrani Devi Industries, Dist. Parbhani, Maharashtra

M/s Indrani Devi Industries, Gat No. 525, Parbhani-Gangakhed Road, At & Post Singanapur, Tal. Dist. Parbhani. The unit is based on Batch Technology and has two reactors. The siting criteria has been followed while issuing CTE and this unit is located in agriculture land. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. The hazardous waste generated is sent to a TSDF. The unit is not carrying out proper handling of the generated and is not complying with SOPs. State Board has issued show cause notice against the unit. Based on surveys the issues of health and odour are not there.

28. M/s Royal Carbon Black Pvt Ltd, Raigad, Maharashtra

M/s Royal Carbon Black Pvt Ltd, is located at Survey No 1,2,4,5,6,7, 8/2, 8/3, 8/4, 10/0 and 94/1,Vill-Vanivali , Tal- Khalapur, Dist-Raigad, Maharashtra. The unit is based on Continuous Technology and has six reactors. The oil storage tanks in the unit are provided with vent. The siting criteria has been followed while issuing CTE. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using diesel for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. This unit is complying with consent conditions and SoPs. MSPCB has received complaint of odour against this unit from nearby village.

29. **M/s Jalaram Industries, Nagpur, Maharashtra**

M/s Jalaram Industries is located at 71-A , gumgaon, Tq suoner Dist- Nagpur, Maharashtra. The unit is based on Batch Technology and has two reactors. The siting criteria has been followed while issuing CTE and this unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using wood, pyrogas, pyro-oil, Pyro water for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. The hazardous waste generated is reused in reactor The operation and maintenance of APCD and ETP are not satisfactory. SPCB is proposing action against the unit. Based on surveys the issues of health and odour are not there.

30. **M/s Terra Care, Dist. Yavatmal, Maharashtra**

M/s Terra Care, is located at Plot No-A-22, MIDC, Yavatmal, Tal Dist- Yavatmal, Maharashtra. The unit is based on Batch Technology and has one reactors of 10 tonnese capacity. The siting criteria has been followed while issuing CTE and this unit is located in an Industrial Area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. The unit has provided sensors and buzzers, PLC system, flaring system. The unit is complying with consent conditions and SOP. Based on surveys the issues of health and odour are not there.

31. **M/s. Eco Green Industries Pvt. Ltd, Distt. Palghar, Maharashtra**

M/s. Eco Green Industries Pvt. Ltd. is located at Sr. No. 157, Vill. Konsai, Tal. Wada, Dist. Palghar, Maharashtra. The unit is based on Batch Technology and has four reactors of 10 tonnese capacity each. The siting criteria has been followed while issuing CTE. and this unit is located in an open area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit is provided ETP for treatment of the effluent. The unit is complying with consent conditions and SOP. Based on surveys the issues of health and odour are not there.

32. **M/s Shree R.R. Impex, Dist. Nandurbar, Maharashtra**

M/s. Shree R. R. Impex is located at Plot No. 3 & 4, Gut No. 58/1 + 58/A At. Bedkipada, Tal. Navapur, Dist. Nandurbar, Maharashtra. The unit is based on Batch Technology and has three reactors. The unit is located in industrial area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit has provided ETP for treatment of the effluent. The State Board has

earlier issued closer direction to this unit and the same have been revoke later with conditions. Based on surveys the issues of health and odour are not there.

33. M/s. Speciality Steel Suppliers, Distt. Palghar, Maharashtra

M/s. Speciality Steel Suppliers is located at Gut No. 406, Vill. Palsai Road, Tal. Wada, Dist. Palghar, Maharashtra. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The siting criteria has been followed while issuing CTE. and this unit is located in an open area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette and wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit has provided ETP for treatment of the effluent. This unit is complying with consent conditions and SOPs. The State Board have received a complaint with respect to operation of this unit. Based on surveys the issues of health and odour are not there.

34. M/s Green Rubber Granules Pvt. Ltd., Distt. Raigad, Maharashtra

M/s. Green Rubber Granules Pvt Ltd is located at Tal. Khalapur, Dist. Raigad, Maharashtra. The unit is based on Batch Technology. The siting criteria has been followed while issuing CTE. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The treatment of effluent is done using sand and mesh filters. This unit is complying with consent conditions and SOPs. Based on surveys the issues of health and odour are not there.

35. M/s K. K. Industries, Distt. Pune, Maharashtra

M/s K.K. Industries is located at Gat No.422, Vill-Benadohal Tal-Maval, Distt- Pune, Maharashtra. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The unit is located in an open area. The consented capacity, production quantity and other details related to this unit is mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit is installed APCD for controlling flue gas emissions. The unit was not in operation during visit due to maintenance work. It has been observed that this unit is located only 200 meters away from a river. The State Board has issued directions to this unit for EC. Based on surveys the issues of health and odour are not there.

36. M/s Pitambra Bio Fuels, Morena M.P

M/S Pitambra Bio Fuels, is located in Plot No. E-1, E-2, E-19, E-20, Industrial Area Jaderua, Dist. Morena (M.P.) The unit is based on Batch Technology and has two reactors of 07 tonnes capacity each. SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP but same was not found operational. The sludge

generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to this unit for compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

37. M/s Vinayak Bio Fuels Industry, Morena, M.P

M/s Vinayak Bio Fuels Industry is located at G-7, 8,9,10, Industrial Area, Jaderua, Ab Road Morena. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to this unit for compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

38. M/s Anjali Biofuels, Morena, M.P

M/s Anjali Biofuels, is located Plot No. D4, D-5, D-16, D-17, Indus. Area, Jadreua, Morena(M.P.). The unit is based on Batch Technology and has four reactors of 10 tonnes capacity each. SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to this unit for compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

39. M/s K.P.S. Carbon Pvt. Ltd., Morena, M.P

M/s K.P.S. Carbon Pvt. Ltd., is located in Plot No. 111 Industrial Area Banmore, Dist. Morena (M.P.). The unit is based on Batch Technology and has one reactors of 10 tonnes capacity. SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to

this unit for compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

40. M/s Shree Ram Rubber Industries, Morena, M.P

M/s Shree Ram Rubber Industries, is located at Plot No. C-3, Industrial Area, Banmore, Dist. Morena (M.P.) The unit is based on Batch Technology and has one reactors of 10 tonnes capacity . SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to this unit for compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

41. M/s Star Biofuels Pvt. Ltd., Morena, M.P

M/s Star Biofuels Pvt. Ltd., Plot No. C-6, Indus. area Banmore, Dist. Morena. The unit is based on Batch Technology and has four reactors of 10 tonnes capacity each. SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to this unit for compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

42. M/S Global Bio Fuels, Morena, M.P

M/S Global Bio Fuels, is located at Plat no. C- 11, Industrial Area Banmore, Dist. Morena. . The unit is based on Batch Technology and has four reactors of 10 tonnes capacity each. SPCB has followed sitting guidelines while issuing CTE to the units and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is not complying with SoP w.r.t issues of mechanized feeding and unloading of carbon residue char from reactors, feeding of tyre devoid of steel, PLC system, sensors, nitrogen purging etc. SPCB has issued notice to this unit for

compliance with Sops. There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

43. M/s Deccan Rubber Dist. Ganjam , Odisha

M/s Deccan Rubber is located at At-Baunsiapalli ,Po- Kukudakhanda,Dist- Ganjam Odisha. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The unit is located in an open area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for treatment of the effluents. The sludge generated is reused in the reactor for recovery purpose. The unit is complying with consent conditions and SoPs. Two complaints were received in 2015 regarding pollution caused due to carbon residue char generated in the units. Based on surveys the issues of health and odour are not there.

44. M/s Champion Pyro Industries, Dist. Patiala, Punjab

M/s Champion Pyro Industries, Industrial Zone Village Bivipur, Rajpura Dist. Patiala. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each.The oil storage tanks have been provided with vents/ SPCB has followed sitting guidelines and the unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has not installed ETP as only small amount of waste water is generated and same is mixed with carbon black. The unit is complying with consent conditions and SoPs except for the provision of mechanized feeding and unloading in the reactors. Based on surveys the issues of health and odour are not there.

45. M/s M.S. Industries, Dist. Gurdaspur, Punjab

M/s M.S. Industries, is located at Faizpura Road, Batala, Dist. Gurdaspur, Punjab. The unit is based on Batch Technology and has two reactors of 05 tonnes capacity each. SPCB has followed sitting guidelines and the unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has not installed ETP as the waste water generated is reused in condensers. The unit is complying with consent conditions and SoPs except for the provision of mechanized feeding and unloading in the reactors. Based on surveys the issues of health and odour are not there.

46. M/s Balajee Industries, Dist. Fathengarh Sahib, Punjab

M/s Balajee Industries, Vill Ajnali, Tehsil Amloh, Mandi Gobindgarh, Distt Fatehgarh Sahib. The unit is based on Batch Technology and has two reactors of 05 tonnes capacity each. SPCB has followed sitting guidelines and the unit is located in an agricultural area. The

consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions The unit has not installed ETP as only small amount of waste water is generated and same is mixed with carbon black. The unit is complying with consent conditions and SoPs except for the provision of mechanized feeding and unloading in the reactors. Based on surveys the issues of health and odour are not there.

47. M/s Omkar Enterprises, Ludhiana, Punjab

M/s Omkar Enterprises, Vill. Kum Kalan, Kohara Machiwara Road, Ludhiana, Ludhiana East, Ludhiana -141003, Punjab. The unit is based on Batch Technology and has two reactors of 08 tonnes capacity each. SPCB has followed sitting guidelines and the unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for both emissions and effluent have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions The unit has not installed ETP as only small amount of waste water is generated and same is mixed with carbon black. The unit is complying with consent conditions and SoPs . There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

48. M/s PARC PROFILE TECHNOLOGY PVT, Dist Jaipur, Rajasthan

M/s PARC PROFILE TECHNOLOGY PVT LTD is located at H-1-31, RIICO Industrial Area, Dudu Dis. Jaipur (Raj). The unit is based on Batch Technology and has one reactor. The unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using oil and pyro water for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit has installed adequate APCD for controlling flue emissions The unit has installed ETP and the treated water is being used back in unit. The unit has adopted mechanized system for unloading of the carbon black. The unit is complying with consent conditions and SoPs. SPCB has carried out ambient air quality monitoring around the units and its results were within the prescribed ambient air quality standards. Based on surveys the issues of health and odour are not there.

49. M/s Shri Ganpati Recyclers Pvt. Ltd , Dist-Jaipur, Rajasthan

M/s Shri Ganpati Recyclers Pvt. Ltd is located at Khasra No. 196, Village- Anoppura Disha, Tehsil- Amer, District- Jaipur. The unit is based on Batch Technology and has one reactor of 10 tonneses capacity. The unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood and pyro water for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. Standards w.r.t PM have been prescribed for stack emissions. The unit has installed adequate APCD for controlling flue emissions. The unit has installed ETP. The unit has adopted mechanized system for feeding of raw material in the reactor, however the unloading is done in a manual way. As per the monitoring results, the unit is complying with emission as well as ambient air quality standards. The unit is not complying with consent conditions and SoPs. Unit has not obtained authorization under hazardous waste rules and is also not having membership

of any TSDF. The stack height provided is inadequate. Non-compliance is also observed w.r.t unavailability of sensors, maintenance of positive pressure in the reactor etc. Action is proposed by SPCB against this unit. Based on surveys the issues of health and odour are not there.

50. M/s Arihant Corporation, Nasirabad, Rajasthan

M/s Arihant Corporation, is located at SP-2, RIICO Industrial Area, Bewanja, Nasirabad, Rajasthan. The unit is based on Batch Technology and has one reactor of 08 tonnesne capacity. The unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using oil and pyro water for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit has installed adequate APCD for controlling flue emissions The unit has installed ETP and the treated water is being used back in unit. The unit has adopted mechanized system for unloading of the carbon black. The unit is complying with consent conditions and SoPs. SPCB has carried out ambient air quality monitoring around the units and its results were within the prescribed ambient air quality standards. Based on surveys the issues of health and odour are not there.

51. M/s Ambeykripa Industries Pvt. Ltd., Ajmer , Rajasthan

M/s Ambeykripa Industries Pvt. Ltd., is located at Khoda Mata Industrial Area Gram Udaipur-kala, Silora, Kishangarh Ajmer Rajasthan. The unit is based on batch technology and has one reactorThe unit is located in an agricultural area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using oil and pyro water for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit has installed adequate APCD for controlling flue emissions The unit has installed ETP and the treated water is being used back in unit. The unit has adopted mechanized system for unloading of the carbon black. The unit is complying with consent conditions and SoPs. SPCB has carried out ambient air quality monitoring around the units and its results were within the prescribed ambient air quality standards. Based on surveys the issues of health and odour are not there.

52. M/s Quality Suitings Pvt. Ltd., Bhilwara, Rajasthan

M/s Quality Suitings Pvt. Ltd. is located at 10 KM Stonnese, Guwardi, Chittor Road, Bhilwara, Rajasthan. This unit is based on Continuous technology and has three reactors. SPCB has followed sitting guidelines of RSPCB and unit is located in an industrial area The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using green oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The unit has installed adequate APCD for controlling flue and fugitive emissions. The unit is complying with consent conditions and SoPs. SPCB has carried out ambient air quality monitoring around the units and its results were within the prescribed ambient air quality standards. Based on surveys the issues of health and odor are not there. SPCB has received 08 complaints of emissions and odour due to operation of this unit. However, during inspection by SPCB no specific non-compliance was observed.

53. M/s Mts. Alternate Oils India Pvt Ltd is located at Telangana

M/s Mts. Alternate Oils India Pvt Ltd.,Pashamailaram (V), Patancheru (M), Sangareddy, Telangana. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for emissions have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. There is no effluent generation in the unit and hence no ETP has been installed. As per the monitoring results the unit is complying with stack and ambient air quality standars. The unit is complying with consent conditions and SoPs . There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

54. M/s. Aniketh Industries, Telangana

M/s. Aniketh Industries is located at Pashamailaram (V), Patancheru (M), Sangareddy District., Talangana. The unit is based on Batch Technology and has one reactor of 05 tonnes capacity. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using briquette for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for emissions have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. There is no effluent generation in the unit and hence no ETP has been installed. No hazardous waste is generated by the unit. As per the monitoring results the unit is complying with stack and ambient air quality standards. The unit is complying with consent conditions and SoPs . There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

55. M/s. Prashanth Sai Engineering Works, Telangana

M/s. Prashanth Sai Engineering Works, Pashamailaram (V), Patancheru (M), Sangareddy District., Telangana. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyro-water with oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for emissions have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. There is no effluent generation in the unit and hence no ETP has been installed. No hazardous waste is generated by the unit. As per the monitoring results the unit is complying with stack and ambient air quality standards. The unit is complying with consent conditions and SoPs . There were no residents nearby, hence as per surveys of the employees the issues of health and odour are not there.

56. M/s. N&N Industries, Telangana

M/s. N&N Industries is located at Rangapuram (V), Bommalaramaram (M), Yadadri Bhuvanagiri District., Telangana. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. The unit has dipped the vents of oil storage tanks in a drum containing alkali water to prevent the escape of any odorous compounds. SPCB

has followed sitting guidelines and the unit is located in an open area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using briquettes for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for emissions have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. No hazardous waste is generated by the unit. The waste water generated is used as fuel in the reactor and unit has not installed any ETP. As per the monitoring results the unit is complying with stack and ambient air quality standards. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

57. M/s. Rishab Industries, Telangana

M/s. Rishab Industries is located at Kondamadugu (V), Bibinagar (M),Yadadri Bhuvanagiri District., Telangana. The unit is based on Batch Technology and has one reactor of 10 tonnes capacity. The unit has dipped the vents of oil storage tanks in a drum containing alkali water to prevent the escape of any odorous compounds. SPCB has followed sitting guidelines and the unit is located in an open area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using oil mixed pyro-water for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The standards for emissions have been prescribed by SPCB. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. There is no effluent generation in the unit and hence no ETP has been installed. No hazardous waste is generated by the unit. As per the monitoring results the unit is complying with stack and ambient air quality standards. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

58. M/s Indhu Pyro Products, Ranipet, Tamilnadu

M/s Indhu Pyro products is located at No.201/1, Katharikuppam Village, Walajha Taluk, Ranipet District 632 405. The unit is based on both Continuous and Batch Technology and has three reactors. The storage tanks are provided with vents. This unit is located in an open barren land. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyrolytic water containing oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has provided adequate size of solar evaporation pan for the disposal of scrubber bleed. The unit is carrying out mechanized loading and unloading of the reactor. The unit also has PLC system, sensors, firefighting system etc. The unit is complying with consent conditions and SoPs w.r.t both batch as well as continuous technology. Based on surveys the issues of health and odor are not there.

59. M/s Rey Carbon, Krishnagiri, Tamilnadu

M/s Rey Carbon is located at Phase-1, Plot No. B-09,SIPCOT Industrial Complex, Bargur, Parandapalli Village, Pochampalli Taluk, Krishnagiri District-635304. The unit is based on continuous and has two reactors. The storage tanks are provided with vents. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using pyrolytic oil for the purpose of initial heating of reactor. The unit has been categorized under red category by

SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has provided adequate size of solar evaporation pan for the disposal of scrubber bleed. The waste generated in the unit is reused in the reactor for the purpose of energy recovery. The unit is carrying out mechanized loading and unloading of the reactor. The unit also has PLC system, sensors, firefighting system etc. The unit is complying with consent conditions and SoPs w.r.t continuous technology. Based on surveys the issues of health and odor are not there.

60. M/s Rathi Green Energy Pvt LTD, Gummidipoondi, Tamilnadu

M/s Rathi Green Energy Pvt LTD is located at Phase- 1, Plot No. 133 to 137 &144 to 146 SIPCOT Industrial Complex EPIP, Gummidipoondi - 601201. The unit is based on Continuous Technology and has one reactor capacity of 2 tonnes/hour. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using LPG for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The unit has installed ETP for the treatment of scrubber. The waste generated in the unit is reused in the reactor for the purpose of energy recovery. The unit is carrying out mechanized loading and unloading of the reactor. The unit also has PLC system, sensors, firefighting system etc. The unit is complying with consent conditions and SoPs w.r.t continuous technology. Based on surveys the issues of health and odor are not there.

61. M/s Dannys Enterprises Private Limited, Thiruvallur, Tamilnadu

M/s Dannys Enterprises Private Limited is located at A-7/A Sipcot Industrial Estate, Gummidipoondi, Thiruvallur District.-601201. The unit is based on Batch Technology and has two reactors of 10 tonnes capacity each. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using LPG for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. There is no waste water generation from the unit, however, the waste water generated from scrubber is evaporated. The waste generated in the unit is reused in the reactor for the purpose of energy recovery. The unit is carrying out mechanized loading and unloading of the reactor. The unit also has PLC system, sensors, firefighting system etc. The unit is complying with consent conditions and SoPs w.r.t continuous technology. Based on surveys the issues of health and odor are not there.

62. M/s Pairan Pyrolysis Private Limited, Erode, Tamilnadu

M/s Pairan Pyrolysis Private Limited is located at Plot No. S-20, S. F. No. 211(Pt), 212 (Pt), 242 (Pt), 243(PT) & 244 (Pt), Ingur Village, Perundurai Taluk, Erode District. The unit is based on Batch Technology and has one reactor of 14 tonnes capacity. This unit is located in an Industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using furnace oil for the purpose of initial heating of reactor. The unit has been categorized under red category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas and fugitive emissions. The results of monitoring were found to be within prescribed limits. There is no waste water

generation from the unit hence, there is no ETP installed. However, the waste water generated from scrubber is evaporated. The waste generated in the unit is reused in the reactor for the purpose of energy recovery. The unit is carrying out mechanized loading and unloading of the reactor. The unit also has PLC system, sensors, firefighting system etc. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there. The State Board has earlier received complaint regarding odour nuisance caused by this unit. The State Board issued closer directions to this unit and the same were revoked later upon improvisation by the unit.

63. M/s Prayas Oil company, Mathura, U.P

M/s Prayas Oil company is located at Plot no.-D-15, UPSIDC, Industrial area, kosi kotwan, Mathura. The unit is based on Batch Technology and has two reactors. The storage tanks are provided with vents. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The unit is sending its hazardous waste to a TSDF facility. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

64. M/s Creative Chemicals, Mathura, U.P

M/s Creative Chemicals is located at, Plot no.-D-34, Kotwan Industrial area, kosi kalan, Mathura. The unit is based on Batch Technology and has one reactor. The storage tank is provided with vent. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The unit is sending its hazardous waste to a TSDF facility. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

65. M/s Krishna Industries, Meerut, U.P

M/s Krishna Industries is located at Village- Bhalasona, Sardhana Meerut The unit is based on Batch Technology and has two reactors. The storage tanks are provided with vents. The unit is located around agricultural land. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The unit is sending its hazardous waste to a TSDF facility. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

66. **M/s R.V.Industries, Sikandrabad, U.P**

M/s R.V.Industries is located at D-41, Industrial area, Sikandrabad, Uttar Pradesh. The unit is based on Batch Technology and has two reactors. The storage tanks are provided with vents. The unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The waste generated in the unit is used in the reactors for recovery purpose. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

67. **Shri Someshwar Alloys P Ltd, Sikandrabad, U.P.**

Shri Someshwar Alloys P Ltd.is located at C-52 UPSIDC Industrial Area, Sikandrabad, U.P. The unit is based on Batch Technology and has two reactors. The unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The waste generated in the unit is used in the reactors for recovery purpose. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

68. **M/s Network, Industrial Area, Shahjahanpur, U.P**

M/s Network, Industrial Area is located at Jamur, Dist-Shahjahanpur, U.P. The unit is based on Batch Technology and has four reactors with capacity of 6 tonnes each. The State Board has followed siting criteria while issuing CTE and this unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using coal/ husk/wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The State Board has prescribed standards for both emissions and effluents. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The waste generated is sent to a TSDF facility. The unit is complying with consent conditions and SoPs.

69. **M/s Kumaon Udhyog, U.S Nagar, Uttarakhand**

M/s Kumaon Udhyog is located at Khasra no-756, Vill - Barirai, Dineshpur Road, Gadarpur, U.S. Nagar. Uttarkhand. The unit is based on Batch Technology and has one reactor of 10 tonnes capacity. The storage tanks has vents. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of reactor. The unit has been categorized under orange category by SPCB. The unit has installed adequate APCD for controlling flue gas emissions. The unit has not installed ETP. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

70. M/s Go-Green Enterprises, Haridwar, Uttarakhand

M/s Go-Green Enterprises is located at 9th Km, Haridwar Delhi Road, Distt- Haridwar, Uttarkhand. The unit is based on Batch Technology. The storage tank has vents. SPCB has followed sitting guidelines and the unit is located in an industrial area. The consented capacity, production quantity and other details related to this unit are mentioned in table 2.0. This unit is using wood for the purpose of initial heating of the reactor. The unit has been categorized under red category by SPCB. The unit has installed adequate APCD for controlling flue gas emissions. The unit has installed ETP. The unit is complying with consent conditions and SoPs. Based on surveys the issues of health and odor are not there.

Table 2 : Study Summary of 70 TPO units

S. No.	Name of the unit, address	State	Consented Capacity for Raw Material and Product	Reactor Type Number and capacity of each Reactor and total capacity	Area of the Plot	Surrounding Land use	Category of industry	Emission/effluent standards	Environmental Concerns if any	Odour and health issue
1.	M/s. Pioneer Renewables Sy. No.823-A1 (Part) & 824-A3 (Part), Ravivenkatampalli (V), Chinnapolamada (GP), Tadipatri (M), Anantapur Dist	Andhra Pradesh	Pyrolysis Oil - 4500 Ltrs/Day, Black Carbon - 3000 Kgs/Day and Steel - 1500 Kgs/Day	Batch Reactor—1 no.(Capacity 10Tonnes), oil storage tanks – 2 no.with vent over it	Total Plot area: 1.75 Acres; Shed area is about 2000 sq. ft.	Agriculture lands.	RED	-APPCB has prescribed standards for both emissions as well as effluent standards. -The unit has provided adequate APCD for controlling stack emissions - Unit has installed ETP -The monitoring results not provided in the report	Not specified	No issue observed
2.	M/s Vigneshwara Renewables Private Limited (formerly M/s Sai Srinivasa Private Limited Sy no. 4/3A.,4/2A, 4/1A , Pedapariya Village Ozili Mandal, SPSR Nellore District	Andhra Pradesh	Distilled Tyre Pyrolysis Oil (Light Fraction) -4.0 KLD or Distilled Tyre Pyrolysis Oil (Heavier Fraction)- 5 KLD , Scrap Steel-548 TPA and Pyro Char 110 TPA.	Batch Reactors- 2 no.(Capacity 10 tonnes each), pyrolysis oil storage tank no.1 with vent over it	Total Plot area: 1.14 Acres; Shed area is about 1359.175 sq.mtrs.	Agriculture lands.	RED	APPCB has prescribed standards for both emissions as well as effluent standards. -The unit has provided adequate APCD for controlling stack emissions - Unit has installed ETP . -The monitoring results not provided in the report	Not specified	No issue observed
3.	M/s GS Green, Silasendurigho pa Gauripur, North Guwahati	Assam	Scrape Iron = 24 MT/day. Carbon Black = 90 MT/day. Furnace Oil = 120 MT/day.	Batch 4 Reactor of 10Tones/Batch each	Plot area- 31200 square feet , Shed Area 7000sq feet Ft	Land in the adjoining area is vacant	RED	- Standards have been prescribed -Unit has installed adequate APCD APCD for controlling stack emissions. -The unit is reported as complying with stack emission standards -ETP installed	No	No issue observed

4.	M/s Gupta Hiteh Industries Pvt Ltd Silagaon , choukigate, changsari, Kamrup R Assam	Assam	09/ MT per day	Batch 2 Reactor of 10Tones/Batch each	36000 Sq. Mts 10000 Sq mtrs	Open area	RED	-The unit is reported as complying with stack emission standards -Unit has installed adequate APCD for controlling stack emissions -No effluent discharge from the unit.	SPCB has advocated that tyres should not be devoided of wire for better performance of the reactor	No issue observed
5.	M/s MPM Processor private limited Unit-2, Abhaypur, P.O-Collegenagar, Gauripur, Guwhati-781031	Assam	Fuel Oil 72 MT/ Month Carbon Black 70 MT/Month Scrap wire-16.5 MT/ Month	Batch 1 Reactor	920.24 sq m	Vacant land	RED	-The unit is reported as complying with stack emission standards -Unit has installed adequate APCD for controlling stack emissions	SPCB has advocated that tyre should not be devoided of wire for better performance of the reactor	No issue observed
6.	M/s Shourya Recycling Pvt. Ltd., Gram-Madwa, Post-Basantpur Via Champa, Dist-Janjgir-Champa (CG) 495671	Chhattisgarh	Fuel Oil: 960 MT/ Annum Carbon Black: 840 MT/Annum Steel Scrap : 240 MT/Annum	Batch, Reactor 2 no, size 2600 mm dia, 6600 mm length	Plot Area: 0.88 acre, shed area: 12000 sq. ft.	Agriculture land	Orange	- Emission and effluent standards prescribed in CTO. - Unit has installed adequate APCD for controlling stack emissions. Unit has also installed ETP. Results of recent monitoring not provided. The report mentions that the unit is complying with consent conditions	No issue reported	No issue observed
7.	M/s Bimal Enterprises, Village-Gaurmudi, Tehsil-Gharghoda, District — Raigarh (C.G.)	Chhattisgarh	Fuel Oil --1080 MT/ Annum Carbon Black Power —1440 MT/Annum	Batch, 2 Nos. Reactor (2600MM ID x 8 MTR Length)	Plot Area 0.510 Hectare Shed Area:5500 sq. feet	Vacant plot	Red	- Emission and effluent standards prescribed in CTO. - Unit has installed adequate APCD for controlling stack emissions. Unit has also installed ETP. Results of recent monitoring not provided. The report mentions that unit is complying with consent conditions	No issue reported	No issue observed
8.	M/s Ambika Hydro Carbons Pvt. Ltd. Village-Lalmati, Teh.-	Chhattisgarh	Furnace Oil-1200 M.T./Annum Carbon Black-1050 M.T./Annum	Batch, 1 Reactor	Total Area 1.330 Hectare	Not Specified	Red	- Emission and effluent standards prescribed in CTO. - Unit has installed adequate APCD for controlling stack emissions. Unit has also installed ETP.	No issue reported	No issue reported

	Lundra, Distt.- Sarguja (C.G.)							Results of recent monitoring not provided. The report mentions that unit is complying with consent conditions		
9.	M/s Mahima Recycling Plant Prop:- Shri Ankush Agrawal Village- Salora, Tehsil- Katghora, Distt. Korba	Chhattisgarh	Fuel oil - 840 MT/year Carbon black- 735 MT/Year Steel wire – 252 MT/Year	Semi Continuous process, 1 Reactor	Plot size - 6000 sq. mtr. Shed Area - 736 sq. mtr.	Not Specified	Red	- Emission and effluent standards prescribed in CTO. - Unit has installed adequate APCD for controlling stack emissions. Unit has also installed ETP. Results of recent monitoring not provided. The report mentions that unit is complying with consent conditions	No issue reported	No issue reported
10.	M/s Sankalp Ispat (India) Pvt. Ltd. P.H. No 21, Kh. No. 11/2, 12/1, 15, Village Tada, Tehsil & Dist Raipur (C.G.)	Chhattisgarh	Furnace Oil , Steel Scrap, Carbon Black — 2400 M.T./ Year	Batch, Pyrolysis reactors:2 numbers (8 Tonnes each)	Plot Area: 56,000 Sq. Ft., Shed Area:10,000 Sq. Ft	Industrial Area	Red	- Emission and effluent standards prescribed in CTO. - Unit has installed adequate APCD for controlling stack emissions. Unit has also installed ETP. Results of recent monitoring not provided. The report mentions that unit is complying with consent conditions	No issue reported	No issue reported
11.	M/s J.C. Reclamations Plot No. -13 (Part), Industrial Area Siltara, Dist Raipur (C.G.)	Chhattisgarh	Rubber Crumb, Steel Wire, Furnace Oil, Carbon Black: 6000 M.T./ Year	Batch, Pyrolysis reactors: 2 numbers (8 Tonnes each)	Plot Area: 24,000 Sq. Feet Shed Area: 7,000 Sq. Ft	Industrial Area	Red	- Emission and effluent standards prescribed in CTO. - Unit has installed adequate APCD for controlling stack emissions. Unit has also installed ETP. Results of recent monitoring not provided. The report mentions that the unit is complying with consent conditions	No issue reported	No issue reported
12.	M/s Govind Fuel, Vill. Tabar, Tehsil Barwala, Distt.- Panchkula.	Haryana	Steel Wire = 4 MT/day. Carbon Black = 2 MT/day. Furnace Oil = 2 MT/day.	Batch 2 Reactor of 10Tones/Batch each	Plot area-1 Acres, Shed Area 60 *100 Ft	Agriculture	Orange	- Standards prescribed -APCD for controlling flue gas emissions -ETP is provided	The unit is carrying out manual loading of the tyre crumbs in the reactor. As per the report the mechanized loading is not possible	No issues observed

									to load the full batch	
13.	M/s Ganesh Oil and Tyres Plot No -06& 07 HSIIDC Jind	Haryana	09/ MT per day	Batch 2 Reactor of 10Tones/Batch each	3550 Sq. Mts 7000 Sq mtrs	Agricultu re	Orange	-Standards prescribed -APCD for controlling flue gas emissions -ETP is provided	.	No issues observed
14.	M/s Giriraj International Village-Jamni, Distt- Jind	Haryana	10 tons per day	Batch 2 Reactor of 10Tones/Batch each	60 *100Acres	Agricultu re land, Vacant go down & Vacant plot	Orange	-Standards prescribed -APCD for controlling flue gas emissions -ETP is provided	The unit is carrying out manual loading of the tyre crumbs in the reactor. The industry is using bagging plant for removal of carbon from the reactor.	No issues observed
15.	M/s Sri Shivashakthi Rubber, No.84-P4,1st Phase,Jigari Industrial Area, Phase 1, Anekal Taluk Bengaluru	Karnataka	Furnace Oil (Pyrolisis) – 1200MT/A, Carbon - 380MT Steel- 160MT 2021-2022(240 Working Days) Oil- 280 MT Carbon- 910MT Steel- 360MT	Batch Size 2200mm, Dia- 6600mm Double Condenser 15 KL Oil storage Tank with Air Vent – 2 no.	Plot area- 4719 sq. meter, Shed Area 1117.83Sq meter	Agricultu re Plot	RED	No ETP Installed	No	No
16.	M/s Maniyar Industry Plot No. 226/P1,Nandur Kesartagi Industrial Area, Phase I, Kiadb, Tq &Dt.Kalaburagi	Karnataka	Carbon black- 2800 MT/month, Pyrolysis Oil – 320 MT/month Steel Scrap – 1No.60MT	Batch Reactor – 4 Oil Storage Tank- 6	Total Area - 12140sq.meters Shed area- 2635sq.meters Steel Scrap wire- 9505sq.meters	Industria l Area	Red	Particulate Matter-150mg/Nm3 Suspended Solid- 10 0mg/l Ph value- 5.5-9 Oil and grees-10 Bia-chemical-100 Chloride-350 Sulphate-1000 Total dissolve-2100 Chemical oxygen-250	No	Worker refused to talk to the official

17.	M/s Sahara Fuel Energy Plot No.71/B, Nandur industrial Area, Kalaburagi	Karnataka	Carbon black-235MT/month, Pyrolysis Oil – 396 MT/month Steel Scrap – 267 MT	Batch Reactor – 4 Oil Storage Tank – 11	Total area – 7600sq.meter Plant area— 1648sq.meters Open area-5952sq.meter	Industrial area	Red	Particulate Matter-150mg/Nm3 Suspended Solid- 100mg/l Ph value- 5.5-9 Oil and grees-10 Bia-chemical-100 Chloride-350 Sulphate-1000 Total dissolve-2100 Chemical oxygen-250	No	Worker refused to talk to the official
18.	M/s Ramesh Tyres Plot No.324-1,2nd phase, Kiadab Industrial Area, Haraholi, Kanakpura Taluk, ramnagara District	Karnataka	Bonding Gum-9MT/Month Carbon Black-165MT/month, Green Oil-200MT/month, Preused Tread Rubber— 5.8MT/month, Processing of rubber Tyre - 500MT/month, Steel - 95MT/month, Tread Rubber -6.7MT/month, Valcanizing-0.7MT/month	Batch Reactor – 2 Condenser-2 &Oil Storage tanks -2	Not provided	Agriculture Land	Red	SPM SO2 – 150Mg/NM3	No	Yes (Un tolerable smell nuisance)
19.	Shri Sai Hydrocarbon, Plot No. 48 B, KIADB Industrial Area, Hoskota, Taluk, Banglore, Rural, 562114	Karnataka	.Carbon Black-745, steel scrap 372 Tons/Month .Pyrolysisi Oil-1117 Ton/Month	Batch 1 Reactor, Condenser - 5, Oil storage 60 KL	Plot area 43740 sq ft, Shade area 3149.05 Sq ft	Agriculture land use	Red		No	No
20.	M/s Aditya Eco Fuel Plot No. 47, Sy.No.110, dabaspet 1st Phase iIndustrial Area, Yedahalli, Village , Sompura Hobli,	Karnataka	140T/M Liquid Rubber Oil 78T/M carbon Block	Batch Reactor – 1 Condenser – 5 Oil Storage – 40Kl	Total Area – 2520Sqa.meter	Industrial Area	Red		No	No

	Nelamangala Taluk, Bengaluru Rural District - 562111									
21.	M/s Sana Industries, Plot no. 297 & 298, Nandur Industrial Area, Kalaburagi	Karnataka	Carbon black-108MT/month, Pyrolysis Oil – 180MT/month Steel Scrap – 120MT	Batch Reactor – 2 Oil storage tank- 4	Total area-4000sq.meters Shed area - 935sq.meters Open area - 3065sq.meters	Industrial area	Red	Suspended Solid- 100mg/l Ph value- 5.5-9 Oil and grees-10 Bia-chemical-100 Chloride-350 Sulphate-1000 Total dissolve-2100 Chemical oxygen-250	No	Worker refused to talk to the official
22.	M/s Vten Group, Plot No. 180P2, Nandur Industrial Area, Kalaburagi	Karnataka	Carbon black-140MT, Pyrolysis Oil – 160MT Steel Scrap – 80MT	Batch 2no. of reactor – 10Tper Oil storage tank – 6 no.	Plot size-3600sq.meter Shed size – 1402sq.meter Open area-2198sq.meters	Industrial Area	Red	Suspended Solid- 100mg/l Ph value- 5.5-9 Oil and grees-10 Bia-chemical-100 Chloride-350 Sulphate-1000 Total dissolve-2100 Chemical oxygen-250 Residual sodium – 5	No	Worker refused to talk about industries
23.	Jupiter Rubber Tec PLOT NO.324K, II Phase, Harohalli Industrial Area, Kanakpura Taluk ramanagar District	Karnataka	Carbon Black - 82.5MT/month Fuel Oil - 100MT/month MS Wires – 47.5 MT/month Processing of rubber tyres - 250Mt/month	Batch Reactors - 2 Condenser-2 Oil Storage Tanks-2	Not Provided	Agriculture land	Red	SPM So2 -150Mg/NM3	No	No
24.	M/s BDT Industries, VII/463, Anupur Road, Ozhalappathy Village, Chittur Taluk, Palakkad.	Kerala	Pyrolytic Oil – 7.5 MT, Carbon black – 15 MT, Iron Scrap – 4.5 MT	Batch Reactors - 02 , 10 Ton	Plot Area– 13.5 acres, Built –up = 1100 sq.m	Agriculture	Red	- Emission norms prescribed. - Unit installed APCD for controlling stack emissions. - There is no trade effluent from the unit	No issue reported	No issue observed
25.	M/s. Sarda Green Energies. Plot No. A-30, MIDC Omerga,	Maharashtra	Pyrolysis Oil- 50 MT/M Carbon Black-60 MT/M Steel	Batch, 1 reactor 10 tonnes	Total Plot Area- 5500 Sq. meter Shed - 1140 Sq. meter	MIDC Area	RED	-Unit has installed adequate APCD. -The unit is reported as complying with stack emission standards	Non compliance of SoPs	No issue observed

	Ta. Omerga, Dist. Osmanabad.		Wire Strap- 15 MT/M					-No effluent discharge from the unit.		
26.	M/s. Prasad Industries, Plot No. C-27, MIDC Omerga, Ta. Omerga, Dist. Osmanabad.	Maharashtra	Pyrolysis Oil- 45 MT/M Carbon Black- 50 MT/M Steel Wire Scrap- 10 MT/M	Batch 2 Reactor of 10Tones/Batch each	Total Plot Area- 2100 Sq. meter Shed - 455.12 Sq. meter	MIDC Area	RED	-The unit is reported as complying with stack emission standards -Unit has installed adequate APCD. -No effluent discharge from the unit.	Non compliance of SoPs	No issue observed
27.	M/s Indrani Devi Industries, Gat No. 525, Parbhani-Gangakhed Road, At & Post Singanapur, Tal. Dist. Parbhani	Maharashtra	Pyrolysis Oil- 175 MT/M Carbon Black- 200 MT/M Steel Wire 60 MT/M	Batch Reactor- 02 Nos., 08 & 10 MT Capacity Condenser- 08 Nos. Oil Storage Tanks- 02 Nos, 35 KL & 8 KL	3 Acres (12140 Sq. meter)	Agriculture land, Vacant go down & Vacant plot	RED.	-The unit is reported as complying with stack emission standards -Unit has installed adequate APCD. No effluent discharge from the unit.	Non-compliance of SoPs	No issue observed
28.	M/s Royal Carbon Black Pvt Ltd (Continuous Plant), Survey No 1,2,4,5,6,7, 8/2, 8/3, 8/4, 10/0 and 94/1, Vill-Vanivali , Tal- Khalapur, Dist-Raigad. Maharastra (18.8676762°N 73.2059118°E	Maharashtra	Capacity- 9000 MT/M Carbon Black- 900 MT/M	Continous , No of Reactor- 6 (11 mtr length) No of Condenser- 15 (3 mtr each) Oil storage Tank- 6 (8 KL each) Vent of oil storage tank- No	Total area 3200 Sq. meter		RED	Stack – 1) TPM – 150 Mg/Nm3 2) SO2 – 3.744 Kg/Day Effluent from ETP – 1) Suspended Solids – 100 mg/l 2)BOD 3 days 270 C – 30 mg/l	No issue	No issue observed
29.	M/s Jalaram Industries 71-A , gumgaon, Tq suoner Dist- Nagpur	Maharashtra	Pyrolysis' Oil - 9000kg/ Day Carbon Black Powder- 7.8MT/Day Scrap wire- 3MT/Day	Batch , Reactor-2 (10 MT each)	Total area - 1.14 hectare Shed area 2000 Sq. meter	Agriculture	RED	Operation and maintains of ETP and APC is not satisfied	-	No issue observed
30.	M/s Terra Care, Plot No-A-22, MIDC, Yavatmal, Tal Dist- Yavatmal	Maharashtra		Batch, 1 reactor 10 MT Capacity	Total Plot area-2100 Sqm Build up area-468.28 Sqm	Unit is located in MIDC area	RED		-	No issue observed

31.	M/s. Eco Green Industries Pvt. Ltd. Industries Pvt. Ltd. Sr. No. 157, Vill. Konsai, Tal. Wada, Dist. Palghar.	Maharashtra	1)Manufacturing of Tyre Oil Plastic Oil Bio Fuel Oil – 4800 MT/A 2)Carbon Black – 2400 MT/A 3)Carbon Briquette – 3600 MT/A 4)Metal Wire – 2880 MT/	Batch, 4 reactors – 10 Ton capacity each. Oil Storage tank provided dyke wall.	Plot Area10000 Sq. mtrs.	Within KM radius residence not present Open land.	RED		No	No issue observed
32.	M/s. Shree R. R. Impex, Plot No. 3 & 4, Gut No. 58/1 + 58/A At. Bedkipada, Tal. Navapur, Dit. Nandurbar	Maharashtra	Pyrolysis Oil-2160MT/A Carbon Black Powder-1890 Recovered Steel-648 MT/A	Batch, Reactor-3 nos, 2l* 7 ft;	Plot area: 3337 sq. m. Shed area: 1393 sq. m.	No residential area	RED		No	No issue observed
33.	M/s. Speciality Steel Suppliers. Gut No. 406, Vill. Palsai Road, Tal. Wada, Dist. Palghar.	Maharashtra	1) Oil By Pyrolysis of Used Tyres 3840 MT/A 2) Carbon Black (By product) – 3360 MT/A 3) Steel Scrap – 1440 MT/A	Batch, 2 reactors – 10 Ton capacity each. Oil Storage tank provided dyke wall	Plot Area – 7993 Sq. mtrs.	Open Land	RED	Stack – 1) SO2 – 1.8 Kg/Day Effluent from ETP – 1)Suspended Solids – 100 mg/l 2) BOD 3 days 270 C – 30 mg/l	No	No issue observed
34.	M/s. Green Rubber Granules Pvt Ltd, Tal. Khalapur, Dist. Raigad	Maharashtra	Pyrolysis Oil: 5000 MT/A Carbon Black: 5000 MT/A Steel Scrap: 1000 MT/A			Open Land	RED		No	No issue observed
35.	M/s K.K. Industries Gat No.422, Vill-Benadohal Tal-Maval , Distt-Pune	Maharashtra	Pyrolysis' Oil - 50 MT/ M Carbon Black Powder-20MT/M Scrap wire-10 MT/M	Batch, Reactor-2 (10 MT & 12 MT)	Plot-4000sq.	Barren Land	RED	No ETP	. It has been observed that this unit is located only 200 meters away from a river. The	No issue observed

									State Board has issued directions to this unit for EC.	
36.	M/S Pitambra Bio Fuels, PlotNo. E-1, E-2, E-19, E-20, Industrial Area Jaderua, Dist. Morena (M.P.)	Madhya Pradesh	Carbon Black-3300 TPA Steel Wire-660 TPA TPO-2640 TPA	Batch, Reactor-2 Nos., 7 Ton Each	Plot Area-4200 sq. m, Shed Area-980 sq. m	Industrial	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3 ETP : pH 5.5-9.0, SS-100, Chloride1000, COD-250, BOD-30, O & G-10 mg/l	Non-compliance of SoP	Not specified
37.	Vinayak Bio Fuels Industry, G-7,8,9,10, Industrial Area, Jaderua, Ab Road Morena	Madhya Pradesh	Carbon Black-990 TPA Steel Wire- 495 TPA TPO-1485 TPA	Batch, Reactor-2 Nos., 10 Ton Each	4760 sq. meter 1394 sq. meter	Industrial	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3 ETP : pH 5.5-9.0, SS-100, Chloride1000, COD-250, BOD-30, O & G-10 mg/l	Non-compliance of SoP	Not specified
38.	M/S Anjali Biofuels, Plot No. D4, D-5, D-16, D-17, Indus. Area, Jadreua, Morena(M.P.)	Madhya Pradesh	Carbon Black-2400 TPA Steel Wire-900 TPA TPO-2700 TPA	Batch, Reactor-4 Nos., 10 Ton Each	4800 sq. meter 1737 sq. meter	Industrial Area	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3 ETP : pH 5.5-9.0, SS-100, Chloride1000, COD-250, BOD-30, O & G-10 mg/l	Non-compliance of SoP	Not specified
39.	M/S K.P.S. Carbon Pvt. Ltd., Plot No. 111 Industrial Area Banmore, Dist. Morena(M.P.)	Madhya Pradesh	Carbon Black-691 TPA Steel Wire- 460 TPA TPO-806 TPA	Batch, Reactor-1 Nos., 10 Ton Each	3000 sq. meter 437sq. meter	Industrial use	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3 ETP : pH 5.5-9.0, SS-100, Chloride-1000, COD-250, BOD-30, O & G-10 mg/l	Non-compliance of SoP	Not specified
40.	M/S Shree Ram Rubber Industries, Plot No. C-3, Industrial Area, Banmore, Dist. Morena (M.P.)	Madhya Pradesh	Carbon Black-1400 TPA Steel Wire-600 TPA TPO-1600 TPA	Batch, Reactor-1 Nos., 10 Ton Each	4700 sq. meter & 3500 sq. meter	Industrial use	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3 ETP : pH 5.5-9.0, SS-100, Chloride-1000, COD-250, BOD-30, O & G-10 mg/l	Non-compliance of SoP	Not specified
41.	M/S Star Biofuels Pvt. Ltd., Plot No. C-6, Indus. area Banmore, Dist. Morena	Madhya Pradesh	Carbon Black-2200 TPA Steel Wire-900 TPA TPO-2500 TPA	Batch, Reactor-4 Nos., 10 Ton Each	4800 sq. meter & 3200 sq. meter	Industrial use	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3 ETP : pH 5.5-9.0, SS-100, Chloride-1000, COD-250, BOD-30, O & G-10 mg/l	Non-compliance of SoP	Not specified
42.	M/S Global Bio Fuels Plat no. C-	Madhya Pradesh	Carbon Black-1050 TPA	Reactor-2 Nos., 10 Ton Each	33000 sq. feet	Industrial use	Red	Stack : PM-150, SOX-100, NOx-50 mg/NM3	Non-compliance of SoP	Not specified

	11, Industrial Area Banmore, Dist. Morena		Steel Wire-450 TPA TPO-1350 TPA		12000 sq. feet			ETP : pH 5.5-9.0, SS-100, Chloride-1000, COD-250, BOD-30, O & G-10 mg/l		
43.	M/s Deccan Rubber At-Baunsiapalli Po-Kukudakhanda Dist- Ganjam odisha	Odisha	Fuel Oil = 200 MT/Month Waste Iron wire = 37 MT/Month Carbon Black = 7 MT/Month. .	Batch 2 Reactor of 5 Tones/Batch each	Shed area-10179 Sq ft	East-Industry vacant West-industry god wan South – Industry vacant land North-Panchay at Road	RED	-PM-150mg/Nm3 -Stack-90feet -ETP-2.0 KLD	Not specify	Not observed
44.	M/s Champion Pyro Industries, Industrial Zone Village Bivipur, Rajpura Dist. Patiala	Punjab	TPO@8 MTD, Carbon Black @6MTD Steel Wire 3MTD	Batch 2 Reactor of 10Tones/Batch each	Plot area-1.6661 Acres, Shed Area 7500Sq Ft	Agriculture	RED	Stack Standards as per PPCB office order No. 314 dated 24.09.2015 which are as PM-150 mg/NM^3, SO_2-200 mg/NM^3, Carbon Monoxide-200 ppm, Hydrocarbon-25 ppm. -Unit has installed adequate APCD. -The unit is reported as complying with stack emission standards -No effluent discharge from the unit.	The unit is carrying out manual loading of the tyre crumbs in the reactor. As per the report the mechanized loading is not possible to load the full batch	Not observed
45.	M/s M.S. Industries, Faizpura Road, Batala, Dist. Gurdaspur	Punjab	Rubber Processing Oil @ 4 MTD, Carbon Black @ 4 MTD, Steel Wire @ 1.6 MTD, and Light Fuel Gas @ 0.4 MTD	Batch 2 Reactor of 5Tones/Batch each	3547.14 Sq. Mts	Agriculture & Vacant plot	RED	Stack Standards as per PPCB office order No. 314 dated 24.09.2015 which are as PM-150 mg/NM^3, SO_2-200 mg/NM^3, Carbon Monoxide-200 ppm, Hydrocarbon-25 ppm. -The unit is reported as complying with stack emission standards -Unit has installed adequate APCD. -No effluent discharge from the unit.	-	Not observed
46.	M/s Balajee Industries, Vill	Punjab	TPO@600kg/day,	Batch	1.042 Acres	Agriculture land,	RED	Stack Standards as per PPCB office order No. 314 dated	-.	Not observed

	Ajnali, Tehsil Amloh, Mandi Gobindgarh, Distt Fatehgarh Sahib		Carbon Black @4500kg/day, Steel Wire 1500kg/day	2 Reactor of 5Tones/Batch each		Vacant godown & Vacant plot		24.09.2015 which are as PM-150 mg/NM^3, SO_2-200 mg/NM^3, Carbon Monoxide-200 ppm, Hydrocarbon-25 ppm. -The unit is reported as complying with stack emission standards -Unit has installed adequate APCD. No effluent discharge from the unit.		
47.	M/s Omkar Enterprises, Vill. Kum Kalan, Kohara Machiwara Road, Ludhiana, Ludhiana East,Ludhiana - 141003	Punjab	Fuel Oil @ 7 MTD, Carbon Black & Steel @ 7 MTD each.	Batch 2 Reactor of 8Tones/Batch each	Plot area-5434 Sq. Mts, Shed Area 4180Sq Mts	Agriculture land	RED	Stack Standards as per PPCB office order No. 314 dated 24.09.2015 which are as PM-150 mg/NM^3, SO_2-200 mg/NM^3, Carbon Monoxide-200 ppm, Hydrocarbon-25 ppm. -The unit is reported as complying with stack emission standards -Unit has installed adequate APCD. No effluent discharge from the unit.	-	Not observed
48.	M/s PARC PROFILE TECHNOLOGY PVT LTD H-1-31, RIICO INDUSTRIAL AREA, DUDU DIS. JAIPUR (RAJ)	Rajasthan	FURNACE OIL:720 MT/year Carbon Black 630 MT/year Steel Scrap:180 MT/year	Batch, One Reactor, Size:2.6 X 6.6 Sq. Meter	PLOT AREA : 500 Sq. Meter SHED AREA : 1000 Sq. Meter	Plantation & Tyre Storage	Red	Not Specified	No	No
49.	M/s Shri Ganpati Recyclers Pvt. Ltd. & Khasra No. 196, Village-Anoppura Disha, Tehsil-Amer, District-Jaipur	Rajasthan	Carbon Char - 1.20 MTPD Furnace Oil - 1.50 MTPD, Steel Wire - 0.30 MTPD	Batch, 1 Reactor, Capacity 10 MT	5000 Sq. Meter & 1250 Sq. Meter	Agriculture lend use	Red	Stake PM 150 mg/Nm^3	No	No
50.	Arihant Corporation, SP-2, RIICO Industrial Area,	Rajasthan	Fuel Oil:720 MT/year Carbon Black 1440 MT/year	Batch, 1 Reactor, Capacity 8 MT	Plot Area 4000 Sq m, Shade Area 700 Sq m	Plantation, Gardening	RED	ETP and Water Standards	No	Yes (1)

	Bewanja, Nasirabad, Rajasthan		Steel Scrap:240 MT/year			Area& Tyre Storage				
51.	Ambeykripa Industries Pvt. Ltd., Khoda Mata Industrial Area Gram Udaipur-kala, Silora, Kishangarh Ajmer Rj In 305802	Rajasthan	Carbon Char – 3.5 MT/day, TPO Oil - 3.5 MT/day, Steel Wire – 3.5 MT/day	Batch, 1 Reactor	Plot Area 1900 Sq m, Shade Area 1000 Sq m	Plantation, Gardening Area& Tyre Storage	RED	Not Specified	No	No issues observed
52.	M/s Quality Suitings Pvt. Ltd., 10 KM Stone, Guwardi, Chittor Road, Bhilwara	Rajasthan	Carbon Char – 7000 MT/Year Furnace Oil - 9000 MT/Year, Steel Wire - 1100 MT/Year	Continuous Process, 3 Reactor (800 Kg/Hr Each)	Plot Area 2059 Sq m	Textile Industries, Vacant Industrial Area	RED	Not Specified	No	No issues observed
53.	M/s Mts. Alternate Oils India Pvt Ltd.,Pashamailaram (V), Patancheru (M), Sangareddy District., Talangana	Telangana	Furnace Oil (Tyre Pryolysis)=10 TPD Rubber Powder =4 TPD Mild Steel wire-4 TPD	Batch 2 Reactor of 10 Tones/Batch each	Plot area 4046.86 sq mtr Shed area-464.515sq. mtr	Industrial area	Red	Not specify	Not specify	No issues observed
54.	M/s. Aniketh Industries, Pashamailaram (V), Patancheru (M), Sangareddy District., Talangana	Telangana	Furnace oil=1.2 TPD Carbon Black=2.0 TPD Steel wire=0.5 TPD	Batch 1 Reactor of 5 to 6 tonnes 4 condenser 2 Oil tanks (15KL)	Plot area 2926.446sq mts	Industrial area	Red	Not specify	Not specify	No issues observed
55.	M/s. Prashanth Sai Engineering Works, Pashamailaram (V), Patancheru (M), Sangareddy	Telangana	Furnace oil=9 TPD Carbon Black=8 TPD Steel wire=2.5 TPD	Batch type 2 Reactor of 10 ton 3 condenser 4 Oil tanks	4158 sq mtr	Industrial area	Red	Not specify	Not specify	No issues observed

	District., Talangana									
56.	M/s. N&N Industries, Rangapuram (V), Bommalaramaram (M), Yadadri Bhuvanagiri District., Talangana	Telangana	Furnace oil=2040 TPA Carbon Black=1800 TPA Steel wire=600 TPA	Batch type 2 Reactor of10 tons 8 condenser 3 Oil tanks (1 of 30KLand 2 of 15KL)	Total area - 8093.71 sq.mtr Build up area- 4046.86	Industrial area	Red	-Not specify	Not specify	No issues observed
57.	M/s. Rishab Industries, Kondamadugu(V), Bibinagar (M),Yadadri Bhuvanagiri District., Talangana	Telangana	Furnace oil=4 TPD Carbon Black=2.5 TPD Steel wire=2 TPD	Batch type 1 Reactor of 10Tone 4 Oil tanks of 16 Kl Condenser-Coil type	Total area - 4653sq.mtr Built up area – 2500sq.mtr	Industrial area	Red	-Not specify	Not specify	No issues observed
58.	M/s. Indhu Pyro products, No.201/1, Katharikuppam Village, Walajha Taluk, Ranipet District 632405	Tamil Nadu	Pyrolysis Oil - 270T/M TPD Carbon Black-180T/M Steel wire-90T/M Pyrolytic gas - 60T/M	3 Reactor Batch process and continuous process	Plot area 11550 sq mtr Shed area-380 sq. mtr	Surrounded by vacant land and mineral water plant on east side of the unit	Red	-Trade effluent (Scrubber waste water)=0.050KLD disposed in to solar evaporation pan having an area of 12sqm. Area provided is based on the rate of evaporation@4.55mm/day	Not specify	No issues of health or odor were reported during questionnaire
59.	M/s. Rey Carbon Phase-1, Plot.No.B-09,SIPCOT Industrial Complex, Bargur, Parandapalli Village, Pochampalli Taluk, Krishnagiri District-635304	Tamil Nadu	Pyrolysis oil=3300MT/A Carbon Powder=3300 MT/A Steel wire=1122MT/A	Continuous Process 2 Reactor 0.5T/ hrs condenser	Plot area 120200 sq mtr Shed area-6000 sq. mtr	Located within land use are (SIPCOT Industrial complex, Bargur, Parandapalli Taluk, Krishnagiri District)	Red	Standard of emission and effluent are prescribed per CTO	Not specify	No issues of health or odor were reported during questionnaire
60.	M/s. Rathi Green Energy	Tamil Nadu	Rubber Oil / Fuel Oil -700	Continuous type	Total area 19338 sq mtrs	Industrial area	Red	Standard of emission and effluent are prescribed per CTO	Not specify	No issues of health or odor were

	Pvt LTD.- Phase- 1, Plot No. 133 to 137 &144 to 146 SIPCOT Industrial Complex EPIP, Gummidipoondi ..-601201		Metric Ton /Month 2. Recovered Carbon / Black Carbon -700 Metric Ton / Month By-Product Details 1. Fuel Gases 210 Metric Ton / Month	1Reactor of 2T/hrs	Shed area - 3000Sq mtrs					reported during questionnai re
61.	M/s. Dannys Enterprises Private Limited, A-7/A Sipcot Industrial Estate, Gummidipoondi , Thiruvallur District.-601201	Tamil Nadu	Main Product 1. Pyrolysis Oil/ Furnace Oil 4 T/D By-Product Details 1. Carbon Black 4 T/D 2. Steel wire/Tyre cord 1.5 T/Day Intermediate Product Details 1. Fuel gas 0.5 T/D	Batch type Pyrolysis Reactor- 10MT-2No	Total area - 4040 sq.mtr Build up area-880sq mtrs	Industria l area	Red	Standard of emission and effluent are prescribed per CTO	Not specify	No issues of health or odor were reported during questionn aire
62.	M/s. Pairan Pyrolysis Private Limited, Plot No. S-20, S.F.No. 211(Pt), 212(Pt), 242(Pt), 243(Pt) & 244(Pt), Ingur Village, Perundurai Taluk, Erode District..	Tamil Nadu	Fuel oil=190T/mont h Carbon Black=275.6 T/Month Steel wire=70Ton/M onth Gaseous fuel- 70T/Month Depolymerizati on Oil- 104T/Month (Plastic Pryolysis)	Batch type 2 Reactor of 14Ton (Tyre Pyrolysis And 10 Ton(Plastic Pyrolysis)	Total area 4050sq.mtrs Built up area -- 250sq.mtrs	Industria l land area	Red	Standard of emission and effluent are prescribed per CTO	Not specify	No issues observed
63.	M/s Prayas Oil company ,Plot no.-D-15, UPSIDC,	Uttar Pradesh	TPO 87.5Kl/Month Carbon Black 75 MT/Month	Batch 2 Reactors28 00*6600	Shed Area: 541 sq. mts	UPSIDC Industria l Area	Orange	- General standards under EPA.	-	No issue observed

	Industrial area, kosi kotwan, Mathura. .		Steel wire 37.5 MT/Month	mm) 10 condensors, 2 oil storage tanks in open	Total Area: 3200sq mts			- The unit has installed adequate APCD for controlling flue gas emissions. - The unit has installed ETP		
64.	M/s Creative Chemicals is located at, Plot no.-D-34, Kotwan Industrial area, kosi kalan, Mathura.	Uttar Pradesh	TPO 7.5 KL/DAY CARBON BLACK 10 MT/DAY WIRE 10 MT/DAY	Batch 2 Reactors (6600mm*2 600mm), 24	Shed :1050 sq Mts Total Area:3004 sq. mts	UPSIDC Industria l Area	Orange	- General standards under EPA. - The unit has installed adequate APCD for controlling flue gas emissions. - The unit has installed ETP -	-	No issue observed
65.	M/s Krishna Industries , Village- Bhalasona, Sardhana Meerut ,	Uttar Pradesh	TPO 12 MT per day CARBON BLACK 10 MT/DAY WIRE 0.9 MT/DAY	Batch 2 Reactors	Shed Area80*120 sq feets Total area: 4200 sq mts	Agricultu re Area	Orange	- General standards under EPA. - The unit has installed adequate APCD for controlling flue gas emissions. - The unit has installed ETP -	-	No issue observed
66.	M/s R.V.Industries , D-41, Industrial area, Sikandrabad, Uttar Pradesh	Uttar Pradesh	TPO 12MTper day CARBON BLACK 08 MT/DAY WIRE 3MT/DAY	Batch 2 Reactors (7500*2650 mm)	Shed area: 4200 sq mts	Agricultu re Area	Orange	- General standards under EPA. - The unit has installed adequate APCD for controlling flue gas emissions. - The unit has installed ETP -	-	No issue observed
67.	Shri Someshwar Alloys P Ltd. c-52 UPSIDC Industrial Area, Sikandrabad	Uttar Pradesh	TPO 6400KG/DAY CARBON BLACK 4800KG/DAY WIRE 2400KG/DAY	Batch 2 Reactors (6600mm*2 600mm), 24	4178 sq. m. & 836.127sq. m	Front: Road Left: Vacant Plot Right: Transfor mer Factory Back: Mattress Factory	Orange	Not specify	No	No
68.	M/s Network, Industrial Area, Jamur, Dist- Shahjahanpur	Uttar Pradesh	Rubber Processed oil- 4500 metric Tonnes/year	Batch 4 Reactors of 6 MT	Not specify		Orange	Stack Height 30metre from ground level PM -1200mg/lt ETP installed Ph-6.5 to 8.5 S-s-100mg/l BOD-30 mg/L COD-250mg/l	No	No

			Iron Scrape-1500 metric tonnes /year Carbon Black-4000 metric tonnes/year					Oil & grease-10mg/l		
69.	M/s Kumaon Udhyog, Khasra no-756, Vill - Barirai, Dineshpur Road,Gadarpur ,U.S.Nagar	Uttarakhand	Carbon - 53 MT/Month, Pyrolysis Oil - 110 MT/Month& Steel - 45 MT/Month	Batch Reactors - 01 , 10 Ton	Plot area-1 acre, covered Shed Area 4800Sq ft	Industrial / Commercial With Agricultural land nearby	Orange	Not Specified	No	No
70.	M/s Go-Green Enterprises, 9th Km, Haridwar Delhi Road, Distt- Haridwar	Uttarakhand	Carbon- 350 Ton/Month, Pyrolysis Oil-400 Ton/Month, Wire- 150 Ton/Month	Batch Reactor capacity not specify	Plot Area - 7992.56 sq Meter Total covered area - 2814.24 sq meter	Industrial	Red	Not Specified	No	No

5.0 Observations:

i. Out of 70 units, most of the TPO units are 1st generation batch process units and are lacking on advanced features such as PLC system, sensors/alarms in case of emergency, provisions for purging, facilities for storage of excess pyro-gas, proper flaring system etc.

ii. Out of total 70 units, 64 units are operating on batch process and 06 unit are based on continuous technology.

iii. Most of the Categorization of TPO units are under Red Category except units in Uttar Pradesh & Haryana where it is categorized under orange.

iv. Most of the TPO units are having 1 or 2 Batch reactors (10 Tonne/Day capacity) with manual loading.

v. The shade area requirement of TPO units varying with unit to unit. The Minimum shade area for 1 Reactor (10 Tonne/Day capacity) is 1750 Sq ft and maximum is 14000 Sq ft 2 Reactor (10 Tonne capacity of each reactor).

vi. For the 1 reactor (10 Tonne/Day capacity) storage requirement for oil storage tank also different. The size of condenser also varies with unit to unit.

vii. Emission standards for stake and Effluent standards in most of the units are as per schedule VI of the Environment (Protection) Rules, 1986.Most of the SPCBs have made these standards little stringent w.r.t PM emissions

viii. As per questionnaire surveys submitted by SPCBs/PCCs, no issues of health or odour were reported nearby residents and workers of the all 70 units

6.0 Conclusions:

In compliance with the orders of Hon'ble NGT, studies have been carried out in 70 Tyre Pyrolysis (TPO) unit. The study has emphasized on the components as directed by Hon'ble NGT. Out of 70 TPO units studies, 06 units are based on Continuous technology, while remaining 64 are based on batch technology. Following are the conclusions based on assessment of the study report:

- As such there are no process emissions in tyre pyrolysis units. The emissions from TPO units results due flue gas emissions which is produced during combustion of fuels for reactor heating. The flue gas emissions were found to be regulated by most of the units through installation of adequate APCD such as scrubbers, stacks of adequate heights etc.
- Fugitives emissions are resulting due to opening of reactors without proper purging of reactor which results into escape of gases trapped inside reactors. Emission are also resulting due to flaring of excess pyro gas generated in the pyrolysis.
- The fugitive emissions of carbon residue (Char) from TPO units are resulting due improper handling of carbon black, manual system of unloading, poor housekeeping, improper sealing, leakages in valves, improper storage, absence of APCD.
- The fugitive emissions of carbon are also occurring during transportation of carbon residue char from unit premises due to use of open freight vehicles.

- The issues of odour nuisance are also related to leakages from valves, improper sealing of reactor, absence of PLC system, absence of sensor alarms, discharge of flue gas from stack without flaring. It has also been observed that there is a vent installed above oil storage tanks and escape of evaporative emissions from these vents are resulting in to odour problems
- The issues of fugitive emissions and odour generated in TPO Units can be taken care with strict compliance of SoPs.
- It has been observed that most of the TPO units are 1st generation batch process units and are lacking on features such as PLC system, sensors/alarms in case of emergency, provisions for purging, facilities for storage of excess pyro-gas and by pass arrangement etc.
- Questionnaire based surveys were carried out by SPCBs for the assessment of health and odour issues amongst nearby residents and workers of the units. There were two type of questionnaires those were filled through residents and workers. Based on the questionnaires the issues of health and odour were not observed in any case. However, in some cases the workers have refused to respond to the questionnaire surveys.
- The study established the conclusion as arrived through earlier studies of 07 TPO units.

Annexure-III

रजिस्ट्री सं. डी.एल.- 33004/99 REGD. No. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

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असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)

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PUBLISHED BY AUTHORITY

सं. 520] नई दिल्ली, बृहस्पतिवार, जुलाई 21, 2022/आषाढ़ 30, 1944
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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 21 जुलाई, 2022

सा.का.नि. 593(अ).—अपशिष्ट टायर के लिए विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रारूप विनियम को अंतर्विष्ट करने वाली प्रारूप अधिसूचना, भारत के राजपत्र, असाधारण भाग-II, खण्ड 3, उप-खण्ड (ii) में भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना संख्यांक का.आ. 5497(अ), तारीख 31 दिसंबर, 2021 द्वारा प्रकाशित की गई थी, जिसमें उन सभी व्यक्तियों से जिसको उक्त अधिसूचना को अंतर्विष्ट करने वाली राजपत्र की प्रतियां जनता को उपलब्ध करा दी गई थी, साठ दिन की अवधि की समाप्ति के पहले आक्षेप और सुझाव आमंत्रित किए गए थे;

और उक्त अधिसूचना को अंतर्विष्ट करने वाली राजपत्र की प्रतियां जनता को 31 दिसंबर, 2021 को उपलब्ध करा दी गई थी;

और उक्त प्रारूप अधिसूचना की बाबत जनता से उक्त अवधि के भीतर प्राप्त किए गए आक्षेपों और सुझावों पर केन्द्रीय सरकार द्वारा सम्यक रूप से विचार किया गया है;

अंत: अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप नियम (3) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6, धारा 8 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, परिसंकटमय और अन्य अपशिष्ट (प्रबंध और सीमापार संचलन) नियम, 2016 में और संशोधन करने के लिए निम्नलिखित नियम बनाती है अर्थात् :

1. **संक्षिप्त नाम और प्रारंभ** – (1) इन नियमों का संक्षिप्त नाम परिसंकटमय और अन्य अपशिष्ट (प्रबंध और सीमापार संचलन) संशोधन, नियम, 2022 है।

(2) ये राजपत्र में उनके प्रकाशन की तारीख से प्रवृत्त होंगे।

2. परिसंकटमय एवं अन्य अपशिष्ट (प्रबंध और सीमापार संचलन) नियम, 2016 (जिन्हें इसमें इसके पश्चात् उक्त नियम कहा गया है) में, नियम 9 में, उप नियम (3) के पश्चात्, निम्नलिखित उप नियम अंत:स्थापित किया जाएगा अर्थात्:

"(4) अपशिष्ट टायर का उपयोग और प्रबंधन अनुसूची IX में अंतर्विष्ट उपबंधों के अनुसार होगा।"

3. उक्त नियमों में, अनसूची VIII के पश्चात्, निम्नलिखित अनुसूची अंत:स्थापित की जाएगी, अर्थात् :-

'अनुसूची IX

[नियम 9(4) देखें]

अपशिष्ट टायर के लिए विस्तारित उत्पादक उत्तरदायित्व (ईपीआर)

1. **परिभाषाएं – इस अनुसूची के प्रयोजन के लिए -**

(क) **'कारबार'** से नए टायरों के उत्पादन या विनिर्माण या विक्रय के कोई क्रियाकलाप, नए या अपशिष्ट आयात, नए टायरों के साथ फिट किए गए यानों का आयात, घरेलू स्तर पर विक्रीत यानों में उपयोग के लिए ऑटोमोबाइल विनिर्माताओं द्वारा नए टायरों का आयात या अपशिष्ट टायरों के पुन:चक्रीकरण अभिप्रेत है।

(ख) **'संपरिवर्तन कारक'** से पुनर्चक्रण के प्रत्येक अंत्य उत्पाद की एक इकाई का उत्पादन करने के लिए आवश्यक अपशिष्ट टायर की इकाइयां अभिप्रेत हैं।

(ग) **'अपशिष्ट टायर के पर्यावरणीय दृष्टि से अनुकूल प्रबंधन'** से यह सुनिश्चित करने के लिए सभी कदम उठाना अभिप्रेत है कि अपशिष्ट टायर को इस ढंग से प्रबंधित किया जाए कि ऐसे अपशिष्ट टायर से होने वाले किन्हीं प्रतिकूल प्रभावों से स्वास्थ्य और पर्यावरण की रक्षा हो सके।

(घ) **'विस्तारित उत्पादक उत्तरदायित्व'** से टायर के उत्पादक का इस अनुसूची के उपबंधों के अनुसार अपशिष्ट टायर के पर्यावरणीय प्रबंधन को सुनिश्चित करने का उत्तरदायित्व अभिप्रेत है।

(ङ) **'उत्पादक'** से कोई दृष्टि से व्यक्ति या निकाय अभिप्रेत है जो;

(i) घरेलू स्तर पर नए टायरों का विनिर्माण करता है और बेचता है; या

(ii) अन्य विनिर्माताओं या आपूर्तिकर्ताओं द्वारा विनिर्मित नए टायर अपने स्वयं के ब्राण्ड के अधीन घरेलू स्तर पर बेचता है; या

(iii) आयातित नए टायरों को बेचता है; या

(iv) नए टायरों सहित फिट किए गए यानों का आयात करता है; या

(v) घरेलू स्तर पर विक्रीत नए वाहनों में उपयोग के लिए नए टायरों का आयात वाला ऑटोमोबाइल विनिर्माता; या

(vi) अपशिष्ट टायर का आयात करता है;

(च) **'पुन:चक्रीकरण'** से टायर अपशिष्ट को निम्नलिखित अंत्य उत्पादों में पर्यावरणीय दृष्टि से अनुकूल रीति से संपरिवर्तित करने की प्रक्रिया या कार्य और केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा यथाविनिर्दिष्ट मानक प्रचालन प्रक्रियाओं या मार्गदर्शक सिद्धांत में यथोल्लिखित सुविधाएं रखना अभिप्रेत है, अर्थात् :

क) पुन: प्राप्त रबड़

ख) अवचूर्ण रबड़

ग) अवचूर्ण रबड़ से संशोधित बिटूमेन (सीआरएमबी)

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घ) पुन: प्राप्त कार्बन ब्लैक, जो नए टायर के विनिर्माण के लिए कच्चे माल के रूप में उपयोग करने योग्य है

ङ) पाइरोलिसिस तेल/चार, जो केवल ईंधन के रूप में उपयोग किया जाता है न कि नए टायर के विनिर्माण के लिए कच्चे माल के रूप में।

(छ) **'पुनर्चक्रक'** से पुन:चक्रीकरण की प्रक्रिया में संलग्न किसी व्यक्ति या निकाय से अभिप्रेत है।

(ज) **'पुन:चक्रीकरण लक्ष्य'** से इस अनुसूची के पैरा 6 के उपबंधों के अनुसार पुनर्चक्रित किए जाने वाले अपशिष्ट टायर की मात्रा अभिप्रेत है।

(झ) **'मानक प्रचालन प्रक्रिया'** से केन्द्रीय प्रदूषण नियंत्रण बोर्ड विनिर्दिष्ट दस्तावेज अभिप्रेत हैं जो उपकरणों और प्रक्रियाओं की न्यूनतम अपेक्षा को सुसंपादित करने के लिए है।

(ञ) **'मार्गदर्शक सिंद्धांत'** से केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा विनिर्दिष्ट दस्तावेज अभिप्रेत हैं जो अपशिष्ट टायरों के पर्यावरणीय दृष्टि से सुदृढ़ ढंग से प्रबंधन, जिसमें अपशिष्ट टायर की संभलाई, एकत्रीकरण, परिवहन और भंडारण तथा पुन: चक्रीकरण सम्मिलित है, की न्यूनतम अपेक्षा को सुसंपादित करने के लिए किया गया है।

(ट) **'पोर्टल'** से पैरा 9 के अधीन केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा तैयार किया गया ऑनलाइन प्रणाली है।

(ठ) **'रिट्रेडिंग'** से एक अच्छी संरचनात्मक गुणवत्ता वाले खराब हो चुके टायर के ऊपरी हिस्से और साइड वॉल रबर के नवीनीकरण की प्रक्रिया अभिप्रेत है।

(ड) **'अपशिष्ट टायर'** से ट्यूब और फ्लैप सहित ऐसा टायर जिसे अब किसी यान में नहीं लगाया जाता है और जिसका उपयोग अब आशयित प्रयोजन के लिए नहीं किया जाता है।

2. **लागू होना** - इस अनुसूची के उपबंध निम्नलिखित इकाइयों पर लागू होंगे, अर्थात्

(i) उत्पादक

(ii) अपशिष्ट टायर का पुनर्चक्रक; और

(iii) रीट्रेडर

3. **रजिस्ट्रीकरण** - (1) पैरा 2 में निर्दिष्ट इकाइयों को पोर्टल पर रजिस्टर करना होगा।

(2) कोई इकाई रजिस्ट्रीकरण के बिना कोई भी कारोबार नहीं करेगी ।

(3) उप-पैरा (1) के अधीन रजिस्ट्रीकृत इकाई किसी अरजिस्ट्रीकृत उत्पादक/पुनर्चक्रक के साथ कारोबार नहीं करेंगी।

(4) यदि, कोई रजिस्ट्रीकृत इकाई, इस अनुसूची के अधीन उपबंधित या प्रस्तुत किए जाने के लिए अपेक्षित रजिस्ट्रीकरण या विवरणी या रिपोर्ट या सूचना प्राप्त करने के लिए मिथ्या जानकारी या जानकारी जानबूझकर छिपाता है या किसी अनियमितता के मामले में, केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा ऐसी इकाई के रजिस्ट्रीकरण को उसे सुनवाई का अवसर प्रदान करने के पश्चात् तीन वर्ष की अवधि के लिए प्रतिसंहृत किया जा सकता है और इसके अतिरिक्त, पैरा 10 के अनुसार ऐसे मामलों में पर्यावरणीय क्षतिपूर्ति प्रभार भी लगाए जा सकते हैं।

(5) यदि कोई इकाई पैरा 3 के अधीन एक से अधिक प्रवर्ग में सम्मिलित होने की स्थिति में है, तो वह इकाई उन प्रवर्गों के लिए पृथक रूप से रजिस्टर करायेगी।

(6) केंद्रीय प्रदूषण नियंत्रण बोर्ड, पैरा 13 के अधीन गठित विषय निर्वाचन समिति के अनुमोदन से समय-समय पर जो विनिर्दिष्ट किए जाए ऐसी रजिस्ट्रीकरण फीस आवेदकों पर प्रभारित कर सकेगा।

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4. **विस्तारित उत्पादक उत्तरदायित्व व्यवस्था की पद्धतियां** – (1) सभी उत्पादकों पर निम्नानुसार विस्तारित उत्पादक उत्तरदायित्व बाध्यताएं होंगी, अर्थात्:

(क) नए टायरों के विनिर्माताओं या आयातकों के लिए:

क्र.सं.	वर्ष	वजन में अपशिष्ट टायर पुन:चक्रीकरण लक्ष्य (किलोग्राम या टन)
(1)	(2)	(3)
(i)	वर्ष 2022-23 की ईपीआर बाध्यता (वर्ष जिसमें यह अनुसूची प्रवृत्त है)	वर्ष 2020-21 में विनिर्मित या आयातित नए टायरों की मात्रा का 35%
(ii)	वर्ष 2023-24 की ईपीआर बाध्यता	वर्ष 2021-22 में विनिर्मित या आयातित नये टायरों की मात्रा का 70%
(iii)	वर्ष 2024-25 की ईपीआर बाध्यता	वर्ष 2022-23 में विनिर्मित या आयातित नये टायरों की मात्रा का 100%
(iv)	वर्ष 2024-25 (वर्ष वाई) के पश्चात, वर्ष (वाई-2) में विनिर्मित या आयातित नए टायरों की मात्रा का 100% विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता होगी।	
(v)	तारीख 1 अप्रैल, 2022 के पश्चात् स्थापित इकाइयों के लिए,विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता दो वर्ष (वाई) के पश्चात शुरू होंगे और वर्ष (वाई-2) में विनिर्मित या आयातित नए टायरों की मात्रा के 100% होगी।	

(ख) अपशिष्ट टायर आयातक के लिए:

(i) वर्ष (वाई) में अपशिष्ट टायर के आयातक के लिए विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता वर्ष (वाई-1) में आयातित टायर का 100% होगी।

(ii) पाइरोलिसिस तेल/चार के उत्पादन के प्रयोजन से अपशिष्ट टायर का आयात प्रतिषिद्ध है।

(2) रिट्रेडिंग:

(i) अपशिष्ट टायर पर रिट्रेडिंग को अनुमति प्रदान की जाएगी और रिट्रेडर को रिट्रेडिंग प्रमाणपत्र के प्रचालन के लिए पोर्टल पर रजिस्ट्रीकृत होना होगा।

(ii) रिट्रेडिंग प्रमाण पत्र प्रस्तुत करने पर, विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता को अपशिष्ट टायर की तत्स्थानी मात्रा के लिए एक वर्ष के लिए आस्थगित किया जाएगा;

परंतु बाध्यता रजिस्ट्रीकृत पुनर्चक्रणकर्ता के माध्यम से केवल इनके निपटान के पश्चात ही निर्वापित हो जाएगी।

(3) उत्पादक के विस्तारित उत्पादक उत्तरदायित्व संबंधी लक्ष्य टायर के टूट-फूट के कारण केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा अधिकिथत कारक के आधार पर कम किया जाएगा।

(4) (i) उत्पादक अपने विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता को केवल रजिस्ट्रीकृत पुनर्चक्रकों से ईपीआर प्रमाण-पत्र की ऑनलाइन खरीद के माध्यम से पूरा करेगा और तिमाही विवरणी फाइल करके पोर्टल पर इसे ऑनलाइन प्रस्तुत करेगा।

(ii) तिमाही विवरणी उस तिमाही के समाप्त होने के बाद उत्तरवर्ती माह के अंत तक फाइल किया जाएगा।

(iii) उत्पादकों और रजिस्ट्रीकृत पुनर्चक्रकों द्वारा प्रदत्त ब्यौरे की ऑनलाइन पोर्टल पर पुन: जांच की जाएगी।

(iv) अंतर होने के मामले में उत्पादक के विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता की पूर्ति के लिए निम्नतर अंक पर विचार किया जाएगा।

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(v) इस पैरा में निर्दिष्ट प्रमाण पत्र इस संबंध में केन्द्रीय सरकार द्वारा प्राधिकृत अभिकरणों द्वारा पर्यावरण लेखा परीक्षा के अधीन होंगे।

(5) केंद्रीय प्रदूषण नियंत्रण बोर्ड, इस अनुसूची के उपबंधों के कड़े अनुसरण में मानक प्रचालन प्रक्रिया तैयार करेगा।

5. **विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र का सृजन -** (1) केंद्रीय प्रदूषण नियंत्रण बोर्ड, रजिस्ट्रीकृत पुनर्चक्रणकर्ता के पक्ष में पोर्टल के माध्यम से विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र सृजित करेगा और विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र का सृजन करने के लिए पात्र मात्रा की निम्नानुसार सारणी की संगणना की जाएगी, अर्थात् :

सारणी

क्र.सं.	पुनर्चक्रण का अंत्य उत्पाद	अंत्य उत्पाद की मात्रा (Qp)	सीपीसीबी द्वारा अवधारित संपरिवर्तन कारक (CF)	अंत्य उत्पाद को आबंटित अधिमान (WP)	विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र के सृजन के लिए पात्र मात्रा (QEPR = QP x CF x WP)
(1)	(2)	(3)	(4)	(5)	(6)
1.	सुधारा हुआ रबर			1.30	
2.	पुन: प्राप्त कार्बन ब्लैक नए टायर के विनिर्माण के लिए कच्चे माल के रूप में उपयोग करने योग्य			1.25	
3.	क्रम्ब रबर मोडिफाइड बिटुमन (सीआरएमबी)			1.10	
4.	क्रम्ब रबर			1.00	
5.	प्रोलाइसिस ऑयल एंड चार (केवल ईंधन के रूप में उपयोग करने योग्य और नए टायर के विनिर्माण के लिए कच्चे माल के रूप में नहीं)				
	(i) निरंतर पायरोलिसिस पद्धति से निकाला गया			0.80	
	(ii) बैच पायरोलिसिस पद्धति से निकाला गया			0.50	

(2) निर्देश-निबंधन – उप-पैरा (1) में निर्दिष्ट सारणी के प्रयोजन के लिए -

(i) विस्तारित उत्पादक उत्तरदायित्व प्रमाण पत्र का सृजन करने के लिए पात्र मात्रा की निम्नलिखित सूत्र के अनुसार संगणना की जाएगी, अर्थात् :

QEPR = QP x CF x WP

(ii) केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा प्रत्येक अंत्य उत्पाद का संपरिवर्तन कारक CF अवधारित किया जाएगा।

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(iii) प्रौद्योगिकीय उन्नतियों, सामग्री की उपलब्धता और अन्य कारकों को ध्यान में रखते हुए विषय निर्वाचन समिति द्वारा समय-समय पर अधिमान WP की पुनर्विलोकित की जाएगी।

(iv) आयातित अपशिष्ट टायरों के लिए अधिभार WP सभी प्रवर्गों के लिए 1 रहेगा और अपशिष्ट टायरों के आयतकों द्वारा खरीदे गए विस्तारित उत्पादक उत्तरदायित्व प्रमाण पत्रों को उनकी ईपीआर बाध्यता के अनुसार समायोजित किए जाने की स्थिति में अपशिष्ट टायर प्रमाण-पत्र के मान को संबंधित प्रमाण-पत्रों के WP द्वारा विभाजित करके कम किया जाएगा।

3 (क) विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र की विधिमान्यता, वित्तीय वर्ष के अंत से दो वर्ष के लिए होगी जिसमें इसको सृजित किया गया था।

(ख) अवसित प्रमाण-पत्र, उक्त अवधि के पश्चात स्वत: ही निर्वापित हो जाएगा जब तक कि पैरा 7 के उप पैरा (2) के अनुसार पहले ही निर्वापित न कर दिया हो।

4 (क) प्रत्येक विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र के लिए सृजन का वर्ष, अंत्य उत्पाद का कोड, पुनर्चक्रणकर्ता को कोड और एक विशिष्ट कोड से युक्त एक विशिष्ट संख्या दी जाएगी।

(ख) विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र 100, 200, 500 और 1000 मीट्रिक टन के या पैरा 13 के अधीन गठित विषय निर्वाचन समिति के अनुमोदन से जो केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा विनिश्चत की जाए मूल्य वर्ग के होंगे।

6. **विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्रों का संव्यवहार** - (1) कोई उत्पादक विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्रों को वर्तमान वर्ष (वर्ष वाई) की अपनी विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता के साथ ही पूर्ववर्ती वर्षों के शेष दायित्व और वर्तमान वर्ष के दायित्व के 10 प्रतिशत हिस्से की सीमा तक खरीद सकता है।

(2) विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता को उत्पादकों द्वारा तिमाही आधार पर आनुपातिक रूप से विस्तारित उत्पादक उत्तरदायित्व प्रमाणपत्र खरीदकर पूरा करना होगा।

(3) जैसे ही उत्पादक, विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र की खरीद करता है, वैसे ही यह इसके दायित्व के अनुसार स्वत: समायोजित हो जाएगा तथा पूर्ववर्ती दायित्व को इस समायोजन में प्राथमिकता दी जाएगी और इस प्रकार समायोजित ईपीआर प्रमाण-पत्र स्वत: निर्वापित और रद्द हो जाएगा।

(4) प्रत्येक उत्पादक/पुनर्चक्रणकर्ता के लिए विस्तारित उत्पादक उत्तरदायित्वसं बंधी प्रमाण-पत्र की उपलब्धता, अपेक्षा और अन्य ब्यौरे पोर्टल पर उपलब्ध कराये जाएंगे।

(5) ऐसे सभी संव्यहार को अभिलिखित किया जाएगा और उत्पादकों या पुनर्चक्रणकर्ताओं द्वारा तिमाही विवरणियों को भरते समय ऑनलाइन पोर्टल पर प्रस्तुत किया जाएगा।

7. **उत्पादक के उत्तरदायित्व - (1) उत्पादक केवल रजिस्ट्रीकृत पुनर्चक्रणकर्ताओं से विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्रों की खरीद करके विस्तारित उत्पादक उत्तरदायित्व की पूर्ति के लिए उत्तरदायी होगा।**

(2) उत्पादक इस बात के लिए उत्तरदायी होगा कि केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा विनिर्दिष्ट प्ररूपों में उनके पोर्टल पर वार्षिक और तिमाही विवरणियों को, तिमाही, जिससे वह विवरणी संबंधित है, के बाद के महीने के अंत तक या उससे पहले फाइल करे और प्रत्येक रजिस्ट्रीकृत इकाई को तिमाही विवरणी फाइल करनी होगी।

8. **पुनर्चक्रणकर्ता के उत्तरदायित्व-(1) सभी पुनर्चक्रणकर्ताओं को उपयोग किए गए अपशिष्ट टायरों और तैयार किए गए अंत्य उत्पाद की मात्रा, बेचे गए विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र से सुसंगत सूचना और ऐसी अन्य संबद्ध सूचना को पोर्टल पर मासिक आधार पर प्रस्तुत करना होगा।**

(2) सभी पुनर्चक्रणकर्ता, विनिर्दिष्ट प्ररूप में उनके पोर्टल पर वार्षिक और तिमाही विवरणियों को, तिमाही, जिससे वह विवरणी संबंधित है, के बाद के महीने के अंत तक या उससे पहले फाइल करेगा।

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9. **रजिस्ट्रीकरण, वार्षिक विवरणियों को भरने, विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र प्राप्त करने और सामग्रियों का पता लगाने के लिए ऑनलाइन पोर्टल-** (1) केंद्रीय प्रदूषण नियंत्रण बोर्ड, रजिस्ट्रीकरण और साथ-साथ तिमाही विवरणियों भरने, विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र को सृजित और समायोजित करने तथा पुनर्चक्रणकर्ताओं द्वारा मासिक सूचना प्रस्तुत करने के लिए एक ऑनलाइन प्रणाली स्थापित करने हेतु एक पोर्टल विकसित करेगा।

(2) यह पोर्टल, अपशिष्ट टायरों के लिए विस्तारित उत्पादक उत्तरदायित्व के कार्यान्वयन के लिए इस अनुसूची के उपबंधों के संबंध में एकल बिंदु आंकड़ा संग्रह के रूप में कार्य करेगा और इससे निम्नलिखित सूचना उपलब्ध होगी, अर्थात् :

(i) उत्पादक के लिए- अलग-अलग वर्षों के नए टायरों का आयात या उत्पादन, अपशिष्ट/नए टायरों की मात्रा, विस्तारित उत्पादक उत्तरदायित्व प्रमाण-पत्र की खरीद के संबंध में तिमाही विवरणी, प्रत्येक वर्ष के लिए विस्तारित उत्पादक उत्तरदायित्व बाध्यता का समायोजन, वर्तमान वर्ष की विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता और पूर्ववर्ती वर्षों की अग्रानीत बाध्यता।

(ii) पुनर्चक्रणकर्ताओं के लिए- पुनर्चक्रित सामग्री और अंत्य उत्पाद संबंधी सूचना और मात्रा प्रस्तुत करने के लिए सुविधा तथा सृजित किए गए और बेचे गए विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र। यह सुनिश्चित किया जाए कि अपशिष्ट टायर के आयातक के मामले में विस्तारित उत्पादक उत्तरदायित्व के मान को इसे WP द्वारा विभाजित करके कम किया जाए।

(iii) इस पोर्टल में विभिन्न उत्पादकों की वर्तमान अपूर्ण विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता, पुनर्चक्रणकर्ताओं के पास विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाण-पत्र की मात्रा और उत्पादकों के पास अतिशेष ईपीआर प्रमाण-पत्रों से संबंधित सूचना उपलब्ध होगी।

(iv) पैरा 13 के अधीन गठित विषय निर्वाचन समिति के अनुमोदन से इस अनुसूची के उपबंधों के कार्यान्वयन को सुगम बनाने के लिए अपेक्षित कोई अन्य सुविधा।

(3) पोर्टल को विकसित किए जाने तक, विस्तारित उत्पादक उत्तरदायित्व के कार्यान्वयन से संबंधित सभी कार्यकलाप ऑफलाइन रीति से किए जाएंगे।

(4) केंद्रीय प्रदूषण नियंत्रण बोर्ड, इस अनुसूची के उपबंधों के अनुसार विस्तारित उत्पादक उत्तरदायित्व के लिए सभी सुसंगत प्ररूपों या विवरणियों का प्रारूप विनिर्दिष्ट करेगा।

(5) केंद्रीय प्रदूषण नियंत्रण बोर्ड, पोर्टल के माध्यम से उत्पादक और पुनर्चक्रणकर्ताओं से पैरा 13 के अधीन गठित विषय निर्वाचन समिति के अनुमोदन से केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जैसा समय-समय पर विनिर्दिष्ट किया जाये ऐसी प्रसंस्करण या रजिस्ट्रीकरण फीस प्रभारित करेगा।

10. **पर्यावरणीय क्षतिपूर्ति-** (1) केंद्रीय प्रदूषण नियंत्रण बोर्ड इस अनुसूची में उपवर्णित बाध्यताओं को पूरा न करने और गलत विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाणपत्र के उपयोग के मामले में उत्पादकों पर पर्यावरणीय क्षतिपूर्ति अधिरोपित करने और संग्रहीत करने के लिए मार्गदर्शक सिद्धांत अधिकिथत करेगा। उक्त मार्गदर्शक सिद्धांत इस अनुसूची के अनुसार होंगे तथा पैरा 13 के अधीन गठित विषय निर्वाचन समिति द्वारा अनुमोदित होंगे और कार्यान्वयन से पहले केंद्रीय सरकार द्वारा अनुमोदित किए जाएंगे।

(2) गलत विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाणपत्र जारी करने और गलत जानकारी उपलब्ध कराने पर पुनचक्रणकर्ताओं से पर्यावरणीय क्षतिपूर्ति भी उद्गृहीत की जाएगी।

(3) पर्यावरणीय क्षतिपूर्ति, अरजिस्ट्रीकृत उत्पादकों, पुनचक्रणकर्ताओं और ऐसी किसी इकाई से भी उद्गृहीत किया जाएगा जो इस अनुसूची के उपबंधों के उल्लंघन में सहायता या दुष्प्रेरण करती है।

4(क) पर्यावरणीय क्षतिपूर्ति का संदाय इस अनुसूची में उपवर्णित बाध्यताओं से उत्पादकों को मुक्त नहीं करेगा और किसी विशेष वर्ष के लिए अपूर्ण विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता को अगले वर्ष तक और इस प्रकार से 3 वर्ष तक अग्रनीत किया जाएगा।

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(ख) यदि विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता की कमी को 1 वर्ष के बाद दूर किया जाता है, तो उद्गृहीत पर्यावरणीय क्षतिपूर्ति का 85% उत्पादकों को वापस कर दिया जाएगा, यदि विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता की कमी को दूसरे वर्ष के बाद दूर किया जाता है तो, उद्गृहीत पर्यावरणीय क्षतिपूर्ति का 60% उत्पादकों को वापस कर दिया जाएगा और यदि विस्तारित उत्पादक उत्तरदायित्व संबंधी बाध्यता की कमी को तीसरे वर्ष के बाद दूर किया जाता है, तो उद्गृहीत पर्यावरणीय क्षतिपूर्ति का 30% उत्पादकों को वापस कर दिया जाएगा, तत्पश्चात उत्पादकों को कोई पर्यावरणीय क्षतिपूर्ति वापस नहीं की जाएगी।

(5) गलत जानकारी के परिणामस्वरूप वास्तविक पुनचर्क्रित अपशिष्ट के 5% से अधिक पुनचक्रणकर्ताओं द्वारा विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाणपत्रों का सृजन अधिक होने के परिणामस्वरूप रजिस्ट्रीकृत का प्रतिसंहरण हो जाएगा और पर्यावरणीय क्षतिपूर्ति का अधिरोपण हो जाएगा जो वापिसी योग्य नहीं होगा।

(6) (क) पर्यावरणीय क्षतिपूर्ति के अधीन एकत्रित निधियां केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा पृथक से निलंब लेखा (एसक्रो अकाउंट) में रखा जाएगा और संग्रहण में उपयोगित किया जाएगा और एकत्र न किए गए ऐसे अपशिष्ट टायर, जिन पर पर्यावरणीय क्षतिपूर्ति उद्गृहीत की जाती है – जिनका जीवन चक्र समाप्त हो गया है या पुनचक्रीय, के निपटान और ऐसे टायर, जिनका जीवन चक्र समाप्त नहीं हुआ है/गैर-पुनर्चक्रीय, के निपटान और एकत्रण में संग्रहित की गई निधियों का उपयोग किया जाएगा, अन्यथा उक्त विषय निर्वाचन समिति अनुच्छेद 13 के अधीन गठित द्वारा लिए गए विनिश्चय के अनुसार उपयोग किया जाएगा।

(ख) विषय निर्वाचन समिति द्वारा निधियों के उपयोग के लिए तौर-तरीकों की सिफारिश की जाएगी और उन्हें केंद्रीय सरकार द्वारा अनुमोदित किया जाएगा, जो इस संबंध में अनुदेश भी जारी कर सकता है।

11. **अभियोजन** - ऐसे किसी भी व्यक्ति, जो विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाणपत्र प्राप्त करने के लिए इस अनुसूची के उपबंधों के अधीन अपेक्षित जानकारी को गलत उपलब्ध कराता है, किसी भी तरीके से गलत या कूटरचित विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाणपत्र का उपयोग करता है या हेतु बनता है, वास्तविक पुनचर्कित अपशिष्ट के 5% से अधिक विस्तारित उत्पादक उत्तरदायित्व संबंधी प्रमाणपत्र सृजित करता है, जान बूझकर दिए गए निर्देशों का उल्लंघन करता है या सत्यापन और लेखा परीक्षा कार्यवाही में सहयोग करने में विफल रहता है, को पर्यावरण संरक्षण अधिनियम, 1986 की धारा 15 के अधीन अभियोजित किया जा सकता है और यह अभियोजन उपरोक्त पैरा 10 के अधीन उद्गृहीत पर्यावरणीय क्षतिपूर्ति के अतिरिक्त होगा।

12. **सत्यापन और लेखा परीक्षा** - केंद्रीय प्रदूषण नियंत्रण बोर्ड स्वयं या किसी नामनिर्दिष्ट अभिकरण के माध्यम से निरीक्षण और आवधिक लेखा परीक्षा के माध्यम से उत्पादकों या पुनर्चक्रणकर्ताओं के अनुपालन को उचित समझे जाने पर सत्यापित करेगा और विस्तारित उत्पादक उत्तरदायित्व संबंधी लक्ष्य, बाध्यताओं और उत्तरदायित्वों को पूरा न करने और उसके उल्लंघनों पर पैरा 10 के उपबंधों के अनुसार कार्रवाई की जाएगी।

13. **अपशिष्ट टायर के लिए ईपीआर व्यवस्था के कार्यान्वयन के लिए विषय निर्वाचन समिति** - (1) अपशिष्ट टायर के लिए विस्तारित उत्पादक उत्तरदायित्व संबंधी व्यवस्था के समग्र कार्यान्वयन की निगरानी के लिए अध्यक्ष, केंद्रीय प्रदूषण नियंत्रण बोर्ड या उनके नामिती अध्यक्ष की अध्यक्षता में विषय निर्वाचन समिति होगी और अध्यक्ष के अतिरिक्त निम्नलिखित सदस्य समाविष्ट होंगे, अर्थात्:

क) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय का एक प्रतिनिधि।

ख) उद्योग और आंतरिक व्यापार संवर्धन विभाग का एक प्रतिनिधि।

ग) ऑटोमोबाइल टायर मैनुफैक्चर्स एसोसिएशन के एक प्रतिनिधि।

घ) रिसाइकलर्स एसोसिएशन (अर्थात पुननिर्मित रबर, क्रम्ब रबर, क्रम्ब रबर मोडिफाइड बिटुमन, पुन:प्राप्त कार्बन ब्लैक और टायर पायरोलिसिस ऑयल मैनुफैक्चर्स) के विनिर्माता का एक प्रतिनिधि ।

ङ) विषय निर्वाचन समिति के अध्यक्ष द्वारा सथासहयोजित राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति का एक प्रतिनिधि।

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च) केंद्रीय प्रदूषण नियंत्रण बोर्ड के संबंधित प्रभाग के प्रमुख - सदस्य संयोजक।

(2) विषय निर्वाचन सीमित कार्यान्वयन की निगरानी और पर्यवेक्षण करेगी और समय-समय पर उदभूत विवादों को इस संबंध में प्राप्त किए गए अभ्यावेदनों पर विनिश्चय करेगी।

(3) विषय निर्वाचन समिति केंद्रीय सरकार के अनुमोदन से प्रौद्योगिक उन्नति और अन्य कारकों को ध्यान में रखते हुए पुनर्चक्रण के तरीकों के लक्ष्य, महत्व और अनुमेयता का पुनर्विलोकन और संशोधन करेगी।

(4) विषय निर्वाचन समिति इस अनुसूची के उपबंधों के सुचारू कार्यान्वयन के लिए जो वह उचित समझे ऐसे सभी उपाय करेगी।

[फा. सं. 09/6/2021-एचएसएमडी]

नरेश पाल गंगवार, अपर सचिव

टिप्पण : मूल नियम भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (i) में सा.का.नि. 395(अ) तारीख 4 अप्रैल, 2016 द्वारा प्रकाशित किए गए थे, और तत्पश्चात अधिसूचना संख्यांक सा.का.नि. 670(अ), तारीख 6 जुलाई, 2016, सा.का.नि. 177(अ), तारीख 28 फरवरी, 2017, सा.का.नि. 544(अ), तारीख 11 जून, 2018, सा.का.नि. 178(अ), तारीख 1 मार्च, 2019, सा.का.नि. 641(अ), तारीख 9 अक्तूबर, 2020, सा.का.नि. 47(अ), तारीख 27 जनवरी, 2021 और सा.का.नि. 798(अ), तारीख 12 नवंबर, 2021 द्वारा संशोधित किए गए थे।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 21st July, 2022

G.S.R. 593(E).—Whereas the draft notification containing the draft Regulations on Extended Producer Responsibility for Waste Tyre were published, by the Government of India in the Ministry of Environment, Forest and Climate Change, vide notification number S.O. 5497 (E), dated the 31st December, 2021 in the Gazette of India, Extraordinary Part II, Section 3, Sub-section (ii) inviting objections and suggestions from all persons likely to be affected thereby, before the expiry of the period of sixty days from the date on which copies of the official Gazette containing the said notification were made available to the public;

AND WHEREAS, the copies of the Official Gazette containing the said notification were made available to the public on the 31st day of December, 2021;

AND WHEREAS, the objections and suggestions received from the public in respect of the said draft notification within the said period have been duly considered by the Central Government;

NOW, THEREFORE, in exercise of the powers conferred by sections 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) read with sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following rules further to amend the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, namely: -

1. **Short title and commencement.** - (1) These rules may be called the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022.

   (2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (hereinafter referred to as the said rules), in rule 9, after sub-rule (3), the following sub-rule shall be inserted, namely: -

   "(4) The utilisation and management of waste tyre shall be in accordance to the provisions contained in Schedule IX.".

3. In the said rules, after Schedule VIII, the following Schedule shall be inserted, namely: -

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'SCHEDULE IX

[See rule 9 (4)]

Extended Producer Responsibility (EPR) for Waste Tyre

1. **Definitions. – For the purposes of this Schedule, -**

(a) ''business'' means any activity of production or manufacturing or sale of new tyre, import of new or waste tyre, import of vehicle fitted with new tyre, import of new tyre by automobile manufacturer for use in vehicle sold domestically and recycling of waste tyre;

(b) ''conversion factor'' means units of waste tyre needed to produce one unit of each end product of recycling;

(c) ''environmentally sound management of waste tyre'' means taking all steps required to ensure that waste tyre is managed in a manner so as to protect health and environment against any adverse effects which may result from such waste tyre;

(d) ''extended producer responsibility'' means responsibility of producer of tyre to ensure environmentally sound management of waste tyre in accordance with the provisions of this Schedule;

(e) ''producer'' means any person or entity who, -

(i) manufactures and sells new tyre domestically; or

(ii) sells domestically under its own brand, new tyre manufactured by other manufacturers or suppliers; or

(iii) sells imported new tyre; or

(iv) imports vehicles fitted with new tyres; or

(v) automobile manufacturers importing new tyre for use in new vehicles sold domestically; or

(vi) imports waste tyre;

(f) ''recycling'' means any process or action of converting waste tyre into following end products, in an environmentally sound manner and having facilities as elaborated in the standard operating procedure or guidelines as specified by the Central Pollution Control Board, namely; -

(i) reclaimed rubber;

(ii) crumb rubber;

(iii) crumb rubber modified bitumen (CRMB);

(iv) recovered carbon black, which is usable as raw material for manufacture of new tyre; and

(v) pyrolysis oil or Char, which is used only as a fuel and not as raw material for manufacture of new tyre;

(g) ''recycler'' means any person or entity engaged in the process of recycling;

(h) ''recycling target'' means quantity of waste tyre to be recycled as per the provisions of paragraph 6 of this Schedule;

(i) ''standard operating procedure'' means the document specified by the Central Pollution Control Board elaborating minimum requirement of equipment and processes;

(j) ''guidelines'' means the document specified by the Central Pollution Control Board elaborating minimum requirement for achieving environmentally sound management of waste tyres including handling, collection, transportation and storage and recycling of waste tyre;

(k) ''portal'' means the online system developed by the Central Pollution Control Board under

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paragraph 9;

(l) ''retreading'' means process of renewal of tread and side wall rubber of a worn out tyre having a good structural quality; and

(m) ''waste tyre'' means any tyre, including tubes and flaps that is no longer mounted on a vehicle and is no longer used for its intended purpose.

2. **Application. - The provisions of this Schedule shall be applicable to the following entities, namely: -**

(i) producer;

(ii) recycler of waste tyre; and

(iii) retreader.

3. **Registration.** - (1) The entities referred in paragraph 2 shall register on the portal.

(2) No entity shall carry out any business without registration.

(3) The entities registered under sub-paragraph (1) shall not deal with any unregistered producer or recycler.

(4) In case, any registered entity furnishes false information or willfully conceals information for getting registration or return or report or information required to be provided or furnished under this Schedule or in case of any irregularity, the registration of such entity may be revoked by the Central Pollution Control Board for a period up to three years after giving an opportunity of being heard and in addition, environmental compensation charges may also be levied in such cases as per paragraph 10.

(5) In case any entity is covered in more than one category under paragraph 3, then the said entity shall register under those categories separately.

(6) The Central Pollution Control Board may charge such registration fees from the applicants as may be specified from time to time with the approval of the steering committee constituted under paragraph 13.

4. **Modalities of extended producer responsibility regime.** - (1) All producers shall have the following extended producer responsibility obligations, namely: -

(a) For manufacturers or importers of new tyres: -

Sl. No.	Year	Waste Tyre Recycling Target in Weight (Kilogram or Tons)
(1)	(2)	(3)
(i)	EPR obligation of the year 2022-2023 (the year in which this Schedule comes into force	35% of the quantity of new manufactured or tyres imported in year 2020-2021
(ii)	EPR obligation of the year 2023-2024	70% of the quantity of new manufactured or tyres imported in year 2021-2022
(iii)	EPR obligation of the year 2024- 2025	100% of the quantity of new manufactured or tyres imported in year 2022-2023.
(iv)	After the year 2024-2025 (year Y), the extended producer responsibility obligation shall be 100% of the quantity of new tyres manufactured or imported in the year (Y-2).	
(v)	Units established after the 1st April, 2022, the extended producer responsibility obligation shall start after two years (Y) and shall be 100% of the new tyres manufactured or imported in the year (Y-2).	

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(b) **For waste tyre importer: -**

(i) The extended producer responsibility obligation for waste tyre importer in year (Y) shall be 100% of the tyre imported in year (Y-1)

(ii) The import of waste tyre for the purpose of producing pyrolysis oil or char is prohibited.

(2) Retreading: -

(i) The waste tyre shall be allowed for retreading and a retreader shall have to get registered on the portal for issuance of retreading certificates.

(ii) On production of retreading certificates, the extended producer responsibility obligation shall be deferred by one year for the corresponding quantity of waste tyre:

Provided that the obligation shall be extinguished only after end of life disposal through a registered recycler.

(3) The extended producer responsibility target of producer shall be reduced by a factor laid down by the Central Pollution Control Board on account of wear and tear of tyres.

(4) (i) The producer shall fulfill their extended producer responsibility obligation through online purchase of extended producer responsibility certificate from registered recyclers only and submit it online on the portal by filing quarterly return.

(ii) The quarterly return shall be filed by the end of the month succeeding the end of the quarter.

(iii) The details provided by producers and registered recyclers shall be cross-checked on the portal.

(iv) In case of difference, the lower figure shall be considered towards fulfilment of extended producer responsibility obligation of producer.

(v) The certificates referred to in this paragraph shall be subject to environmental audit by the agencies authorised by the Central Government in this regard.

(5) The Central Pollution Control Board shall specify the standard operating procedure strictly in accordance with the provisions of this Schedule.

5. **Extended producer responsibility certificate generation.** - (1) The Central Pollution Control Board shall generate extended producer responsibility certificate through the portal in favor of a registered recycler and the eligible quantity for generating extended producer responsibility certificates shall be calculated as per the following table, namely: -

TABLE

Sl. No.	End Product of recycling	Quantity of End Product (Qp)	Conversion factor determined by CPCB (C_F)	Weightage allocated to the end product (W_P)	Quantity eligible for generation of extended producer responsibility certificate ($Q_{EPR} = Q_P \times C_F \times W_P$)
(1)	(2)	(3)	(4)	(5)	(6)
1.	Reclaimed Rubber			1.30	
2.	Recovered Carbon Black usable as raw material for manufacture of new tyre.			1.25	
3.	Crumb rubber Modified Bitumen (CRMB)			1.10	

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4.	Crumb rubber			1.00	
5.	Pyrolysis oil and char (usable as fuel only and not as raw material for manufacture of new tyre)				
	(i) extracted from continuous pyrolysis method			0.80	
	(ii) extracted from batch pyrolysis method			0.50	

(2) **Term of Reference. - For the purpose of the Table referred to in sub-paragraph (1), -**

(i) the quantity eligible for generation of extended producer responsibility certificate shall be calculated as per the following formula, namely: -

$$Q_{EPR} = Q_P \times C_F \times W_P ;$$

(ii) conversion factor C_F for each end product shall be determined by the Central Pollution Control Board;

(iii) the weightage W_P shall be reviewed by the Steering Committee from time to time in view of the technological advancements, availability of material and other factors;

(iv) the weightage W_P for imported waste tyres shall be 1 for all categories and the value of waste tyre certificate shall be reduced by dividing it by W_P of respective certificates when the extended producer responsibility certificates purchased by waste tyre importer are adjusted against their EPR obligation.

(3) (a) The validity of the extended producer responsibility certificate shall be two years from the end of the financial year in which it was generated.

(b) The expired certificate automatically extinguished after the period unless extinguished earlier as per sub-paragraph (2) of paragraph 7.

(4) (a) Each extended producer responsibility certificate shall have a unique number containing year of generation, code of end product, recycler code and a unique code.

(b) The extended producer responsibility certificates shall be in the denominations of 100, 200, 500 and 1000 Metric Tonnes or as may be decided by the Central Pollution Control Board with the approval of the Steering Committee constituted under paragraph 13.

6. **Transaction of extended producer responsibility certificates.** - (1) A producer can purchase extended producer responsibility certificates limited to its extended producer responsibility liability of current year (Year Y) plus any leftover liability of preceding years plus 10% of the current year liability.

(2) The extended producer responsibility obligation shall have to be fulfilled by the producers by proportionately purchasing extended producer responsibility certificate on quarterly basis.

(3) As soon as the producer purchases extended producer responsibility certificate, it shall be automatically adjusted against its liability, priority in adjustment shall be given to earlier liability and the extended producer responsibility certificate so adjusted shall be automatically extinguished and cancelled.

(4) The availability, requirement and other details of the extended producer responsibility certificate for every producer or recycler shall be made available on the portal.

(5) All such transactions shall be recorded and submitted by the producers or recyclers on the portal at the time of filing quarterly returns.

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7. **Responsibilities of the producer.** - (1) The producer shall be responsible for fulfillment of extended producer responsibility by purchasing extended producer responsibility certificates from registered recyclers only.

(2) The producer shall be responsible to file annual and quarterly returns in the forms as specified by the Central Pollution Control Board on the portal on or before the end of the month succeeding the quarter to which the return relates and each registered entity shall have to file the quarterly return.

8. **Responsibilities of the recycler.** - (1) All the recycler shall submit on monthly basis the information regarding quantity of waste tyres used and end product produced, extended producer responsibility certificate sold and such other relevant information on the portal.

(2) All the recycler shall file annual and quarterly returns in the Form as specified on the portal on or before the end of the month succeeding the quarter to which the return relates.

9. **Portal for registration, filing of annual returns, extended producer responsibility certificate and tracing of materials.** - (1) The Central Pollution Control Board shall develop the portal to establish an online system for the registration and filing of quarterly returns, generation and adjustment of extended producer responsibility certificate and submission of monthly information by recyclers.

(2) The portal shall act as the single point data repository with respect to the provisions of this Schedule for implementation of extended producer responsibility for waste tyre and contain the following information, namely: -

(i) **For producer.** - import or production of new tyres of different years, quantity of waste or new tyres, quarterly return in respect of extended producer responsibility certificate purchase, adjustment of extended producer responsibility obligation for each year, the current year extended producer responsibility obligation and brought forward obligation of preceding years.

(ii) **For recyclers.** - facility for submitting information and quantity of recycled material and end product, extended producer responsibility Certificate generated and sold and ensure that value of extended producer responsibility is reduced by diving it by W_P in case of waste tyre importer.

(iii) The portal shall provide information with respects to current unfulfilled extended producer responsibility obligations of different producers, the quantity of extended producer responsibility certificate with recyclers and surplus extended producer responsibility certificate with producers.

(iv) Any other facility which is required to streamline the implementation of the provisions of this Schedule with the approval of the Steering Committee constituted under paragraph 13.

(3) Till the time the portal is developed, all activities related to implementation of extended producer responsibility shall be done inoff-line manner.

(4) The Central Pollution Control Board shall specify the formats of all the relevant forms or returns for the extended producer responsibility in accordance with the provisions of this Schedule.

(5) The Central Pollution Control Board may charge such processing or registration fee from the producer and recyclers through portal as may be specified from time to time by the Central Pollution Control Board with the approval of the Steering Committee constituted under paragraph 13.

10. **Environmental Compensation.** – (1) The Central Pollution Control Board shall lay down guidelines for imposition and collection of environmental compensation on the producers in case of non-fulfilment of obligations set out in this Schedule and use of false extended producer responsibility certificate and the said guidelines shall be in accordance with the provisions of this Schedule and shall require to be approved by the Steering Committee constituted under paragraph 13 and Central Government before implementation.

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(2) The environmental compensation shall also be levied on the recyclers for issue of false extended producer responsibility certificate and providing false information.

(3) The environmental compensation shall also be levied on unregistered producers, recyclers and any entity which aids or abets the violation of the provisions of this Schedule.

(4) (a) The payment of environmental compensation shall not absolve the producers from the obligation set out in this Schedule and the unfulfilled extended producer responsibility obligation for a particular year shall be carried forward to the next year and so on and up to three years.

(b) In case, the shortfall of extended producer responsibility obligation is addressed after first year, 85% of the environmental compensation levied shall be returned to the producers, and in case, the shortfall of extended producer responsibility obligation is addressed after second year, 60% of the environmental compensation levied shall be returned to the producers, and in case, the shortfall of extended producer responsibility obligation is addressed after third year, 30% of the environmental compensation levied shall be returned to the producers, thereafter no environmental compensation shall be returned to the producer.

(5) Any false information resulting in over generation of extended producer responsibility certificates by recycler above 5% of the actual recycled waste shall result in revocation of registration and imposition of environmental compensation which shall not be returnable.

(6) (a) The funds collected under environmental compensation shall be kept in a separate escrow account by the Central Pollution Control Board and shall be utilised in collection and recycling or end of life disposal of uncollected and non-recycled or non-end of life disposal of waste tyres on which the environmental compensation is levied and on such other heads as decided by the said Steering Committee constituted under paragraph 13.

(b) modalities for utilisation of the funds shall be recommended by the Steering Committee and approved by the Central Government, which may also issue instructions in this regard.

11. **Prosecution.** - Any person, who provides incorrect information for obtaining extended producer responsibility certificates, uses or causes to be used false or forged extended producer responsibility certificates in any manner, over generates extended producer responsibility certificates above 5% of the actual waste recycled, willfully violates the directions given under the provisions of this Schedule or fails to co-operate in the verification and audit proceedings, may be prosecuted under section 15 of the Act and this prosecution shall be in addition to the environmental compensation levied under paragraph 10.

12. **Verification and Audit.** - The Central Pollution Control Board by itself or through a designated agency shall verify compliance of producers or recyclers through inspection and periodic audit, as deemed appropriate and the actions against violations and for non-fulfillment of extended producer responsibility target, obligations and responsibilities shall be in accordance with the provisions of paragraph 10.

13. **Steering Committee for implementation of extended producer responsibility regime for waste tyre.** - (1) There shall be a Steering Committee under the Chairmanship of the Chairman, Central Pollution Control Board or his nominee to oversee the overall implementation of the extended producer responsibility regime for waste tyre and shall comprise of the following other members in addition to the Chairman, namely:

(a) one representative of the Ministry of Environment, Forest and Climate Change;

(b) one representative of the Department of Promotion of Industry and Internal Trade;

(c) one representatives of the Automobile Tyre Manufacturers Associations;

(d) one representatives of the Recycler Associations (viz. manufacturer of reclaimed rubber, crumb rubber, crumb rubber modified bitumen, recovered carbon black and tyre pyrolysis oilmanufacturers);

(e) one representatives of the State Pollution Control Board or Pollution Control committee as co-opted by the Chairman of the Steering Committee;

(f) Head of the Concerned Division of the Central Pollution Control Board – Member- Convener.

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(2) The Steering Committee shall monitor and supervise implementation of the provisions of this Schedule and shall decide the disputes arisen from time to time on the representations received in this regard.

(3) The Steering Committee shall review and revise the targets, weightage and permissibility of modes of recycling in view of the technological advancements and other factors with the approval of the Central Government.

(4) The Steering Committee shall take all such measures as it deems necessary for proper implementation of the provisions of this Schedule.'.

[F. No. 09/6/2021-HSMD]

NARESH PAL GANGWAR, Addl. Secy.

Note : The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), *vide* number G.S.R. 395(E), dated the 4th April, 2016 and subsequently amended *vide* notification numbers G.S.R. 670(E), dated the 6th July, 2016, G.S.R. 177(E), dated the 28th February, 2017, G.S.R. 544(E), dated the 11th June, 2018, G.S.R. 178(E), dated the 1st March, 2019, G.S.R. 641(E), dated the 9th October, 2020, G.S.R. 47(E), dated the 27th January, 2021 and G.S.R. 798(E), dated 12th November, 2021.

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Annexure - IV

Item No. 03 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL

(By Video Conferencing)

Original Application No. 400/2019
(I.A. No. 403/2019, I.A. No. 611/2019, I.A. No. 615/2019,
I.A. No. 08/2020 & I.A. No. 383/2020)

Social Action for Forest & Environment (SAFE) Applicant

Versus

Union of India & Ors. Respondent(s)

Date of hearing: 25.10.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant: Mr. Sanjay Upadhyay, Advocate
Respondent(s): Mr. Saurabh Kulkarni, Advocate in I.A. No. 403/2019
Mr. Raj Kumar, Advocate with Mr. Anand Kumar, Scientist E, CPCB

ORDER

1. The issue for consideration is the absence of proper management of End-of-Life Tyres/Waste Tyres (ELTs) in accordance with the Environment (Protection) Act, 1986, Environment (Protection) Rules, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, CPCB Guidelines for Environmentally Sound Management of End of Life Vehicles, 2016 and Standard Operating Procedure (SOP) issued by the MoEF&CC on the subject.

2. Vide order dated 25.04.2019, the Tribunal sought a report from the Central Pollution Control Board (CPCB) about the status of compliance of Rules on the subject and remedial measures required with reference to the prayers in the application:

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" a. There should be a complete ban of ELTs in Pyrolysis Industries due to non-implementation of the existing laws by the Pyrolysis Plants resulting in adverse environmental impact;

b. A comprehensive performance assessment of pyrolysis industries should be ordered to be done through the SPCBs or an independent agency in order to gauge the magnitude of the problem at hand;

c. The principle of Extended Producer Responsibility (EPR) must be made mandatory for tyre manufacturers as well as tyre importers;

d. A set of Guidelines for alternative environment friendly uses of ELTs must be immediately framed based on global best practices;

e. A comprehensive time bound implementation plan be put in place for ELTs in conformity with various laws, Rules and Guidelines on Waste Tyres, to be executed by a Task Force."

3. The matter thereafter considered on 19.09.2019 in the light of the report furnished by the CPCB on 30.07.2019 and directions were issued for remedial action as follows:-

"1to3 xxx xxx
4. Accordingly, a report has been filed by the CPCB on 31.07.2019 to the effect that there are 637 tyre pyrolysis units in 19 states of the country. Out of 637 tyre pyrolysis units, 251 units are complying, 270 units are not complying and 116 units are closed. In most of the cases, it was observed that the reason of non-compliance is not meeting the criteria of SOP of MoEF & CC and the consent conditions issued by the SPCBs/PCCs. In case of non-compliances

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actions have been initiated in the form of closure directions or time specific directions for improvement or notices for compliance. The remedial measures suggested are as follows:

> ***"Remedial Measures:***
>
> *The following remedial measures are suggested for addressing the environmental concerns in the tyre pyrolysis units:*
>
> *1) Only continuous tyre pyrolysis units be allowed and all the units having batch process be asked to switch over to continuous process within a given time frame of one year and till the time of conversion their operation be stopped;*
> *2) The feed to the continuous reactors should be in the form of tyre chips and mechanical feeding system with air lock arrangements so that no air enters in the reactors.*
> *3) The unit should install packed bed scrubber for control of gaseous emission and reduction of odour;*
> *4) The tyre pyrolysis units should strictly follow the Standard Operating Procedures (SOPs) issued by MoEF& CC for continuous process and the consent conditions issued by SPCBs/PCCs."*

5. The report has also annexed Standard Operating Procedure (SOP) issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC) dated 24.11.2015 to the effect that 'batch process' leads to carbon spillage and exposure of workers. Some explosions have also been reported. Such process has major shortcomings. The recommendation is that the batch process should be switched over to 'continuous process' within one year. We are informed that that CPCB is going to issue a direction under Section 5 of the Environment (Protection) Act, 1986 directing switchover to 'continuous process' within one year.

6. Our attention has also been drawn to SOP on 'import and recycling of waste pneumatic tyres' to the effect that said tyres fall in Hazardous Waste Rules. Import thereof needs to be restricted to the actual users having requisite consent. It is also pointed out during the hearing that the State of Punjab issued order dated 15.11.2014 for the Location and Siting for Waste-tyre based Pyrolysis Plants and Pollution Prevention/Safety measures to be adopted by such units.

7. In view of above, it is clear that Pyrolysis process involves high level of pollution and also adversely affects the health of the workers involved in the process. The matter being covered by the Hazardous Waste Management Rules, there is need for restrictions on import and to regulate location of such units in the light of the carrying capacity of the area.

8. Accordingly, CPCB may issue appropriate directions on the subject after due consideration of the issue. The directions should also deal with the restrictions on import so as to ensure that India

does not become a dump yard for highly polluting hazardous waste material from other countries and also to ensure that health of the workers involved in the process is duly safeguarded.

9. The States wherein such 270 non-complying units are located need to take remedial action including levy of Environmental Compensation to ensure that such units comply with air, water and hazardous waste pollution norms within a reasonable time span. Let CPCB monitor the compliance and file the status and compliance report on or before 30.11.2019 by e-mail at judicial-ngt@gov.in."

4. In pursuance of above, the CPCB filed status and compliance report on 18.12.2019 and additional supplementary status and compliance report on 03.01.2020. As per report dated 18.12.2019, information furnished by the 19 SPCBs and PCCs which was updated in the additional supplementary report dated 03.01.2020, the State-wise status of compliance was as follows:-

"

S. No.	States	Total number of units	Number of complying units	Non-complying units	Number of closed units	Remarks
1	Andhra Pradesh	39	06	15	18	The Board has issued closure order on 21.12.2019 to 15 number of non-complying Tyre pyrolysis units.
2.	Assam	08	05	0	03	-
3.	Bihar	18	0	2	18	All the 18 tyre pyrolysis units in the state are closed.
4.	Chhattisgarh	27	24	03	00	03 units disconnected

5. The statistics was summed up as follows:-

"As per the action taken report as received from the SPCBs in compliance with the direction dated 04-12-2019, there are now 678 tyre pyrolysis units in 19 states of the country, an increase of 06 units over the last reported figure of 672. Out of 678 tyre pyrolysis units, 270 units are complying, 250 units are not complying and 155 units are closed/not in operation. CTO of 02 units are under renewal. Out of these two units one unit is

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operational and another unit is closed. 01 unit has applied for on line consent and the case is under process.

The increase in number of compliance units is mainly due to monitoring by CPCB and SPCBs. SPCBs based on direction of CPCB has started process of closing the non-compliance units. Maharashtra Pollution Control Board (MPCB) has recovered environmental compensation of Rs. 77,500/- from 3 units."

6. Copies of directions issued by CPCB on 04.12.2019 and 30.12.2019 were annexed as follows:-

04.12.2019

"Now, THEREFORE, in exercise of the powers vested under the Section 5 of the Environment (Protection) Act, 1986, ***directions are hereby issued to you to close down all such pyrolysis units in your State/UT which are not complying as on date with consent conditions and SOP of the MoEF&CC.*** *You are also directed to carry out strict vigilance and monitoring in complying industries to ensure continued compliance of consent conditions and SOP of MoEF&CC. You are further directed that import of polluting hazardous waste material shall be strictly regulated as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and amendment thereof.*

Action Taken Report (ATR) shall be submitted to the Central Pollution Control Board by 25.12.2019. Failing to comply with these directions, shall attract appropriate action under law."

30.12.2019

"Now, THEREFORE, in exercise of the powers vested under the Section 5 of the Environment (Protection) Act, 1986, directions are hereby issued for regulating location of tyre pyrolysis industries in light of the carrying capacity of the area. Henceforth, any new/expansion of existing tyre pyrolysis industry be granted consent to establish or amendment in consent to establish only after assessing the carrying capacity of the area. You are also directed to ensure that health of workers involved in the tyre pyrolysis industries is safeguarded.

Action Taken Report (ATR) shall be submitted to the Central Pollution Control Board by 15.01.2020. Failing to comply with these directions, shall attract appropriate action under law."

7. The matter was last considered on 06.1.2020 and considering the prayer of the CPCB to carry out further study, proceedings were deferred to await such study. The operative part of the order is reproduced below:-

"1to6..xxx.....xxx.....xxx

7. The CPCB has sought four month time to carry out further studies as follows:-

> *"In view of the representations from the All India Rubber & Tyre Recyclers Association, Mumbai (AIRTRA), where they have claimed that Advance Automated Plants addresses all the environmental concerns as raised by the CPCB and in view of the claim of Pyrolysis Industries Association, Punjab where they have claimed that existing batch plants are meeting the norms and SOPs, it has been decided that CPCB will carry out study of the advance batch automated plants as well as existing batch plants vis-a-vis continuous plant to ascertain whether existing would be able to meet environmental concerns or advance batch automated plants are required to address the environmental concerns. As per outcome of the study, further decision would be taken that whether existing batch/or advance batch automated plant is required or only continuous plants be allowed. CPCB has planned to complete the said study within a period of four months starting from January 2020."*

8. ***Let the above study be carried out with the involvement of NEERI and IIT, Delhi. Compliance of directions already issued be overseen by the CPCB.***

A further report in the matter be filed on or before 30.06.2020 by e-mail at judicial-ngt@gov.in. The report may also indicate the details of the environmental compensation assessed and recovered."

8. In pursuance of the above, the CPCB has filed the study report on adequacy of capacity of the Tyre Pyrolysis Plants to meet Environmental concerns on 23.10.2021. Study has been carried out by IIT Delhi and NEERI, Nagpur. The Study Committee carried out virtual tours of four sample tyre pyrolysis plants and thereafter actual monitoring of the four plants. Findings and recommendations of the Committee are as follows:-

"E. Observation

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1. *It is observed that the so-called advance batch automated tyre pyrolysis plants are plants with advance features for safety, operation controls and pollution control in comparison to existing batch tyre pyrolysis plants. The* ***advance batch automated plants*** *have following features:*
   - i. *Programme Logic Controller (PLC) based auto activation for cutting of gas supply to the burner and for switching off the burners in case of increase of pressure and temperature inside the reactor.*
   - ii. *PLC based auto activation of bypass arrangements for bypassing the pyro gas from reactor to primary oil tank connected to various condensers, uncondensed gas collection tank and flaring system in case of blocking/chocking of outlet vent inside the reactor or direct bypass for flaring*
   - iii. *PLC based system for control of temperature and pressure inside the reactor*
   - iv. *PLC based gas sensors connected with sirens(hooters) in case of release of gases(Methane and Carbon monoxide)*
   - v. *Unloading and bagging of carbon black powder jointly through mechanical and manual means with minimal spillage and fugitive emission*
   - vi. *Suction hood over the gate of reactor and water sprinkling system for prevention of fugitive emission during unloading of carbon black, opening of the gate and unloading steel scrap.*
   - vii. *Closed chamber with suction hood and underground storage before the gate of reactor for unloading of carbon black and arrangement for transfer of carbon black through screw conveyor for bagging*
   - viii. *Arrangement of Nitrogen purging of the reactor*
   - ix. *Arrangement for storage of Pyro gas*
   - x. *These plants can handle all type waste tyres*

2. *M/s Pairan Pyrolysis Pvt. Ltd., Erode, Tamil Nadu, M/s Excel Industries (Unit-2), Kolhapur, Maharashtra and M/s Narmada Industries, Raipur, Chhattisgarh are the Tyre Pyrolysis Plants having features of advance batch automated plants and meet the environmental concerns.*
3. *Each of the above advance batch automated tyre pyrolysis plants are having some unique feature in comparison to each other. These plants are able to address environmental concerns.*
4. *The existing batch tyre pyrolysis plants are first generation pyrolysis plants and have only basic operational controls which led to many of the environmental concerns*
5. *M/s S.G. Petrotech Rohtak, Haryana, M/s Tirath Ram and Co (Unit-ll), Ludhiana, Punjab and M/s Mahie Green Earth Product, Muzaffarnagar, Uttar Pradesh* ***do not have the above features like PLC based operation, bypass arrangement for pyro gas, gas sensors, sirens, and mechanical means of carbon black unloading. Due to absence of these features, these plants are called existing batch tyre pyrolysis plants.***

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6. ***The existing batch tyre pyrolysis plants needs to have the features of advance batch automated tyre pyrolysis plants to meet the environmental concerns. These plants require modifications and improvement in operation control mechanism.***
7. ***The existing batch tyre pyrolysis plants have issues with regard to fugitive emission, spillage of carbon black powder, spillage and fugitive emission during unloading of carbon black and steel scrap and release of pyro gas into the atmosphere***
8. *M/s Royal Carbon Black Pvt. Ltd., Raigad, Maharashtra is a continuous tyre Pyrolysis Plant and meet the environmental concerns*
9. *It is observed that the advance batch automated tyre pyrolysis plant at Raipur; Chhattisgarh has higher levels of PM10 and PM2.5. However, the reason for high levels cannot be attributed to one-day operation of Tyre Pyrolysis Plant as* ***the area is surrounded by several sponge iron plants, which are known to cause particulate matter (PM) pollution. Other parameters such as VOCs, CO and B (á) P are within limits***
10. *It is observed that* ***in existing batch tyre pyrolysis plants namely M/s S.G. Petrotec, Rohtak, Haryana and M/s Mahie Green Earth Product, Muzaffarnagar, Uttar Pradesh, thevalueofPM10 and PM2.5 and VOCs are on higher side in ambient air and in the work zone***
11. ***The existing batch tyre pyrolysis plants do not have safety features and have issues of fugitive emission, spillage and escaping of pyro gas, etc. The existing tyre pyrolysis plants do not have gas sensors and do not carry out Nitrogen (N2) purging before opening of the reactor's gate in most of the cases.***
12. ***The issue of fugitive emissions& spillage of black carbon are prominent in existing batch tyre pyrolysis plants***
13. *For initial heating purpose different fuels are being used. M/s Pairan Pyrolysis Pvt. Ltd. and M/s Excel Industries were using oil emulsion. M/s Narmada Industries is using pyro gas stored in rubber balloon, M/s Royal Carbon Black Pvt. was using light oil fraction of Tyre Pyrolysis Oil (TPO), M/s S.G. Petrotech was using natural gas(LPG) and M/s Tirath Ram and Co (Unit-ll) and M/s Mahie Green Earth Product were using wood.*
14. *The yield of Tyre Pyrolysis Oil (TPO) is more or less same in continuous, advance & existing batch processes. The calorific value of TPO is very high. The calorific values observed in advance batch automated plants are 6347 Kcal/kg, 9100 Kcal/kg and 10265 Kcal/kg. The calorific value observed in existing batch Tyre Pyrolysis Plants are 9120 Kcal/kg, 9926.38 Kcal/Kg and 7003 Kcal/Kg. In the continuous Tyre Pyrolysis plant the calorific values observed are 7560 kcal/kg for heavy fraction and 7610 kcal/kg for light fraction*
15. *Tyre Pyrolysis Oil (TPO) has low sulphur content in the range of 0.87% to 1.28%, Ash content 0.087% wt, total halogen in the range of 146.27 ppm to 287.4 ppm. The carbon number varies from C4 -C30, flash point 52°C to 54°C, boiling range*

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from 66.4C to 312C, sediment ranges from 0.002% to 0.0063% wt., PONA ranges from 69.53% to 70.87% v/v, pour points varies from - 30°C to -6°C, Conradson carbon residue ranges from 0,62% to 3.41% and kinematic viscosity at 40°C ranges from 3.67 to 6.12

6.0 CONCLUSIONS OF THE STUDY ON ADEQUACY OF TYRE PYROLYSIS PLANTS TO MEET ENVIRONMENTALCONCERNS

i. *Advance batch automated tyre pyrolysis plants are plants with advance features for safety, operation controls and pollution control in comparison to existing batch tyre pyrolysis plants and are upgraded version of existing batch tyre pyrolysis plants.*

ii. *Advance batch automated tyre pyrolysis plants are found to meet environmental issues/concerns identified in the earlier report submitted by CPCB to the Hon'ble NGT (PB) in the matter of OA No. 400 of 2019.*

iii. *The advanced batch automated plants are able to meet environmental concerns, as the plants were run under continuous supervision and by strictly adhering to SoPs.*

iv. *The existing batch tyre pyrolysis plants are first generation pyrolysis plants and have only basic operational controls which led to many of the environmental issues/ concerns*

v. *The advance batch tyre pyrolysis process and continuous tyre pyrolysis process had demonstrated compliance with regard to work zone limits and no significant impact on ambient air quality.*

vi. ***Existing Batch Tyre Pyrolysis Plants need additional features like PLC based control arrangement, by pass arrangement for pyro gas, installation of gas sensors, pressure, temperature gauges at reactor & storage tank, alarm system, facility for flaring of entire pyro gas during emergency, arrangement for re-circulation of pyro gas for reactor's heating, suction hoods over the gate of reactor, sprinkler system for control of fugitives and mechanized arrangement for unloading of carbon black powder and arrangement of nitrogen purging etc. to meet the environmental concerns.***

vii. ***Odourin the tyre pyrolysisplants are due to leakage from the pipe lines of oil & gas and due to storage of purge water (oil mixed water)***

viii. *The yield and calorific values of Tyre Pyrolysis Oil is more or less same in continuous, advance & existing batch process.*

ix. *Tyre Pyrolysis Oil (TPO) has high calorific value in the range of 6300 Kcal/kg to 10200 Kcal/kg and low sulphur content in the range of 0.87% to 1.28%, Ash content 0.087% wt., total halogen in the range of 146.27 ppm to 287.4 ppm. The carbon number variesfrom C4 -C30, flash point 52°C to 64°C, boiling range from 66.4°C to 312°C, sediment ranges from 0.002% to 0.0063% wt., PONA ranges from 69.63% to 70.87% v/v, pour points varies from - 30°C to -6°C, Conradson carbon residue ranges from 0.62% to 3.41% and kinematic viscosity at 40°C ranges from 3.67 to 6.12.*

x. *The value of sulphur content, calorific value, sediment, lead, arsenic, cadmium+ chromium-*- nickel, PAH, Total halogens, PCBs, and water content in the TPO is well within the limits specified for fuel oil obtained from the recycling of waste oil and mentioned in the schedule V Part B of Hazardous & Other waste (M&TM) Rules 2016)*

xi. *Health issues have not been reported during the study except at the unit M/s Mahie Green Earth Product, Muzaffarnagar, UP.*

7.0 RECOMMENDATIONS OR THE STUDY ON ADEQUACY OF TYRE PYROLYSIS PLANTS TO MEET ENVIRONMENTAL CONCERNS

i. ***All the existing batch Tyre Pyrolysis Plants to install additional features like 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, 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 carbon black powder bagging area, water sprinkler system and mechanized arrangement for removal of carbon black powder and steel scrap and arrangement of Nitrogen(N2) purging.***

ii. ***Initial firing of reactor and heating of the reactor to be done either by using pyro gas generated by the plant 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. Plants to install adequate APCD for controlling flue gas emissions.***

iii. ***Feed to tyre pyrolysis plants has to be full waste tyre or two piece cut waste tyre with steel for better operational control in existing batch tyre pyrolysis plant.***

iv. ***It has been observed that unloading of steel scrap from the reactor results into spillage of carbon black around the reactor area and generates fugitive emission. Plants to ensure no such spillage occurs by using suitable trays with wheels for transporting the steel scrap within the premise from generation points to storage points. This operation can be made cleaner by use of vacuum cleaner after each batch operation.***

v. ***Unloading of carbon black powder from the reactor should 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 carbon black powder will be bagged in the HDPE bags with proper sealing.***

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vi. *Suction hood to be installed above door of the reactor. Suction hood also to be installed at the transfer points across the work zone such as at carbon black powder bagging area etc. to control fugitive emissions. All suction hood to be connected to centralized bag filters /wet scrubber attached with stack of 30 m height (installed for control of flue gas emissions).*

vii. *Water sprinklers to be installed at the transfer points for arresting fugitives.*

viii. *Tyre Pyrolysis Plants to install ETP for proper treatment of waste water generated. Also plants to ensure that treated water be re-used in unit itself & there is zero effluent discharge in all the Tyre Pyrolysis Plants*

ix. *The transportation of Carbon Black and Tyre Pyrolysis Oil (TPO)should strictly be done in closed vehicles to ensure that there is no spillage of carbon black or TPO during their transportation*

x. *All Tyre Pyrolysis Plants 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.*

xi. *SPCBs/PCCS to carry out vigilance & randomly inspect Tyre Pyrolysis Plants @ 25% of total Tyre Pyrolysis Plants per annum in their respective States/UTs and submit their compliance reports quarterly and annually to CPCB.*

xii. *SPCBs/PCCs while granting consent to establish & operate a new Tyre Pyrolysis Plants only after assessing the area of the plant premises where unit is proposed. The area of the plant premises carry more weightage asthe emission from tyre pyrolysis unit does not affect far away community, instead it is the immediate neighborhood that is affected. Black carbon, being large size particle is accidently spilled over in the plant premises during its handling and therefore cannot travel to larger distance under the influence of wind. Odor remains a nuisance to the nearby residential and industrial area. In case of existing plants seeking expansion of processing capacity, the same may also be granted only after plant area is found sufficient. CPCB will issue guidelines on area of the plant premises accordingly within ten months.*

xiii. *CPCB to revise SoP and prepare guidelines for both existing batch and continuous tyre pyrolysis plant and its process within ten months."*

9. Learned counsel for the applicant submits that suggestions of the applicant furnished vide letter dated 10.08.2019 have not been considered. The said suggestions are as follows:-

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*"3. **POINTS FOR ACTION:***

A. Maintenance of inventory of waste tyres/End-of-Life Tyres and Occupiers:

According to the Applicant, there is no disaggregated data available on Occupier and the quantum of waste tyres/End-of-Life Tyres. Further, Occupiers definitions having a very broad definition which also overlaps with the of actual user', 'exporter', 'importer', "Operator of disposal facility', "Transporter' or 'Waste Collector'

Actions/Suggestions:

16. For proper regulation of Waste Tyres not only a robust inventory of Occupiers may be prepared by a specialized agency or a Task Force, within or outside the CPCB but also, such a data needs to be disaggregated as per the above sub-classifications as defined under the Rules and should be maintained and updated from time to time.

17. Such a database may be collated as an online database with assigned ID/ Account Numbers representing the nature/sub classification of the Occupier as per the Rules. The database may also represent the- color categorization of the industry in which the respective occupiers falls (viz. Red, Orange, Green and White)

Para 3.7 of the CPCB Guidelines for Preparation of Inventories on Hazardous and Other Waste Generation and their Management, June 2019 also mandates that with regard to the tools for preparing the annual report, the annual returns received from the Occupiers is one of the three necessary documents.

18. The above-mentioned Task Force may ensure that procurement of Authorization, maintenance of records (Form 3), filing of annual returns (Form 4)& maintenance of passbook is being done by Occupiers.

B. Implementation of -Hazardous Waste Rules 2016with regard to inventory and records among other things has been weak - Role of SPCBs and other authorities:

<u>Actions/Suggestions:</u>

1. The SPCBs may prepare the data base of Occupiers of hazardous & other waste units (such as waste tyres units) showing its category amongst the hierarchy under Rule 4(1) i.e. whether they are reuse; recycling; recovery; utilization including co-processing; safe disposal.

2. In addition, the SPCBs may also maintain registers of Occupiers handling waste tyres including those Occupiers who do not require an authorization under Rule 6(1A).

3. It is submitted that a new CPCB Guidelines for Preparation of Inventories on Hazardous and Other Waste Generation and their Managerrient dated June 2019 has been put in place. The Paragraph no. 3.7 of the said guidelines already provides

that CPCB is in process of developing a software on tracking of hazardous waste system. The Guidelines provides that once the same is implemented, it would auto generate the annual inventory of States/UTs based on the data provided in authorization provided by SPCB, Annual Returns filed by Occupiers & Manifest documents and date-wise records generated by Occupiers of waste tyres.

4. *Further the Guidelines also suggests that till the time the CPCB comes up with the waste tracking software, all SPCBs/UT's may devise their own technology based annual inventory. In this regard, it is suggested that all SPCBs, as .a pilot project, should start with maintaining records of all waste tyres handled by different stakeholders within their States/UTs in an online database with the classification as suggested above.*
5. *The concerned authorities should also prepare baseline data for end-of life vehicles as per EL V Guidelines, to understand the magnitude of the issues regarding ELTs.*
6. *The dismantlers of End-of life vehicles and collectors of waste tyres at semi-formal sector and state agencies at formal sector such as Transport Department may be scrutinized as priority.*
7. *A separate section for waste tyres should be made in the annual consolidated report provided by CPCB to MoEF&CC.*
8. *SPCBs should ensure monitoring and maintenance of record of waste tyres transported by the Occupier under FORM 10 under Rule 19(1) of the Hazardous Waste Rules 2016 which should be updated in electronic database periodically.*
9. *A simple mechanism for monitoring transportation by Occupiers under un-organized sector may be formulated as the present manifest system does not apply to them.*
10. *An online complaint platform should be formed for reporting noncompliance of mandates under Hazardous Waste Rules 2016, in order to avail reporting of stakeholders using waste tyres found not complying with the said rules.*
11. *The formats for maintenance of inventories provided under the CPCB Guidelines for Preparation of Inventories on Hazardous and Other Waste Generation and their Management (mentioned above) does not thoroughly cover for managing data of hazardous and other wastes (in present case being 'waste tyres') circulated from the stage of generation at domestic levels till the stage of submission of the same to recyclers, utilizers or disposal facilities. The following is pointed out in this regard:*

    a. *The data with regard to collection of other wastes after the end user discards it and which is to be collected by the waste collector is not provided for under the format.*
    b. *The definition of waste collector as provided under the Guidelines and the Hazardous Waste Rules 2016 is limited to those agents who are deployed by the actual users or operator of disposal facilities, however it does not recognizes the waste collectors which are not directly working under these facilities, for example: those working with MCDs, private waste collectors, waste collectors falling under disorganized sectors etc. Accordingly, the*

format AS - comprising of details of waste collectors should include all such waste collectors.

c. *Collection of hazardous and other wastes in store houses by private players or other-wise is not covered under the present formats provided under the said guidelines.*

d. *The data for Small, medium and large enterprise, who generate/collect/handle waste tyres from the dismantling of the vehicles other-wise are not getting covered under the said guidelines and the formats given under it.*

C. *Implementation of Hazardous Waste Rules 2016 and allied laws:*

Actions/Suggestions:

1. *Concerned authorities shall ensure that the waste tyres are circulated and consumed as per hierarchy of steps laid down in Rule 4(1) of Hazardous Waste Rules 2016. In other words, each type of industry involved in using waste tyre/end of life tyre should be evaluated to identify whether the subject unit falls under reuse category, recycle category, recovery category or disposal category. Accordingly, tyre ·' should be firstly be send for reuse or for recycle which may include processes of retreading, production of Crum Rubber Modified Bitumen for construction of roads, Athletic tracks, manufacturing of cements, its application for noise reduction among others. It is only if the waste tyre is not in a condition to be reused or recycled or because the capacity of such units falling under these categories has met it optimum capacity should the tyres be sent to industries of latter categories under the next hierarchy which are recovery and disposal.*
2. *For channelizing of waste tyres the quality/ condition of waste tyres should be evaluated as per the standards for tyres prescribed by BIS.*
3. *The Occupiers should store waste tyres as per Hazardous Waste Rules 20 16 and EL V Guidelines.*
4. *Coordination with Ministry of Road Transport Highways and Ministry of Commerce and Industry for better implementation of the rules. There are various circulars etc. to promote use of CRMB, but implementation & Monitoring is very poor. IRC Guidelines already recommend use of CRMB in high traffic roads. These need to be immediately implemented. Some of such Circulars& IRC Guidelines are appended as link as follows:*

Circulars:

- *https://cesroads.com/wp-content/uploads/Circulars/Standards and Research/SR2012.01.30-USE-OF-MODIFIED-BITUMENT.pdf*

- *https://cesroads.com/wpcontent/uploads/Circulars/Standards and Research/SR2016.02.18-Use-of-rubberpolymer-modified4bitumen-on-NHsand-other-centrally-sponsored-schemes.pdf*

- https://cesroads.com/wpcontent/uploads/Circulars/Standards and Research/SR-MT2016.03.28-Use-of-rubber-polymer-modified-bitumen-on-NHsand-other-centrally-sponsored-schemes.pdf

- https://cesroads.corn!wpcontt:fnt/uploads/Circulars/Standards and Research/SR20 16.09. 05-Use-of-polymer-rubber-modified-bitumen.pdf

IRC Guidelines:

https:/ /archive.org/details/govlawircy20 1 Osp53 0/page/2

5. *The transporters of waste tyres should also be required to maintain records of waste tyres and submit annual returns to the respective SPCBs.*
6. *Monitoring mechanism has to be developed to regularly ensure that Form 3 is being maintained by Occupiers.*
7. *The mandate of sending the annual returns should also be enforced on exporters of waste tyres.*
8. *It is suggested that the passbook of Occupier handling waste tyres may be checked the time of renewal of authorization and the copy of the same may be maintained in the electronic database of the SPCB. A uniform format for the passbook may be issued by CPCB.*
9. *The SPCB should tally the information provided under Form 3 and Form 4 at the time of renewal of authorization under Hazardous Waste Rules 2016. The SPCB should also tally Form 3 and 4 in cases of those Occupiers which do not require authorization under Rule 6 (1), such as storage houses, transporters, collectors (which do not require authorization since they are not required to obtain consents under the Air and Water Act- See Rule 6 (1A).*
10. *The SPCB should ensure that inspection report is provided with authorization/renewal. A set format for inspection report along with specific terms of reference may be formulated*
11. *The concerned authorities should ensure that only authorized recyclers, operator etc. are allowed to take part in auctions for waste tyres. Further the invitation to the auctions bidders should be strictly as per the order of occurrence (as per nature of industry) under Rule 4(1). For e.g. the units engaged in reuse or recycling should be prioritized over units engaged in recovery. The condition of tyres should also be made a criteria for circulating it to the industries (as per the order of occurrence) under Rule 4 (1).*
12. *The State Governments should identify the facilities already existing for processing, recycling or utilization or storage, treatment and disposal of waste tyres and also recognize the same in the integrated plan and also formulate plan for providing new facilities for management and usage of waste tyres as mandated under the Rule 5 of the Hazardous Waste Rules 2016.*
13. *.Concerned authorities should formulate a strategic framework for implementation of all provisions and mechanisms established under the Hazardous Waste Rules*

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20 16 for ensuring tP.at the waste tyres generated in India are appropriately channelized towards its optimum utilization and disposal.

14. *Sample/trophy waste tyres used for display in front of the premises by different handlers should be regulated and if the provision of storage as provided under Rule 8 of Hazardous Waste Rules 20 16 is not being followed by such handlers, then such waste tyres should be confiscated.*
15. *.The definition of importer as provided under the Hazardous Waste Rules 20 16 should be amended in order to reduce the scope of the definition by limiting it to actual users. This would further complement the Rule 12 of Hazardous Waste Rules 2016 which recognizes that import of hazardous and other wastes shall only be ·allowed for recycling, recovery, reuse and utilization including co-processing.*
16. *It is a usual practice by SPCB's to grant authorization under Hazardous Waste Rules 2016 along with consolidated consents under the Air Act, 1974 and Water Act, 1981 in some states. However, these consolidated consents are granted for a period ranging from one year to Fifteen years. (Although the latest revised classification talks about granting consent between 5-15 years). However, the Hazardous Waste Rules 20 16 prescribe the validity of authorization for a period of 5 years. Therefore, the validity of authorization should conform to the iJ period prescribed under Rule 6 (2) of Hazardous Waste Rules 2016 and should be separately" granted.*

D. Monitoring of information provided by the Occupiers

<u>Actions/Suggestions:</u>

1. *Electricity bills should be submitted by the:·actual users of waste tyres alongwith annual returns to monitor whether the tyres collected by them is being utilized within the unit for the purpose for which it was collected and is not being transferred illegally to any other processing unit/user.*
2. *Submission of electricity bills should be made a mandatory condition under the authorization granted as per Hazardous Waste Rules 2016.*
3. *The SPCB may monitor on a regular basis that the electricity bill corelates with the consumption of the quantum of waste tyres used. Such data of co-relation should be provided by SPCB to MoEF&CC while considering grant of any subsequent permission for use of waste tyres of the actual user. The said data of co-relation should also be taken into consideration for renewal application under Rule 6(1).*
4. *In case of Occupier needing authorization under Rule 6(1), a tally between Form 3, Form 4 & Electricity bills should be done by SPCB after the receival of annual return.*
5. *The actual " user should also be required to send quarterly reports of the consumption and fate of waste tyres and also maintain and send copies of the all electricity bills generated quarterly while submitting the 'record of consumption and fate of imported waste tyres' which is required to be maintained and sent to SPCB. The format of the quarterly report should be formulated and uniform.*

6. *A carrying capacity of each type of unit dealing with waste tyres should be evaluated and represented in the authorization granted under Hazardous Waste Rules 2016 and the import of waste tyre to such units should be permitted in accordance with carrying capacity established.*
7. *The CPCB Guidelines for Preparation of Inventories on Hazardous and Other Waste Generation and their Management, 2019 too provides for estimation of hazardous waste generation of Occupiers under para 3.4 of the guidelines. The same should be carried out for all recycling/reusing/recovering industries and disposal facilities involved in recycling/utilization/disposal of waste tyres expeditiously. A priority for such estimation should be given to Pyrolysis Industry.*
8. *An estimate of electricity consumed, ·hazardous waste generated for each type of industry (who are actual users of waste tyres), treatment and disposal facilities (of waste tyres) should be evaluated on the basis on a particular amount of waste tyre used/processed.*
9. *A specific code should be recognized for waste tyres for maintaining online data base and the records of waste tyres handled, managed or used by all stakeholders should be directly connected to this common code. The Basel number for waste tyres (viz. B3140) recognized under the Hazardous Wastes Rules 2016 may be taken into consideration for establishing such 'specific code'.*

E. Ban/regulation of Pyrolysis Plants:

Actions/Suggestions:

1. *Illegal Pyrolysis Plants operating in the country should be - identified and their operation should be stopped forthwith. It has been observed that several batch process Pyrolysis Plants are operating illegally. An illustrative list of such illegal plants which have been physically found to be operating illegally is appended as Annexure A*
2. *Non-compliant Pyrolysis Plants, which have authorization and which are not meeting with the conditions as mandated under Environmental Laws should be closed till they meet the prescribed standards/norms.*
3. *Establishment of new pyrolysis plants should not be allowed till the time State-of-the-art technology is introduced in this field of industry.*
4. *Pyrolysis Industry should be categorized as Red Category industry under the CPCB 'Guidelines for. Categorization of Industries' dated March 2016. Accordingly, all SPCB should also categorize pyrolysis industry under RED Category which presently stand under different categorization under different States due to lack of clarity in the revised Guidelines issued on March 7th 2016/February 29th 2016*
5. *The SOP for Pyrolysis Plants issued under OM dated 05.06.2015 & 28.11.2015 should be strictly implemented, which at present is being violated by pyrolysis units. More specifically:*

- *It should be ensured that wood logs are not used for initial heating and clause 2.1.2. of the SOP dated 28.11.20 15 is strictly followed in this regard.*
- *It should be ensured that Pyrolysis Oil and black carbon are not sold in open market as per Clause 2.1.15 of SOP issued vide OM dated 28.11.2015 and should only be provided directly to actual users*

6. *As per the information available, the black carbon are being sold to brick kilns units which in itself is a hazardous mean of generating energy and should be stopped. Therefore, such actual users should be specifically identified based on the nature of the end use of these products and no one else should be allowed to use these products*
7. *The SOP for pyrolysis Plants should be updated and the standards should be improved.*
   - *Provision for management, use and disposal of Byproducts/waste generated from Pyrolysis units should be provided for under the new SOP*
   - *A new trial run for updating the SoP for pyrolysis industry should be conducted as per the procedure established under the guideline dated July 2017 issued by CPCB titled {(Standard Operating Procedure for Processing the Proposals for Utilization of Hazardous Waste under Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016"*
8. *A monitoring mechanism should be formulated to assess and evaluate the supply of pyrolysis oil and black carbon produced in pyrolysis units.*
9. *There is no provision under SoP for direct supply of steel generated in pyrolysis unit to actual user. The same should also be directly transported to actual users. Mechanism for monitoring the transportation of steel generated from the unit after pyrolysis process should also be brought in place.*
10. *Technical guidelines for management/use of Pyro gas generated in pyrolysis process should also be formulated.*
11. *A specific standard of quality should be established for Pyrolysis Oil which should be achieved by all existing Pyrolysis Plants in a time bound manner.*
12. *The mushrooming of Pyrolysis Plants should be banned and a study on requirement of such plants may be undertaken and also a criteria of its site selection should be formulated.*
13. *It should be ensured that the tyres imported by shredding facilities are not transferred post shredding to Pyrolysis Plants.*
14. *Practices such as skimming of bitumen (which is used for road construction) and diversion of the same to pyrolysis unit should be stopped and mechanism for monitoring the same should be developed.*
15. *.Import of Waste tyres for usage in pyrolysis plants should not be allowed even from other states as has been restricted by Order dated 15.10.2014 issued by the Government of Punjab. See Annexure B.*
16. *Compliance with Manifest system for transportation of hazardous and other waste generated in Pyrolysis units*

should be ensured and the same should form a part of efficient record keeping.

17. *The "Guidelines for transportation of Hazardous Waste 2006" of CPCB which specifically provides that "The operator of a facility (registered recyclers or re-processors of hazardous waste) while collecting the wastes from the waste collections points or Ports or ICDs, shall also follow the manifest system as per Rule 7 of the HW (M & H) Rules."*
18. *Batch-process based pyrolysis plants should be banned forthwith.*
19. *The Guidelines for regulating Pyrolysis Plants enacted by State Governments should be implemented in its true spirit. Such as the Guidelines dated 31.05.2016 issued by Maharashtra Pollution Control Board and Guidelines dated 15.10.2014 issued by State of Punjab.*
20. *.Pyrolysis Plants operating in other countries have been operating under high class standards, which is possible as the waste tyres generated in those countries are procured free of cost and are even subsidized in many cases. On the other hand in India tyres are not available free of cost and therefore a high quality Pyrolysis Plant is not viable, therefore only very cheap technology is used to make Pyrolysis Oil that causes severe Pollution. H7Fce Pyrolysis plants need to be prohibited in its current standards.*

F. Extended Producer's responsibility on the manufacturers of tyres Extended Producer's responsibility on the manufacturers of tyres

<u>Actions/Suggestions:</u>

1. *The mandate for Extended Producer's responsibility should ·be implemented on the manufacturers of tyres for effective management of waste tyres. In this regard, due consideration should be given to the concept of 'Shared Responsibility 'provided in the EL V Guidelines. The procedure of EPR already established for plastic waste and E-waste under the Plastic Waste Management Rules, 2016 and E-Waste (Management) Rules, 2016 should be taken as reference for management of waste tyres.*
2. *The Guidelines dated 31.05.2016 issued by the Maharashtra Pollution Control Board could be referred as an example since it already provides for extended products responsibly for tyre manufacturers in the State of Maharashtra.*
3. *It should be ensured that the end user of waste tyre deposit such waste tyres to a collection center provided by the manufacturer/producer or associations or to an authorized waste collector for the said purpose. An incentive system may be devised for every such deposit. A premium in sale of such tyres may cover such incentive system.*
4. *The waste tyres should be collected in collection centers and by retailers and should be directly channelized towards authorized recyclers, operator of facility.*

5. *The proposed 'Waste Tyres Management Rules 2017' should be enacted at the earliest to provide for the Extended Producer's Responsibility in case of tyre manufacturers.*

G. *Guidelines for alternative environment friendly uses of ELTs based on global best practice*

Actions/Suggestions:

1. *Research study should be carried out with regards to the best alternative uses of waste tyres and the said study should also include identification of those industries which are hazardous in nature and accordingly a policy should be formulated for promotion and regulation of waste tyres towards different industries having different applications/usages.*
2. *All types of Industries involved in usage of waste tyres should be evaluated based on their polluting nature, the quality and utility of end product, the efficiency in usage of waste tyre and the alternatives · available for such product. Based on such evaluation, long term plan should be formulated for promoting those industries which are concluded to be more eco-friendly and more efficient and at the same time strictly regulating those industries which falls in lower scores. For Example: Waste Tyres used as fuel in various industries such as Brick Kilns, production of sugarcane-jaggery and other unorganized industry should be completely banned. Whereas use of waste tyres for application such as construction of roads, athletic fields, manufacturing of cements, its application for · noise· reduction etc. should be promoted. Similarly, reusing to make products such as tyres, conveyor Belts etc. should be encouraged/promoted as that is a tilting example of Circular economy."*

10. We have considered the study report. There can be no dispute with the observations and recommendations in the report except uncalled for long timeline for revised SOPs.

11. Accordingly, further remedial action be taken by the CPCB in coordination with the State PCBs/PCCs for compliance of environmental norms, consistent with the Water and Air Acts, HOWM Rules and safety aspects to prevent accidents and for protection of public health. There is need for further studies on the subject of siting criteria, threshold limit of a plant, carrying capacity, standards for effluents, emissions and hazardous or other waste and monitoring mechanism, preferably with larger samples size which may preferably be 10% of the total plants. The

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monitoring needs to be more extensive and prompt with reference to the category of the Tyre pyrolysis units – Red, Orange, Green or White. In the light of such further study, appropriate SOP needs to be issued promply in view of potential for damage to the environment from the hazardous activities in question.

12. Accordingly CPCB may, apart from initiate prompt remedial action in the light of above recommendations, require the Committee to undertake further study on above aspects with liberty to co-opt any other expert/institution. The same may be completed within three months. The report of the Committee with comprehensive recommendations be filed before the Tribunal within four months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The same may also be placed on the website of the CPCB for comments of any stakeholders within two weeks thereafter for consideration of this Tribunal.

13. The concerned State PCBs/PCCs may inspect the compliance status of all such units in terms of availability of requisite consent and status of compliance of the environmental norms and take such remedial action as may be found necessary in accordance with law. They may give their action taken report to the CPCB by 28.2.22 for preparing a consolidated status report.

List for further consideration on 06.04.2022.

14. We may now take up pending IAs for consideration. I.A. No. 403/2019 for intervention by Association of Rubber and Tyre recycling industries is disposed of with the observation that Association is free to file any submissions and address any arguments at the time of hearing.

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I.A. No. 611/2019 has been filed by Pyrolysis Industries Welfare Association which is identical to I.A. no. 403/2019 and is disposed of in same terms. I.A. No. 615/2019 is for consideration of suggestions of the applicant which have already been dealt above. The said is accordingly disposed of. I.A. No. 8/2020 has been filed by Mohammed Shaheed Sheikh to the effect that he is operating a plant and no adverse action should not be taken by the State PCB. Such prayer cannot be granted but if the applicant is aggrieved by the action of the State PCB, statutory remedy of appeal is available. On the issue being considered by the Tribunal, the applicant is at liberty to make any submission during the hearing. The I.A. No. 8/2020 is accordingly disposed of. I.A. no. 383/2020 filed by the Applicant seeks impleadment of Ministry of Petroleum. We do not find any requirement for such impleadment at this stage. The I.A. is accordingly disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

October 25, 2021
Original Application No. 400/2019
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