

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

IN

ORIGINAL APPLICATION NO 153/2024(SZ)

Suo Motu

..... Petitioner

Vs.

M/s Bharat Petroleum Corporation Limited

..... Respondents

**REPORT FILED BY M/S BHARAT PETROLEUM CORPORATION LIMITED FOR AND
ON BEHALF OF RESPONDENT NO 4**

I, Rajeev C, do hereby solemnly affirm and state as follows:

1. I am Rajeev C and duly authorized to represent the Appellant in the above case. I am aware of the facts affirmed by me in this report. I am swearing this report based on the best of my knowledge, information and the facts revealed from the records.
2. Bharat Petroleum Corporation Limited – Kochi Refinery is a frontline entity as a unit of the Fortune 500 Oil and Gas Maharatna Bharat Petroleum Corporation Limited. It is presently, the largest public sector Refinery in India with a production capacity of 15.5 million metric tonnes per annum. Kochi Refinery has got facilities where crude oil is processed and refined into various petroleum products, including LPG, Petrol, Diesel, Jet fuel/Aviation turbine Fuel etc. and other petrochemicals.

The BPCL Kochi Refinery has been recertified for the highly coveted Integrated Management System (IMS) by M/s Bureau Veritas Certification for having complied with the requirements of best standards and practices in the areas of Quality Management, Environment Management and Occupational Safety and Health Management. By virtue of this, KR is certified to Quality Management

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ADVOCATE & NOTARY
2nd FLOOR, INFANT JESUS BUILDING
OPP. HIGH COURT, ABOVE UNION BANK
COCHIN - 682 031
Roll No. K/355/95
Mob: 9847229732

राजीव सी RAJEEV C
मुख्य महाप्रबंधक (प्रचालन)
Chief General Manager (Operations)
भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
BHARAT PETROLEUM CORPORATION LIMITED
वॉर्किंग रिफ़ाइनरी KOCHI REFINERY
अम्बलमगल Ambalamugal-682 302

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System - ISO 9001:2015, Environment Management System - ISO 14001:2015, 45001:2018 and Energy Management System 50001:2018.

Apart from maintaining its world class standards in operational excellence, the singular objective of Kochi Refinery is to uphold the BPCL vision of energizing lives by continued excellence in all round performance with new ideas, added vigour and sustained commitment to its social, cultural, organizational and natural environment. BPCL Kochi Refinery is committed to a green environment. Year after year, Kochi Refinery takes up innovative environment upkeep initiatives to remain in the forefront as a Corporate Green Ambassador. BPCL Kochi Refinery has demonstrated consistent commitment to protect and improve its surrounding environment and society at large.

3. It is respectfully submitted that BPCL Kochi Refinery had commissioned several projects in recent past such as BPCL Kochi Refinery_ Propylene Derivatives Petrochemical Project (PDPP), BPCL Kochi Refinery_ Integrated Refinery Expansion Project (IREP) and BPCL Kochi Refinery_Motor Spirit Block Project (MSBP) on different occasions. The Kochi Refinery Integrated Refinery Expansion Project was commissioned in the year 2017 at a cost of Rs.14,656 crore and this project aims to integrate the Refinery with the downstream petrochemical unit at an investment of Rs.6000 crore. The PDPP project was conceptualized as a part of 'Make in India' initiative to reduce the country's import of niche petrochemical products leading to valuable foreign exchange savings. Land acquisition proceedings were initiated for the said projects and have been completed.
4. It is respectfully submitted that all projects at Kochi Refinery are installed based on Environmental clearances issued by Ministry of Environment, Forest and climate change (MoEFCC) after scrutiny of several studies. MoEFCC has given certified compliance report for all Kochi Refinery environmental clearances.
5. It is respectfully submitted that the BPCL-KR has taken utmost care to incorporate all the necessary features in every project which ensure safety during normal

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operations & emergency conditions. Before installation of any complex Process Plants, detailed studies are conducted through agencies having expertise in these fields and plants are built according to well established Design practices/codes incorporating outcome of such studies. The studies and various clearances / approvals obtained from Regulatory / Govt. bodies which ensure compliance to applicable rules and standards are as follows:

- a. Environmental Impact Assessment Study
- b. Rapid Risk Analysis (RRA) Report
- c. Hazard and Operability study (HAZOP)
- d. Assessment of Safety Integrity Level (SIL)
- e. Quantitative Risk Assessment study (QRA)
- f. Emergency Response and Disaster Management Study (ERDMP)
- g. Consent to establish and operate from Kerala State Pollution Control Board
- h. Site Appraisal committee clearance from Govt of Kerala – Labour Department.
- i. Approval from the District Administration
- j. State Fire Services NOC
- k. Overall Plot Plan approval from PSEO APPROVAL
- l. NOC from Airport Authority of India

Therefore, it is respectfully submitted that BPCL-KR is an environmentally compliant company and has fully compliant with the laws of the land.

6. It is humbly submitted that BPCL-KR has been running its refinery unit in a clean, green, and safe manner for several decades. Concerning the conditions outlined in the Environmental Clearances, Consent to Establish (ICE), Consent to Operate (ICO), and any other clearances or norms that apply to BCPL-KR, there have been no instances of violations.

7. It is hereby respectfully submitted that BPCL-KR has installed six ambient air quality monitoring stations (AAQMS) in and around the Refinery premises in consultation with the Kerala State Pollution Control Board. The locations of these

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राजीव सी RAJEEV C
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BHARAT PETROLEUM CORPORATION LIMITED
कोची रिफाइनरी **KOCHI REFINERY**



AAQMS are determined by the maximum ground level concentration and the direction of the wind. According to the notification dated 16.11.2009, ambient air quality data is being collected in accordance with the National Ambient Air Quality Standards (NAAQS). The CPCB and KSPCB servers are connected to and receive the real-time data from the AAQMS. The ambient air quality information is also communicated to public through an electronic display board. In addition, Ambient air quality is being monitored through NABL accredited Lab.

8. BPCL-KR has implemented other air pollution mitigation measures like installing Hydro treating units for products like Diesel, Naphtha, vacuum gas oil, Kerosene etc. to reduce sulphur content in auto fuels complying BS-VI norms. Sulfur recovery units along with Tail gas treatment units (TGTU) have been installed to ensure maximum recovery of sulphur (99.9% recovery). Apart from this, Flare gas recovery units, and VOC control and treatment systems are also in place inside Refinery premises. Fugitive emission across the valves, glands, flanges etc. are monitored through Leak Detection And Repair (LDAR) Program on a periodic basis. Advanced process control (APC) systems have been implemented in hydrogen network for minimizing hydrogen flaring and in process units to optimize fuel consumption which helps to reduce emission. Low NOx burners have been provided in all the heaters and utility boilers. Reduction furnace has been provided to convert ammonia into nitrogen to reduce NOx emissions. Clean fuel like Regasified Liquefied Natural Gas (RLNG) is being used in the gas turbines (GTs) to reduce SO2 and CO2 emissions. Continuous online monitoring for SO2, NOx, CO and SPM is being carried out for all the stacks. Through these measures, BPCL Kochi Refinery ensures that all emissions are within prescribed norms.

9. BPCL-KR has implemented coke handling equipment at the place of generation to mitigate potential dust pollution. Coke is moved using special pipe conveyors, in which the belt adopts the shape of a pipe to guarantee completely closed transportation. The storage site of coke (Coke Dome) totally covered with dust suppression system. This ensures that no particulate matter emission in the atmosphere.

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अम्बलमूगल Ambalamugal-682 302

10. It is respectfully submitted that BPCL Kochi Refinery has developed green cover in and around Kochi Refinery premises and the suitable native species were planted. BPCL – KR has developed various parks such as herbal parks, fruit parks and Eco parks etc. It would be prudent to note that while approving Environment clearance for BPCL Kochi Refinery Polypropylene project, Ministry of Environment, Forest and Climate Change (hereinafter referred to as “MoEFCC”) reviewed the green cover of Kochi Refinery through Kerala State Remote Sensing and Environment Centre (KSREC) based site survey. With reference to the Report, BPCL Kochi Refinery has maintained minimum of 33% of green cover inside Refinery premises and subsequently, MoEFCC issued Environment Clearance for the Polypropylene project on 29.07.2023.

11. It is respectfully submitted that BPCL is a socially responsible corporate. BPCL has always come up to solve the issues which affect the public community at large. It would be relevant to note that BPCL – Kochi refinery is setting up Municipal Solid Waste based Compressed biogas plant in Brahmapuram, Kochi waste treatment plant at the cost of around 120 Crores which is very near to Kochi Refinery. By setting up this plant, BPCL would solve the major issue of air pollution which is impacting severely the health of the public at large.

12. It is submitted that the present suo moto proceedings initiated by the Hon'ble Principal Bench after taking cognizance of a news article titled "Begging for breath trapped between industries Cochin Residents gasp for fresh air" is before this Hon'ble Tribunal for adjudication upon a transfer from the Principal Bench.

13. It is respectfully submitted that BPCL Kochi Refinery does not share any common boundary with the concerned area. There is a wide public road in between BPCL boundary wall and the concerned area.

14. It is most respectfully submitted that the subject matter in this application has been previously decided by this Hon'ble Tribunal in O.A. No. 265 of 2017 (SZ) and M.A. No. 216 of 2017 (SZ) together with O.A. No. 17 of 2021 (SZ) and O.A. No. 1 of

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2022 (SZ) in which a detailed final order was passed on 19.04.2022. These applications sought for the following reliefs:

- i. O.A. No. 265 of 2017 (SZ) filed by a resident, Mr. N.G. Soman, a resident of Ambalamughal against the alleged pollution caused on account of the operation of BPCL-KR's unit.
- ii. O.A. No. 17 of 2021 (SZ) filed by the two residents of the very same locality, Mr. Vipin Nath AV, Mr. Sinu C. Jacob alleging large scale pollution on account of the failure in compliance of certain directions and conditions imposed in the Environmental Clearances (EC) and other clearances by BPCL KR.
- iii. O.A. No. 1 of 2022 also filed by Kuzhikkad Residents Association on the alleged pollution caused by BPCL KR.

15. During the pendency of the above-mentioned applications, several reports of investigations done by various statutory authorities were submitted to this Hon'ble Tribunal. The applications were then heard and after appraisal of the various reports submitted, a detailed order was passed on 19.04.2022 by which the original applications were disposed off with the several directions. A copy of the order passed in O.A. No. 265 of 2017, O.A. No. 17 of 2021, O.A. No. 1 of 2022 is annexed hereto as **Annexure A1**.

16. Being aggrieved by the order of this Hon'ble Tribunal dated 19.04.2022, the answering Respondent has filed Civil Appeal Nos. 5128 - 5130 of 2022 in the Hon'ble Supreme Court. The Hon'ble Supreme Court by an order dated 22.08.2022 has granted interim stay of the order dated 19.04.2022. The order of interim stay granted by the Hon'ble Supreme Court is annexed hereto as **Annexure 2**.

17. It is submitted that the subject matter in the present application is directly and substantially in issue in the Civil Appeals pending before the Hon'ble Supreme

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Court which cover wide-ranging issues of not only alleged air pollution but also noise pollution, water pollution, compliance with the conditions imposed in the environmental clearances, etc.

18. It is most respectfully submitted that since the matter is now under consideration by the Hon'ble Supreme Court, a parallel adjudication of the very same issue by this Hon'ble Tribunal may result in conflicting orders being passed. At the cost of repetition, it is submitted that the order dated 19.04.2022 covers the issue comprehensively and no further adjudication will be necessary by this Hon'ble Tribunal.

19. In this light of the above-mentioned facts, it is therefore prayed that this Hon'ble Tribunal may be pleased to close the present proceedings and thereby render justice.

Under the above circumstances, it is humbly prayed that this Hon'ble National Green Tribunal may be pleased to pass such further or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of this case and this render justice.



राजीव सी RAJEEV C
मुख्य महाप्रबंधक (प्रचालन)
Chief General Manager (Operations)
भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
BHARAT PETROLEUM CORPORATION LIMITED
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Deponent

VERIFICATION

I, Rajeev C, son of Shri Chonat Radhakrishnan aged 54 years residing at Devayanam, FRRA 73B, Thamarassery Road, Poonithura, Ernakulam-682 038 designated as Chief General Maanger (Operations) do hereby submit that the above contents are true to the best of my knowledge and belief through records.

Signed Before Me



राजीव सी RAJEEV C
मुख्य महाप्रबंधक (प्रचालन)
Chief General Manager (Operations)
भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
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Deponent.

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Roll No. K/25518

Item No.2 to 4:-

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

(Through Video Conference)

**Original Application No. 265 of 2017 (SZ) &
M.A. No. 216 of 2017 (SZ)**

With

Original Application No. 17 of 2021 (SZ)

With

Original Application No. 01 of 2022 (SZ)

IN THE MATTER OF

N.G. Soman,

...Applicant(s)

Versus

Bharat Petroleum Co Ltd.,
Kochi and others.

...Respondent(s)

WITH

Vipin Nath A.V. & Sinu C. Jacob

...Applicant(s)

Versus

M/s. Bharat Petroleum
Corporation Limited and others.

...Respondents(s)

WITH

Kuzhikkad Residents Association

...Applicant(s)

Versus

The Secretary
MoEF&CC & Ors.

...Respondents(s)

O.A. No.265/2017

For Applicant(s):

Mr. J. Sunil.

For Respondent(s):

Mr. M. Vijayan, Senior Advocate along with
Mr. Kumaresan for M/s. King & Patridge for R1.
Mrs. V.K. Rema Smrithi for R3, R4.
Mr. G. Prabhu represented
Mr. E.K. Kumaresan for R5.
Mr. G.M. Syed Nurullah Sheriff for R6.

O.A. No.17/2021

For Applicant(s):

Mr. Vipin Nath (*1st Applicant – Party in Person*).

For Respondent(s):

Mr. M. Vijayan, Senior Advocate along with
Mr. Kumaresan represented
M/s. King & Patridge for R1.
Mr. G.M. Syed Nurullah Sheriff for R2.

Mr. T.N.C. Kaushik for R3.
Mrs. V.K. Rema Smrithi for R5.
Mr. Perambur E Palani for R6.
Mr. Anil Srivastav for R7.

O.A. No.01/2022

For Applicant(s): Mr. Jose Paul Thottam

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff for R1.
Mr. T.N.C. Kaushik for R2.
Mr. Perambur E Palani for R3.
Mr. G. Prabhu represented
Mr. E.K. Kumaresan for R5.
Mrs. V.K. Rema Smrithi for R6 & R7.
Mr. M. Vijayan, Senior Advocate along with
Mr. Kumaresan represented
M/s. King & Patridge for R10.

Judgment Pronounced on: 19th April 2022.

CORAM:

HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER

Whether the Judgement is allowed to be published on the Internet - Yes/No

Whether the Judgement is to be published in the All India NGT Reporter - Yes/No

ORDER

Judgment pronounced through Video Conference. All these original applications are disposed of with directions vide separate Common Judgment.

Pending interlocutory application, if any, shall stand disposed of.

Sd/-
Justice K. Ramakrishnan, JM

Sd/-
Dr. Satyagopal Korlapati, EM

O.A. No.265/2017 (SZ)
O.A. No.17/2021 (SZ)
O.A. No.01/2022 (SZ)
19th April 2022. Mn.

Item No.2 to 4:

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

(Through Video Conference)

**Original Application No. 265 of 2017 (SZ) &
M.A. No. 216 of 2017 (SZ)**

With

Original Application No. 17 of 2021 (SZ)

With

Original Application No. 01 of 2022 (SZ)

IN THE MATTER OF

O.A. No.265 of 2017:

N.G. Soman
Nenjamalil
Ambalamedu P.O.
Ernakulam, Kerala - 682 303.

...Applicant(s)

Versus

- 1) Bharat Petroleum Corporation Limited
Kochi Refineries, Ambalamughal
Cochin, Kerala - 682 302.
- 2) Prodair Air Products Indian Private Limited
BPCL Kochi Refineries,
Ambalamughal
Cochin, Kerala - 682 302.
- 3) Kerala State Pollution Control Board
Rep. by its Secretary
Office of the Kerala State Pollution Control Board
Thiruvananthapuram, Kerala - 695 001.
- 4) Environmental Engineer
Ernakulam District Office - II
Kerala State Pollution Control Board
1st Floor, Mannalikudy Arcade (Manna Residency),
M.C. Road, Perumbavoor,
Ernakulam, Kerala - 683 542.
- 5) State of Kerala
Rep. by the Secretary
State Government
Ministry of Environment, Forests & Climate Change
Government Secretariat
Thiruvananthapuram, Kerala - 695 001.

- 6) Union of India
Rep. by the Secretary
Central Government
Ministry of Environment, Forests and Climate Change
New Delhi - 110 003.

...Respondent(s)

WITH

O.A. No.17 of 2021:

- 1) Vipin Nath A V
S/o. N K Viswanathan
Ammencheril House,
Kakkad Kara, Mamala PO,
Ernakulam Dist Kerala - Pin - 682305.
- 2) Sinu C Jacob
Thondattil House
Kakkad Kara, Mamala PO,
Ernakulam Dist Kerala - Pin - 682305

...Applicant(s)

Versus

- 1) M/s Bharath Petroleum Corporation Limited
Rep. by its General Manager (Public Relations)
(Propylene Derivatives Petrochemical Project- PDPP)
Post Bag No. 2, Ambalamugal
Ernakulam District, Kerala, Pin - 682302
- 2) Ministry of Environment, Forest & Climate Change
Rep. by its Secretary
Indira Paryavaran Bhavan,
Jorbagh Road, New Delhi - 110003
- 3) Central Pollution Control Board
Rep. by its Member Secretary
'Parivesh Bhawan', East Arjun Nagar,
Shahdara, Delhi-110032
- 4) Engineers India Limited
Rep. by its Company Secretary & Nodal Officer
EI Bhavan, 1, Bhikaiji Cama Place,
New Delhi - 110 066.
- 5) Kerala State Pollution Control Board
Rep. by its Member Secretary
Pattom P.O., Thiruvananthapuram - 695 004

- 6) Petroleum and Explosives Safety Organization
Rep. by its Chief Controller of Explosives
A Block CGO Complex
Fifth floor Seminary Hills
Nagpur-(Maharashtra) 440006
- 7) Oil Industry Safety Directorate
Rep. by its Executive Director
8th Floor, OIDB Bhawan,
Plot No 2, Sector-73, Noida Noida,
Uttar Pradesh, 201301
- 8) Directorate of Factories & Boilers
Rep. by its Director
Suraksha Bhavan Kumarapuram, Medical College P.O.
Thiruvananthapuram, Kerala- 695 011.

...Respondent(s)

WITH

O.A. No.01 of 2022:

- 1) Kuzhikkad Residents Association,
Registration Number 253/10,
Represented by its Secretary,
Ravi T. K. Aged 58 years, S/o Kuttappan,
Kunnappally Building Ashramam Road,
Ambalamedu Post, Ernakulam District Pin 682 303
- 2) Mani K.J, S/o Ulahannan,
Aged 76 years, Kunnappallil House,
Ashramam Road, Ambalamedu Post,
Ernakulam District Pin 682 303.

...Applicant(s)

Versus

- 1) The Secretary,
Ministry of Environment, Forest and Climate Change (MoEF & CC),
Indira Paryavaran Bhavan,
Jorbagh Road, New Delhi-110003
- 2) The Member Secretary
Central Pollution Control Board (CPCB)
Parivesh Bhavan, East Arjun Nagar,
Delhi -110032
- 3) Chief Controller of Explosives,
The Petroleum and Explosives safety Organisation (PESO)
Head Office, A Block CGO Complex,
Fifth Floor, Seminary Hills, Nagpur
Maharashtra, PIN-440006

- 4) Director of factories and Boilers,
Directorate of factories and Boilers
Suraksha Bhavan, Kumarapuram,
Medical College P.O.,
Thiruvanthapuram, Kerala, PIN-695011
 - 5) The Chief Secretary,
Government of Kerala, Secretariat,
Thiruvanthapuram PIN-695001
 - 6) The Member Secretary
Kerala State Pollution Control Board,
Represented by its Secretary,
Thiruvananthapuram, PIN-695 004
 - 7) Environmental Engineer,
Kerala State Pollution Control Board,
(Ernakulam II), Perumbavoor,
Ernakulam District, PIN- 683 542.
 - 8) The Secretary
Vadavucode Puthencruz Grama Panchayath
Puthencruz P.O., Emakulam, PIN-682308
 - 9) Chairman and Managing Director,
Bharat Petroleum Corporation Limited,
Bharat Bhavan,
4 & 6 Curimbhoy Road, Ballard Estate,
Mumbai.
 - 10) Bharat Petroleum Corporation Limited (BPCL - Kochin Refinery),
Represented by its General Manager,
Amabalamugal, Emakulam District 682 302.
- ...Respondent(s)

O.A. No.265/2017

For Applicant(s):

Mr. J. Sunil.

For Respondent(s):

Mr. M. Vijayan, Senior Advocate along with
Mr. Kumaresan for M/s. King & Patridge for R1.
Mrs. V.K. Rema Smrithi for R3, R4.
Mr. G. Prabhu represented
Mr. E.K. Kumaresan for R5.
Mr. G.M. Syed Nurullah Sheriff for R6.

O.A. No.17/2021

For Applicant(s): Mr. Vipin Nath (*1st Applicant – Party in Person*).

For Respondent(s): Mr. M. Vijayan, Senior Advocate along with
Mr. Kumaresan represented
M/s. King & Patridge for R1 & R4.
Mr. G.M. Syed Nurullah Sheriff for R2.
Mr. T.N.C. Kaushik for R3.
Mrs. V.K. Rema Smrithi for R5.
Mr. Perambur E Palani for R6.
Mr. Anil Srivastav for R7.

O.A. No.01/2022

For Applicant(s): Mr. Jose Paul Thottam

For Respondent(s): Mr. G.M. Syed Nurullah Sheriff for R1.
Mr. T.N.C. Kaushik for R2.
Mr. Perambur E Palani for R3.
Mr. G. Prabhu represented
Mr. E.K. Kumaresan for R5.
Mrs. V.K. Rema Smrithi for R6 & R7.
Mr. M. Vijayan, Senior Advocate along with
Mr. Kumaresan represented
M/s. King & Patridge for R10.

Judgment Reserved on: 21st January 2022.

Judgment Pronounced on: 19th April 2022.

CORAM:

HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER

Whether the Judgement is allowed to be published on the Internet – Yes/No

Whether the Judgement is to be published in the All India NGT Reporter – Yes/No

COMMON JUDGMENT

Delivered by Justice K. Ramakrishnan, Judicial Member.

1. This is an application [O.A. No.265 of 2017 (SZ)] filed by the resident of Ambalamughal against the pollution on account of the operation of the 1st Respondent unit. Another application [O.A. No.17 of 2021 (SZ)] was filed by two residents of the same locality against the same unit alleging that on account of non-compliance of certain directions and conditions imposed in the Environmental Clearance (EC) and other clearances, large scale pollution is being caused. Further, another application [O.A. No.01 of 2022 (SZ)] was also filed by the residents in that locality and earlier, a Writ Petition as W.P. (Civil) No.25244 of 2016 was filed before the Hon'ble High Court of Kerala and later, he had withdrawn the writ petition with liberty to approach this Tribunal in the year 2022 and thereafter, filed the present application before this Tribunal seeking the reliefs more or less similar to the reliefs claimed by the applicants in O.A. No.265 of 2017 and O.A. No.17 of 2021.

Original Application No.265 of 2017 (SZ):

2. This case was originally filed as *Original Application No.119 of 2017* before the Circuit Bench, National Green Tribunal, Southern Bench, Kochi at Ernakulam and after the Circuit Bench was stopped, the same was renumbered as O.A. No.265 of 2017 (SZ) before this Bench.

3. It was alleged in the application that the applicant is a resident of Ambalamughal, Ernakulam where the 1st Respondent's Sulphur recovery unit and their crude oil distillation and other units are situated which are already polluting environment on account of their activities. The 2nd Respondent's company plant was ready for commissioning in the same area and Respondents No.3 to 6 are the Government authorities who had given the Consent to continue of the polluting activities of the 1st Respondent and not taking any action against the 1st Respondent. The 1st Respondent is continuing their activities in the industrial area without fulfilling any of the safety measures to protect environment. Moreover, Respondents No.3 to 6 gave Consent for commissioning of another plant of the 2nd Respondent in the same area. The industrial areas where these units are situated are having high population with several schools, colleges, hospital etc. nearby. The 1st Respondent started their units in 1963 and presently having a crude oil refining capacity of 9.5 Million Metric Tons per annum. The product of these fuel waste refinery includes Liquid Petroleum Gas, Naptha, Motor Spirit, Kerosene, Aviation, Turbine Fuel, High Speed Diesel, Fuel Oils and Asphalt and also producing Benzene, Toluene, Propylene, Special Boiling Point Spirit, Mineral Turpentine Oil, Sulphur and Hydrogen conducting and producing with the help of several chemicals and poisonous gases which affects the whole environment and harmful to the health of the human beings as well as the fellow beings in the surroundings. For a long span of running, the 1st Respondent's plants and refining process developed like a big industry but without having any safety measures for the human beings and living creatures in the surroundings.

4. Further, it was alleged that the 2nd Respondent is an American Company named above is a Manufacturer & Supplier of Gases and Chemicals. It includes Argon, Carbon dioxide, Carbon Monoxide Syngas, Helium, Hydrogen, Nitrogen, Oxygen, Speciality Gases, Gas Mixtures, Welding/Cutting Gases, Amine Intermediates, Curatives, Defoamers & Deaerators, Dispersants, Epoxy Accelerators & Catalysts, Epoxy Adhesion Promoters, Epoxy Curing Agents, Epoxy Diluents & Modifiers, Epoxy Speciality Resins, Epoxy Waterborne Curing Agents, Fluorinating Reagents, Personal Care Ingredients, Polyurethane Amine Catalysts, Polyurethane Metal Catalysts, Polyurethane Processing Aids, Polyurethane Surfactants, Speciality Chemicals. The 2nd Respondent's plant is situated very near to the residents who are living in the surrounded area which is less than 30 meters. IRE Project and hydrogen plant of the 2nd Respondent is situated very near to the houses of the people who are residing thereby. The Hydrogen is an invisible gas and if any event of fire in the hydrogen plant will cause serious burn injuries as well as permanent disabilities on the human beings and also there is likelihood of radiation and emissions of carbon monoxide and methane which are very harmful for all the living creatures live in the surrounding.

5. It was further alleged that the 1st Respondent had not fulfilled the basic safety standards like Green Belt, Buffer Zone etc. Environmental Guidelines for Industries developed by the Ministry of Environment and Forest suggest that the industries must care about the surrounding environment and minimize the adverse impacts of industrial operations in the immediate neighborhood as well as distant places. In addition,

these guidelines also mandate that economic and social factors have to be recognized and assessed while citing industry. Following are the key points that all industries need to follow while moving ahead with the establishment of manufacturing / processing unit. As per the guidelines, (i) no forest land shall be converted in to non - forest activity for the sustenance of the industry, (ii) No prime agricultural land shall be converted into industrial site, (iii) Within the acquired site the industry must locate itself at the lowest location to remain obscured from general sight, (iv) Land acquired shall be sufficiently large to provide space for appropriate treatment of waste water still left for treatment after maximum possible reuse and recycle. Reclaimed (treated) waste water shall be used to raise green belt and to create water body for aesthetics, recreation and if possible for aquaculture. The green belt shall be 1/2 km wide around the battery limit of the industry. For industry having odor problem it shall be a Kilometer wide, (v) The green belt between two adjoining large scale industries shall be one kilometer, (vi) Enough space should be provided for storage of solid wastes so that these could be available for possible reuse, (vii) Layout and form of the industry that may come up in the area must conform to the landscape of the area without affecting the scenic features of that place, (viii) Associated township of the industry must be created at a space having physiographic barrier between the industry and the township and (ix) Each industry is required to maintain three ambient air quality measuring stations within 120 degree angle between stations. As per the stipulations of Ministry of Environment and Forest, green belt is to be provided all around the power station boundary by planting trees and the total green area including landscaping area will be 1/3rd (About 33%) of the plant

area. This will include lay down area which will be later on converted into Green area. Though several complaints have been made by the applicant and a group of people there, and approached the 1st Respondent several times to take necessary steps to mitigate the pollution activities and make safe the life of the people in that area, no action was taken by them.

6. Further, it was alleged in the application that on 29.09.2016, a gas leak was rectified from the plants of the 1st Respondent in Kuzhikad, Ambalamugal area and lead to admission of 30 students of Government Vocational Higher Secondary school in nearby hospitals. This is not only the first time, but such a gas leakage was happened even earlier. In spite of that necessary safety measures have not been taken by the Government Authorities so far. The investigation report has been submitted by the Department of Factories and Boilers, Ernakulam, Kochi, in respect of toxic gas release on 29.09.2016 at the surroundings of Government Vocational Higher Secondary School, Kuzhikad, Ambalamugal before the District Collector Ernakulam, Kerala. The investigation report revealed that *"During such startup procedure followed for Vacuum Distillation Units, there is venting in the initial phase for short duration of hydrocarbon gases from the vacuum distillation unit. Thus venting from the hot well of the vacuum distillation unit was carried out for required period in order to normalize this vacuum distillation unit. The vent gas cloud settled at the premises of Government Vocational Higher Secondary School, Kuzhikad by considering the meteorological factors prevailed at the time of the incident. Now the vacuum distillation unit is normalized such procedural process is required. But to restart the vacuum distillation unit after a shutdown, the above*

procedure is to be followed. In order to address this, the vent gas has to be scrubbed and routed to the flare stack". They also suggested the following remedial measures that "In order to avoid repetition of such incidence, the direct vent provision should be blinded and the gas to be vented has to be routed through a scrubber to scrub off gases and then to the flare stack. Accordingly the start - up procedure should be modified so as to prevent the release of hydrocarbon gases to the atmosphere in future" and they produced the report as s Annexure - A1. But in spite of giving such a report, they have not taken any appropriate action to implement the same.

7. It was further alleged in the application that they are not against the development and functioning of the unit. But at the same time, the unit must ensure safety measures to avoid pollution and protect environment.

8. Since no action was taken by the authorities, the applicant filed this application seeking the following reliefs:-

"1. To direct the Respondents 1st and 2nd not to pollute the environment by emitting solid, liquid and gaseous waste.

2. To pass an order to restitute the environment and the property which are damaged by the activities of the 1st and 2nd respondents.

3. To pass an order to stop the activities which are leading to polluting the environment by the 1st and 2nd Respondent.

4. To pass an order for restricting the 1 and 2 Respondent to stop all the activities till the safety measures are fulfilled.

5. To direct the 3rd Respondent to 6 Respondent not to sanction commissioning of the new plant of the 2nd Respondent without providing and fulfilling all the safety measures for safeguarding the environment and human beings.

6. Grant such other relief the Tribunal deemed to be fit in the circumstances and facts of the case.

7. To pass a decree allowing the cost of the proceedings to the applicant."

9. No reply was filed by the respondents till 19.12.2019.

10. As per order dated 19.12.2019, this Tribunal had directed the Kerala State Pollution Control Board to inspect the unit in question and submit a factual as well as action taken report regarding the allegations made including whether the 2nd Respondent unit has started functioning, whether they have got all the necessary clearances and also whether the operation of the 1st Respondent is in compliance with the terms and conditions imposed in the Environmental Clearance (EC), Consent documents and whether any pollution has been caused on account of the functioning of the unit and if so, what was the nature of action taken regarding the same. They were also directed to suggest the remedial measures, if any pollution has been caused on account of the operation of the unit.

11. Again, the matter was taken up on 02.03.2020, and on that date, this Tribunal had considered the report submitted by the State Pollution Control Board dated 24.02.2022, received on the same date and extracted in Para (3) of the order which reads as follows:-

“(3) The commissioning works of IREP of first respondent were completed and they had started production from September 2017 onwards. They had also obtained Environmental Clearance (EC) from Ministry of Environment and Forests (MoEF) for the project on 22.11.2012. Public hearing / consultation as per condition in EIA was conducted on 14th February, 2012. Since the industrial gas complex of the second respondent is a part of the Integrated Refinery Expansion Project, no separate EC has been obtained by the second respondent.

(4) It is respectfully submitted that the first respondent, M/s. BPCL Kochi Refinery had obtained integrated Consent to Operate for the Integrated Refinery Expansion Project on 24th October, 2017 having validity up to 30.09.2020, with conditions that the effluent generated in the company shall be treated and achieve the standards as per notification No. G.S.R. 186 (E) dated 18.03.2008 for Oil Refinery industry ad continuous online monitoring facility provided in the treated water discharge point and all the process stacks and the data shall be connected to SPCB and CPCB servers Authorization under

Hazardous and other wastes (Management and Transboundary Movement) Rules, 2016 also given for the collection, storage, treatment, transport, reprocessing / disposal of Hazardous waste generated in the company.

(5) I may humbly submit that the second respondent, M/s. Prodair Air Products India Pvt. Ltd. had obtained Consent to Operate on 20.10.2017 with validity up to 30.09.2020 for the first phase for producing Hydrogen, Nitrogen, Oxygen and producing electricity of 18 MW with conditions that the effluent generated and the oil contaminated rain water in the company shall be transferred to treatment plant of M/s. BPCL Kochi Refinery for final treatment and continuous online monitoring facilities shall be provided to all the process stacks and the data shall be connected to SPCB and CPCB servers. Authorization under Hazardous and other wastes (Management and Transboundary Movement) Rules, 2016 also given for the collection, storage reprocessing / disposal of Hazardous waste generated in the company. Consent to Establish for the second phase for producing Synthesis gas has been renewed on 10.10.2018 with validity up to 30.11.2021. The commissioning works of the same is in the final stages.

(6) It is respectfully submitted that there are four continuous ambient air monitoring stations, three in IREP area and one industrial gas complex of second respondent for the measurements of PM₁₀, PM_{2.5}, SO₂, NO_x, H₂S, Mercaptan, non-methane – HC and Benzene has been installed and the collected data has been transferred to SPCB and CPCB servers regularly and the real time data available in Pollution Control Board's website also.

(7) I may humbly submit that periodical inspections have been conducted for District Office, Regional Office, and Head Office of the Board as part of Consent enquiry, periodical compliance monitoring, monthly sampling, in both the respondent companies. Treated water from the whole ETP's and STP are discharging into the two reservoir ponds. The excess water after reusing for fire fighting, process area cleaning and gardening discharged into River Chitrapuzha. Continuous online monitoring facility is provided in the treated water discharge point and connected to SPCB and CPCB servers. The following exceedance of the parameters are noticed in the treated water samples collected from the ETP outlets and the authorized outlet discharging into River Chitrapuzha.

- BOD value 20 mg/l against the prescribed limit of 15 mg/l in the sample collected from Chithrapuzha Outlet on 17.06.2019.*
- Suspended Solid Waste 21.6 mg/l against the prescribed limit of 20 mg/l in the sample collected from Chithrapuzha Outlet on 17.06.2019.*
- Ammonia as Nitrogen value 20.68 mg/l against the prescribed limit of 15 mg/l in the sample collected from Chitrapuzha Outlet on 17.06.2019*
- pH value 4.82 against the prescribed range of 6 – 8.5 in the sample collected from the ETP outlet, DHDS unit on 17.06.2019.*

- BOD value 120 mg/l against the prescribed limit of 15 mg/l in the sample collected from ETP 5 outlet on 17.06.2019

(8) It is respectfully submitted that both respondent companies have provided Continuous Ambient Air Quality Monitoring Stations (CAAQMS), online monitoring facilities for all the stacks and the real time data from those facilities are connected to Pollution Control Board server. The exceedance of the standards is automatically intimated the authorized company person through SMS messages and E-mail. No continuous exceedance of any parameters in stack emissions noticed either from the IREP units or from industrial gas complex but exceedance were noticed for some parameters in CAAQMS. Periodical water, air and noise monitoring reports regularly submitted. But is important to note that there are public complaints against foul smell and sound due to the operation of different plants of this industrial unit and several times complaints from them were being enquired by officials of the Board. Also there are complaints against inadequate green belt /buffer zone around the unit. During month of January 2020, specific complaint has been received from the public against foul smell and sound from the unit and the Board Chairman himself was inspected the premises and discussed with petitioners and responsible officials of the Industry. Different level discussions were being done to analyze the monitoring data with respect of CAAQMS installed at six strategic points. Also sound levels were continuously monitored at points where petitioners raised specific complaints. Details of exceedance of CAAQMs data (2019-2020) are illustrated in Table 1 and sound level observed are illustrated in Table 2.

Sl. No.	Parameters	No. of Exceedance	No of data's	Deviation %	Deviation allowed as per CPCB NAAQMS stds. For 24 hrs.
1	SO ₂	17	1507	1.12	2%
2	NOX	2	1529	0.13	2%
3	CO	7	1498	0.47	2%
4	Benzene	17	1506	1.13	-
5	PM ₁₀	102	1519	6.71	2%
6	PM 2.5	56	1510	3.71	2%

Table 1 – Exceedance concentrations as per AAQMS for the period 2019 – 2020.

	Near Cooling tower & Biju's [dB(A) Leq]	Near pumping station, quarry No.1 [dB(A) Leq]
06.12.2019	-	71.5
07.12.2019	49.6	67.3
19.12.2019	-	58
20.12.2019	-	64.5
21.12.2019	-	56
22.12.2019	-	60
23.12.2019	-	54.9
25.12.2019	-	67.7
26.12.2019	-	60.6
27.12.2019	-	60.3
29.12.2019	-	54.7
30.12.2019	-	62.4

Table 2: Sound level monitoring data

(9) I may humbly submit that after such complaint enquiries and monitoring, specific directions were given to the respondent industries to provide certain facilities to control sound generated from some corners of this industrial complex with are as follows:

- a) Sound control mechanisms at the steam exhaust and associated pipe line has to be completed with immediate effect.
- b) Acoustic enclosures has to be provided for water pumps used for pumping raw water from quarry pond to PDPP project and IREP plant which are located very much closer to the complainants.
- c) Raw water discharge waterfalls to the quarries to be converted to submerged discharge.
- d) Sound from cooling tower PCW-CT-101 A to E to be controlled to bring noise at nearby residences to within statutory ambient noise standards.
- e) Immediate steps have to be taken to provide sufficient green belt around the unit.
- f) Specific guidelines available for allowing buffer zone to this type of unit has to be practiced.

(10) I may humbly submit that the company authorities responded to the above raised directions (Items a,b,c & d) are produced herewith. Also they have intimated through e-mail that for items d & e.

(i) Green Cover

“As against the requirement of 209 acres (33% of pant area), currently BPC KR has 243 acres of green cover which includes the 40 acres of land earmarked in PDPP project. Approx 50 acres of land being developed inside the refinery as part of the IREP project. Hence, the total green cover meets with the required norms”

(ii) Buffer Zone

“BPCL – KR would like to state that the distances to the boundary of the project facilities meet all the distance criteria specified by Petroleum Safety Explosives Organization (PESO), Oil Industry Safety Directorate (OISD) standards 118. Accordingly adequate buffer zones are being maintained”.

10. It is respectfully submitted that the hazardous waste generated in the respondent companies are properly collected, stored and disposed reprocessed in compliance with the provisions of Hazardous waste (Management & Trans boundary movement) Rules 2016. The annual report in Form IV regarding the quantity of hazardous waste generated, its storage and disposal has been submitted by the companies. Manifest regarding the disposal of Hazardous waste is regularly submitted to the Board which is verified. The disposal of Hazardous waste is found to be in compliance with the consent conditions. Oily sludge from ETP and tank bottom of first respondent are co-processed in Delayed Coker unit plant for pet coke production and thus minimizing the sludge generation from the refinery. The land fillable hazardous wastes are disposed through common hazardous waste TSDF or KEIL at Amabalamedu as per the consent conditions.

11. The copy of compliance report of EC conditions are submitted by the first respondent, including those parts applicable to second respondent. A true copy of the latest EC compliance report submitted by first respondent is produced herewith. In compliance to the order of the Hon'ble NGT in the order dated 19.12.2019, a team headed by Chief Environmental Engineer, District Environmental Engineer and other officers inspected the both the companies on 11th February 2020 and verified the compliance of EC conditions. By verifying the report, it seen from that the company had complied various EC conditions. Also during the inspection, it was found that they are satisfactorily maintaining the air pollution devices, effluent / sewage treatment units, Hazardous waste management systems etc.

12. It is responsibility submitted that the reporting official and the different officials of the Board responsible for verification of the operation of these respondent industries had carried out the duties assigned and continuing to ensure that all the pollution control systems provided by these industries are satisfactorily functioning and the unit is complying with relevant provisions of respective Environmental Statutes.”

12. Thereafter, this Tribunal had passed the following order:-

"4. It is seen from the report that as per the sample taken on 17.06.2019 from the ETP outlet and the authorised outlet discharging into River Chitrapuzha, BOD value is 20 mg/l as against the prescribed of 15 mg/l in the sample collected from Chitrapuzha Outlet on 17.06.2019, Suspended Solid value is 21.6 mg/l as against the prescribed limit of 20 mg/l in the sample collected from Chitrapuzha Outlet. Ammonia as Nitrogen value is 20.68 mg/l as against the prescribed limit of 15 mg/l in the sample collected from Chitrapuzha Outlet. pH value is 4.82 as against the prescribed range of 6 – 8.5 in the sample collected from the ETP outlet, DHDS unit. BOD value is 120 mg/l as against the prescribed limit of 15 mg/l in the sample collected from ETP 5 outlet.

5. It is also mentioned that sound level near pumping house is on the higher side and they have made certain observations as follows:-

"(9) I may humbly submit that after such complaint enquiries and monitoring, specific directions were given to the respondent industries to provide certain facilities to control sound generated from some corners of this industrial complex with are as follows:

- g) Sound control mechanisms at the steam exhaust and associated pipe line has to be completed with immediate effect.*
- h) Acoustic enclosures has to be provided for water pumps used for pumping raw water from quarry pond to PDPP project and IREP plant which are located very much closer to the complainants.*
- i) Raw water discharge waterfalls to the quarries to be converted to submerged discharge.*
- j) Sound from cooling tower PCW-CT-101 A to E to be controlled to bring noise at nearby residences to within statutory ambient noise standards.*
- k) Immediate steps have to be taken to provide sufficient green belt around the unit.*
- l) Specific guidelines available for allowing buffer zone to this type of unit has to be practiced."*

6. Though in Para No.9 it is mentioned that immediate steps will have to be taken to provide sufficient green belt around the unit, when it discussed about the sufficiency of the green cover, on next page of the report, it says that it meets the required norms. There is no explanation regarding the conflicts on this aspect in the report and what is the remedial measures to be taken.

7. The report was on the basis of inspection on 17.06.2019. So, we feel it appropriate to get a fresh report regarding the Ambient Air Quality, sound level and also the water quality of Chitrapuzha in which the treated effluent is discharged and if there is any deficiency or gap found then, suggest the remedial

measures to be taken by the first respondent to remediate the same as per both short and long term plans.

8. Kerala Pollution Control Board is directed to conduct a fresh inspection and also to find out Ambient Air Quality and Sound level near the house of the complainant and nearby residence and inside the unit and submit the report as to whether they are complying with the norms. They may also take water samples from the water source available in the nearby area including the river Chitrapuzha where the effluent is discharged to ascertain as to whether there is any impact on water quality on account of the functioning of the first respondent unit and submit a detailed report to this Tribunal and if there is any violation found, action taken must also be mentioned in the report including imposition of environmental compensation."

13. The case was posted to 18.05.2020 for consideration of report. Due to lockdown declared on account of (Covid-19) Corona infection, during that period, at the request of the State Pollution Control Board, the matter has been adjourned on several occasions for filing further reports.

14. Again, the matter was taken up on 08.01.2021, and on that date, this Tribunal had considered the report submitted by the State Pollution Control Board dated 16.09.2020, received on 06.11.2020 which was extracted in Para (3) of the order reads as follows:-

"Report filed by the Chief Environmental Engineer as per the direction of the Hon'ble National Green Tribunal

I, M.A Baiju, 54 years, S/o. M.K. Aravindakshan, now working as the Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulam. I am competent to and duly authorized to represent the Board. I know the facts and circumstances of the cases. The factual submissions made here under are true and correct to the best of my knowledge, information and belief. In these circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying report on file and it is so humbly prayed in the interests of justice in this case.

1. I may respectfully submit that the order of the Hon'ble dated 07.07.2020 specifically mentioned the following points for further actions and is as follows "we have received e-mail from counsel appearing for applicant dated 06.07.2020, directing Kerala Polluting Control Board to conduct the

inspection while the units are in operation in its full capacity. We have also received an interim report dated 08.06.2020 and also a request dated 22.04.2020 seeking further time from the pollution control board."

and the Hon'ble Tribunal further ordered as follows:

"Considering the circumstances, we feel it appropriate to grant two months time to the committee to submit further report as directed by this Tribunal as per order dated 02.03.2020. The committee is directed to submit the report to this Tribunal through e-mail or e-filing at ngtszfiling@gmail.com on or before 18.09.2020."

- 2. It is respectfully submitted that in continuation to the report dated 08.06.2020 submitted as per the order dated 02.03.2020 of the Hon'ble Tribunal I may report that a hearing through video conference was conducted to discuss about the future course of actions need to be taken on the petition filed by the Sri. N.G. Soman as well as other complainants who are residing nearby. In the hearing Sri. N.G. Soman (the petitioner), Smt. Girija Rajendran (another Complainant), Officials of M/s. BPCL Kochi Refinery and Regional Officer, KSPCB were attended through video conference. Copy of the minutes of the video conference is produced herewith and marked as annexure-1.*
- 3. It is respectfully submitted that the complainants once again raised their objection that the company is not running in its full capacity which was admitted by the company officials also who were present for the video conference. Though the company officials commented that only 60% operation will be there due to COVID-19 restrictions, it was decided to monitor air emission and sound level in and around the factory as there are other complainants also still stick on their complaint that there is severe sound and other type of pollution.*
- 4. It is also respectfully submitted that the Regional Officer who has been allocated to carryout monitoring informed through a report that he had visited the plant on 05.09.2020 and conducted 24 Hour monitoring allocating sufficient staff in compliance with the above mentioned order and as decided in the hearing. It may be pertinent to note that officials of the Board had inspected the factor on 20.03.2020, collected samples from the outlets of ETP and STP and verified data from all the continuous ambient air quality monitoring stations (CAAQMS). Though the restrictions imposed due to lockdown in view of the COVID-19 pandemic severely delayed the air monitoring and was not able to complete the same at that instance, inspection was re started on 05.09.2020 and completed on 06.09.2020 as mentioned above. The work load of DHDS SRU Plant (A part of IREP project of first respondent M/s. BPCL Kochi Refinery) near the complainant's residence, is 46% and that of M/s. Prodair Air Products, second respondent company is 52%. Copy of the analysis reports of the samples collected from the effluent*

treatment plant and sewage treatment plant are produced herewith and marked as Annexure-2.

5. It is respectfully submitted that the company also produced before this respondent a report specifically indicating the green belt details actually provided and list of trees planted inside their area and reported that they have provided approximately 37% of land cover (243 acres of 1310 acres where plant area cover is 655 acres) for green belt whereas the relevant conditions of the Environment Clearance (EC) stipulate that it should be 33% of total plan area. Copy of the letter submitted by the first respondent company intimating the details of green belt is produced herewith and marked as Annexure 3.
6. It is humbly submitted that the water quality of the Chitrapuzha to where discharge of treated effluent takes place is being monitored every month. A copy of the latest analysis reports of such monitoring is produced herewith and marked as Annexure 4. (It may be noted that during the months of March and April monitoring were not carried out due to lock down). On verifying these results no significant pollution in the river were identified.
7. It is humbly prayed that the complainant is still opposing to any type of monitoring now since the factory is not commenced their full swing operation till date. In this regard the submission of the company also may be seen. A copy of the letter explaining such lean operation is produced herewith and marked as Annexure 5. In this circumstance, it is highlighted that the wide spreading of COVID-19 pandemic is showing an increasing trend in the State, especially the office of the Regional Officer where all the staffs are now under quarantine as one commercial apprentice got infected. Hence some more time may be given to carryout monitoring in and around the factory while the company is commenced its full swing operation/the complainant is agree to do such monitoring since it was the complainant who had requested to postpone the monitoring.

Dated this the 16th day of September, 2020."

15. This Tribunal had also considered the another report submitted by the State Pollution Control Board dated 07.01.2021, received on 08.01.2021 which was extracted in Para (6) of the order reads as follows:-

"Updated status report filed by the Chief Environmental Engineer as per the Direction of the Hon'ble National Green Tribunal in the above Application

I, M.A Baiju, 54 years, S/o. M.K. Aravindakshan, now working as the Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulam. I am competent to and duly authorized to represent the Board. I know the facts and circumstances of the cases. The

factual submissions made here under are true and correct to the best of my knowledge, information and belief. In these circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying report on file and it is so humbly prayed in the interests of justice in this case.

1. *I may respectfully submit that the order of the Hon'ble dated 07.07.2020 specifically mentioned the following points for further actions and is as follows "we have received e-mail from counsel appearing for applicant dated 06.07.2020, directing Kerala Polluting Control Board to conduct the inspection while the units are in operation in its full capacity. We have also received an interim report dated 08.06.2020 and also a request dated 22.04.2020 seeking further time from the pollution control board."*

and the Hon'ble Tribunal further ordered as follows:

"Considering the circumstances, we feel it appropriate to grant two months time to the committee to submit further report as directed by this Tribunal as per order dated 02.03.2020. The committee is directed to submit the report to this Tribunal through e-mail or e-filing at ngtszfilings@gmail.com on or before 18.09.2020."

2. *It is respectfully submitted that this respondent had submitted an updated status report on 16.09.2020 and the case was further posted on 16.10.2020. It was then adjourned to 24.11.2020 and finally to 08.01.2021.*
3. *It is respectfully submitted that the monitoring proposed to be conducted along the IREP area was not materialized till date due to inordinate delay observed in full commissioning of the unit. It is true that the sound level monitored during night time on 30.12.2020 was exceeding the limit at the boundary of IREP plant. The company officials responded to it as a light exceedance usually happens during commissioning activities. However, the industry was given directions to take utmost care to ensure that the sound level will be within the stipulated limits. Also, complaints were received from certain areas against water pollution and so occurred fish kill along the nearby stream where inspections were conducted by the Board officials. Though there was no discharges found from this industry, samples of water from stream flowing outside of the company was collected and sent to Laboratory for analysis.*
4. *It is respectfully submitted that the CPCB through its South Zone Regional Directorate conducted an inspection of the factory premises. This was done on complaints from Shri. Vipin Nath A V and Mathu Raveendran forwarded by Prime Minister's Office against the petrochemical division of the industry (PDPP). Primarily the SPCB had convened a meeting through Video Conference on 29.09.2020 in which responsible officials from the Industry, SPCB officials and complaints were attended. It was decided in the meeting that a site visit will be done joint by the CPCB and SPCB officials. Also, the field inspection was conducted by the team comprising of the CPCB official,*

officials of District Office and Regional Office of the SPCB on 23.10.2020. All the complaints were individually heard by the team by visiting their respective sites around the unit. Unfortunately, factory inspection was not possible at that time due to COVID restrictions. A detailed report has been furnished by the CPCB official on 03.12.2020 a copy of which is produced herewith and marked as Annexure-1.

5. I may humbly submit that Dr. S. Prabhu, Scientist-C, Integrated Regional Office, MoEF&CC, Bangalore also conducted an inspection of the premises on 03.11.2020 on a complaint from Smt. Mathu Raveendran who is residing about 45-50 m away from the Propylene Derivative Petrochemical Plant (PDPP) of M/s. BPCL. The main allegation raised by the complainant was the insufficient green belt provided by the unit in violation with Environmental Clearance issued by the MoEF. He had submitted a report dated 01.12.2020 in which specific observations were on distance criteria compliance and green belt allowed by the industry. Copy of the report is produced herewith and marked as Annexure-2.
6. It is also respectfully submitted that the CPCB conducted inspection inside the factory also on 29.12.2020 since on earlier occasion factory visit was not done. This was done to verify the allegation of the complainant on shortfalls in providing green belt as insisted in the EC. The report from CPCB is awaited.
7. It is respectfully submitted that the Regional Directorate, CPCB Bangalore suggested a Joint inspection of a team comprising of MoEF&CC, Central Pollution Control Board, Oil Industry Safety Director/Petroleum and Explosives Safety Organizations, State Pollution Control Board along with District Magistrate to assess the ground realities. It is presumed that this is suggested since there are lots of directives of each and every department and the clearances from all departments are needed to commence its operation after satisfactory commissioning. Copy of the mail received is produced herewith and marked as Annexure-3. Accordingly, the Board has constituted a committee as suggested by the Regional Directorate of CPCB, Bangalore vide its order dated 14.12.2020. Copy of the order is produced herewith and marked as Annexure-4.
8. It is humbly prayed that the assessment of pollution load could not be done by conducting monitoring since full swing operation of the entire units are getting delayed. Hence, the monitoring in and around the factory will be carried out as and when the company is commenced its full swing operation.
Dated this the 07th day of January, 2021."

16. After considering the above reports, this Tribunal had passed the following order:-

"7. It is seen from the latest report that complaint has been received from the local people through the Prime Minister's Office regarding the pollution caused on account of the operation of the 1st respondent unit and the same was forwarded by the Prime Minister's Office to the respective departments and accordingly, Joint Committee has been constituted comprising of the Ministry of Environment, Forests & Climate Change (MoEF&CC), Central Pollution Control Board (CPCB), Oil Industry Safety Directorate/Petroleum and Explosives Safety Organization, State Pollution Control Board (SPCB) along with District Magistrate to assess the ground realities and series of directions have been given as to what are all the things to be done by the committee which includes all the issues raised in this case as well and they are awaiting the inspection and preparation of the report by the said committee which will be helpful to this Tribunal to dispose of the case in an effective manner. Since, the central agencies have been involved in the matter and the 1st respondent being a company under the control of the Petroleum Ministry, they may be able to comply with the direction issued by the fresh committee constituted at Central Level. It is also seen from the report that there were lot of complaint of dead fishes floating in Chitrapuzha area and they intend to conduct fresh water analysis to ascertain the cause of the same and the water samples were taken for analysis in this regard.

8. We feel that some time can be granted to the Kerala State Pollution Control Board to come with a further report on the basis of the report to be filed by the committee now constituted at central level as mentioned in the latest report submitted by them and on the basis of the fresh water analysis report to be obtained to ascertain the cause of death of fishes in that area.

9. They are directed to submit the report to this Tribunal on or before 09.03.2021 by e-filing in the form of Searchable PDF/OCR Supportable PDF and not in the form of Image PDF along with necessary hardcopies to be produced as per Rules."

Original Application No.17 of 2021 (SZ):

17. In the meantime, two persons who are the residents of the same locality filed an application as [O.A. No.17 of 2021 (SZ)] more or less reiterated the allegations made by the applicant in O.A. No.265 of 2017 (SZ) regarding non-compliance of the conditions imposed in the

Environmental Clearance (EC) and other consent granted to the 1st Respondent and their subsidiary units.

18. It was further alleged in the application that their residences are situated very close to the industrial area developed by the 1st Respondent. A canal has been constructed along the boundary and water flows from Petro Chemical plant into this canal. During July 2020, fishes were died due to poisoning caused on account of the operation of the 1st Respondent by discharging industrial effluents into the water of the canal. Though the same was informed to the officials of the 1st Respondent, no effective steps were taken. Same thing happened thrice in few months, after the canal was cleaned. Again, similar incident of death of fishes was happened on 02.01.2021. The same was reported in most of the newspapers as well. All these things are happening on account of not providing necessary mechanism and proper treatment of effluent released from the unit. Sound Pollution is also occurring in that area and during night time also, the sound emanated from the industry is unbearable and people who are residing very close to the industry are experiencing very difficulty.

19. Further, it was alleged in the application that the 1st Respondent had obtained Environmental Clearance (EC) from Ministry vide EC No J-11011/26/2013 -IA II(I) dated 15.05.2015 for manufacturing specialty petrochemical like Acrylic Acid, Oxo Alchols and Acrylates. As per the EC document, Green Belt will have to be developed for this purpose. Several guidelines have been given as to how the green belt will have to be developed in this regard.

Green belt was recommended of 200 meter width along the boundary as per the study conducted by them. The CPCB carried out site inspection and conducted hearing in the presence of KSPCB officials on 23.10.2020 and the report prepared in this connection is submitted for further necessary action, evidenced by Document No: F. No. Tech/38/PC(Ker)/RDS/2020-21/Vo12/918 dated 03.12.2020. It is clear from the report, that no proper green belt and buffer zone were maintained around the project site. The claim of BPCL representative that 40 acres of land has been earmarked for greenbelt and already 8000 tree saplings were planted could not be verified in the inspection. The Storage Tank (PDE-T-601) is situated less than 65 meters from the boundary. The preliminary inspection report of the CPCB mentioned that acquired land for PDPP project seems to be inadequate for developing green belt around the project site, mainly in Kakkad Kara (South side of PDPP project). The BPCL project has to strictly comply the safety directive standards imposed by OISD/ PESO/ other safety related authorities. The 1st Respondent informed the authorities that the operation is expected in phased manner from December 2020 to March 2021 and awaiting support of Original Manufacturers and Technology Licensors for startup of the facility. They will have to take necessary steps to develop green belt, buffer zone, etc. They ought to have taken necessary steps to save the life of family besides BPCL, new petro chemical projects before it started commissioning.

20. Since no action has been taken by the authorities, applicants filed this application seeking the following interim as well as main reliefs:-

“Interim Relief:

- (i) To direct the 1st respondent to stop the commissioning activity until the development of Green Belt in PDPP south side. (Kakkad Kara)
- (ii) To direct the second respondent to revoke or suspend the clearance (EC) from Ministry vide EC No J11011/26/2013-IA 11(I) of PDPP for BPCL, Kochin until a proper Green Belt is implemented around the boundary as per MoEFCC/CPCB specification.
- (iii) To appoint a joint committee including the applicant to inspect the first respondent premises and inquire into the violation committed by the 1st respondent.

Main Relief:-

- (i) Direct the 1st respondent authorities to develop and maintain proper green belt and buffer zone around the boundary of PDPP (South Side of PDPP, Kakkad Kara) as recommended by Ministry of Environment Forest and Climate Change / CPCB / KSPCB.
- (ii) Direct the respondents 2, 3 and 5 to take action against the first respondent for the violation committed by them.
- (iii) Pass such further order or orders as may be fit proper and necessary in the facts and circumstances of the case and thus render justice.”

21. As per order dated 25.01.2020, this Tribunal had admitted the matter and directed the Registry to communicate this order to the Kerala State Pollution Control Board as well as to the official respondents along with the copy of the application for getting necessary instructions in this regard. This Tribunal also directed the official respondents to file a

statement regarding the action, if any, proposed to be taken on the basis of the Committee that has been appointed by them to enquire into the complaint received regarding the functioning and violation said to have been committed by the 1st Respondent.

22. As per order dated 09.03.2021, this Tribunal had considered the reply affidavit filed by the Central Pollution Control Board (CPCB)/3rd Respondent in O.A. No.17 of 2021 (SZ) which was extracted in Para (4) of order reads as follows:-

**“REPLY AFFIDAVIT ON BEHALF OF THE 3rd RESPONDENT
CENTRAL POLLUTION CONTROL BOARD (CPCB)**

I, S. Suresh, S/o S. R. Sathyanarayana, aged about 58 years, working as Scientist 'E' and Regional Director in the Regional Directorate(South) Bengaluru, Central Pollution Control Board, do hereby solemnly affirm and declare as under:

That I am working as Scientist 'E' in the Central Pollution Control Board (CPCB). I am well conversant with the facts of the application from the records maintained by the offices of the CPCB. I am competent to swear this independent response on behalf of the CPCB.

That I have carefully perused a copy of the original application served on the CPCB and have understood the contents therein.

That, applicants are raising allegation on various violations during the commissioning stage of the Propylene Derivative Petrochemical Project (PDPP) unit under the Integrated Refinery Expansion Project (IREP) of M/s. Bharat Petroleum Corporation Ltd (BPCL), Ambalamugal, Kochi. Specific violations pointed out in this matter are that the project is under commissioning stage without developing proper greenbelt and buffer zone especially in the southern side (Kakkad Kara) of the project site. Applicants also highlighted the continuous air, water and noise pollution emanating from the project commissioning activities carried out during day and night, causing grave issues to the public living nearby. The applicants stated that, they are residing very near to the BPCL project site and the pollution emanating from the project site due to the violation of environmental clearance (EC) conditions is affecting the residents for the past several months.

It is humbly submitted that, the above issue was earlier referred to CPCB as public complaint / grievances registered in the Prime Minister Office-Public Grievance (PMOPG) against M/s. Bharat Petrochemical Limited (BPCL) Petro chemical Project, Ambalamugal, Kochi, Kerala. The complaints

registered by Shri Vipin Nath A V (Reference Nos: PMOPG/E/2020/0727542 & PMOPG/E/2020/0727542) regarding the pollution and other issues with the PDPP project of M/s. BPCL, Kochi were forwarded to this office for follow up and for further necessary actions. On receipt of the grievances, the matter was referred to the Kerala State Pollution Control Board (KSPCB) on 25-09-2020 for factual report and to conduct a virtual meeting with the complainants, concerned officials of KSPCB, BPCL and CPCB representative due to COVID situation.

Accordingly, the regional office, KSPCB, Ernakulam, convened a virtual meeting on 29-09-2020, 11.30 AM. In the virtual meeting, complainants explained the issues regarding the land acquisition happened in 2013-14 for the Integrated Refinery Expansion Project (IREP) and specific issues of air/ water pollution and noise issues from the project site, especially from the project commissioning activities. The complainants highlighted the lack of proper green belt in the project site and also claimed that the company representatives have not addressed their grievances properly. It was also brought to the notice that, high tension power lines were already erected in the area earmarked for green belt development. The complainants demanded that the company shall take up the affected people's land as they cannot live peacefully in the area due to the pollution and nuisance from the project site. In reply, BPCL representatives denied the allegations made by the complainants, stating that the project is still under commissioning and is not operational. However, the BPCL representative admitted that due to commissioning activities some sound and noise issues do exist. BPCL representative also claimed that 40 acres of land is earmarked for green belt and around 8000 tree saplings were planted. In reply to the complainant's demand to acquire their land, the BPCL representative stated that the land acquisition of 120 acres has already completed for the project and further land acquisition cannot be done. Detailed note on the outcome of virtual meeting held on 29-09-2020 is annexed as **ANNEXURE R3-1**.

It was decided in the virtual meeting to conduct a joint site inspection and hearing by CPCB and KSPCB in the presence of complainants. KSPCB coordinated with the complainants and BPCL authorities and site inspection was mutually decided on 23-10-2020. On the day of inspection, it was informed by the KSPCB officials that due to COVID issues, M/s. BPCL imposed certain restrictions and inspection of BPCL-IREP project site could not be carried out. Due to this, inspection/ hearing was conducted in the project periphery by CPCB officer in the presence of KSPCB officials on 23-10-2020. The inspection team interacted with local residents aggrieved by the issues related to BPCL and took stock of the ground realities in the periphery of the project site. The inspection report (**ANNEXURE R3-2**) summarized the following observations:

<p><i>Air, water and noise pollution from the project site.</i></p>	<p><i>Due to close proximity of residential areas to the BPCL-IREP project, local residents raised complaints against the commissioning activities which frequently results in noise and air pollution. However, the actual project commissioning activities could not be assessed, as project site inspection could not be carried out due to COVID restrictions imposed by BPCL on the day of inspection. It was observed that a water channel is flowing through the project site and flows along the southern boundary wall near Kakkad Kara. Locals alleged frequent fish kills in this water channel and an outlet from project site was observed in this location.</i></p>
<p><i>Green belt</i></p>	<p><i>It was evident from the inspection around the project site, proper green belt is not maintained around the project site. It was also observed that there are restrictions like high-tension power lines, inadequate space inside the project location, etc. From the satellite images, it is quite evident that, space available inside the project site is insufficient for green belt development as the process/storage installations are very close to the boundary walls. The claim of BPCL representative, that 40 acres of land has been earmarked for greenbelt and already 8000 tree saplings were planted could not be verified at the time of inspection. In the contrary, the relevant page of EIA report of the PDPP project (provided by the complainant) has put forth a commitment of 200 m wide green belt in the boundary of the project. The relevant page of EIA report of the PDPP project is enclosed as ANNEXURE R3-3. As per the EC clearance dated 12-05-2015, under specific condition (xxi) it is obligatory to develop green belt in at least 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines. Copy of EC clearance is annexed as ANNEXURE R3-4.</i></p>
<p><i>Buffer zone</i></p>	<p><i>Another major allegation is that the project has been developed without earmarking adequate safety buffer zone around the project site. Since there are several residential zones around the project site, a setback area or buffer zone area is demanded by the local residents. In a location near to the Air Product's main gate, the pipelines and huge storage tanks are very close to the boundary wall and the residential buildings are separated from the boundary wall by a small road. A detailed safety audit/safety adequacy assessment may throw light on the compliance with respect to safety distance criteria and buffer zone to be maintained in the project layout.</i></p>

<p><i>Land acquisition</i></p>	<p><i>Another main allegation regarding the IREP project is the land acquisition pattern as the project site has made several pockets of residential clusters around the project. The complainants alleged that BPCL land acquisition happened in certain pockets and they back-tracked from acquiring complainant's land. The locals also maintained that the during the initial stages, BPCL committed to acquire their land but back-tracked from the promises made and acquired agriculture/paddy lands instead. The locals claimed that BPCL acquired land in certain areas and project site was developed in such a way that certain residential pockets were created. It is alleged that, the residence in these pockets are enduring hardships due to pollution and noise issues from the commissioning activities of the project. Locals claims that the unscientific land acquisition</i></p>
	<p><i>with vested interest cramped the project site without proper buffer area and green belt. Some of the residential areas are surrounded by project site from two sides. In the virtual meeting, BPCL representative reiterated that they have already acquired 120 acres of land for the project and now they are unable to further acquire land due to the relevant state laws & guidelines. Now, the acquired land of 120 acres seems to be inadequate for developing green belt all around the project site. The matter may be examined by an appropriate committee headed by the District Magistrate.</i></p>

Based on the above observations, following recommendations were given in theCPCB inspection report:

S.No.	Recommendations
1	<p><i>The allegations levelled against the unit regarding air, water and noise pollution from the project commissioning activities needs to be verified and assessed by a thorough inspection of project site and commissioning activities.</i></p>
2	<p><i>The absence of green belt around the project site is not in compliance with the specific EC condition regarding development of green belt and the matter has to be referred to the EC issuing authority for further necessary actions.</i></p>
3	<p><i>The layout of installations close to the public roads and residences suggests that buffer zone/ area is not maintained. Proper safety distance criteria from the project installations needs to be evaluated by a proper safety adequacy assessment in line with the various OISD standards and PESO guidelines. A proper safety assessment may be conducted with a committee comprising relevant regulatory authorities.</i></p>

4	<p><i>The project area seems to be inadequate to develop a proper green belt around the project site as committed by the project proponent and to maintain proper buffer zone around the site. A detailed assessment of project area required with respect to green belt development/ buffer zone in line with the stipulated EC condition and relevant safety distance standards applicable to petroleum installations/ industries.</i></p>
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It is humbly submitted that, land acquisition for the BPCL's project is one of the main allegation by the aggrieved locals in the vicinity of the project site. The landacquisition pattern indeed resulted in several pockets of residential clusters around the project site. The complainants alleged that BPCL land acquisition happened in certain pockets and claimed that, BPCL back-tracked from acquiring complainant's land. The allegations regarding improper land acquisition is not in the purview of CPCB and the allegations related to this may be examined by an appropriate committee headed by the District Magistrate.

During inspection/ hearing held on 23-10-2020, it was observed that a water channel is flowing through the project site and flows along the southern boundary wall near Kakkad Kara. Locals alleged frequent fish kills in this water channel and an outlet from project site was observed in this location. Detailed inspection/investigation reports on the frequent fish kills and pollution issues in the above waterchannel may be called up from KSPCB.

CPCB has not conducted any monitoring so far regarding the stench/ odour issues from the project commissioning activities. Relevant information on this may be called up from KSPCB as they have conducted series of monitoring due to variouspublic complaints against the BPCL's IREP project.

Relevant information on noise pollution may be called up from KSPCB as they have conducted noise monitoring in the wake of public complaints against the BPCL's IREP project.

It is submitted that, during the inspection conducted on 23-10-2020, it was observed that, proper green belt is not maintained around the project site. At the time of inspection, it was informed by the KSPCB officials that industry representatives informed them that there are some restrictions on account of petroleum installation safety guidelines to develop proper green belt around the project site. In view of such claims by the BPCL officials, it has to be clarified that, being a petroleum/ petrochemical industry, BPCL project has to strictly comply the safety directive standards imposed by OISD/ PESO/ any other safety related authorities and also has to comply strictly with pollution mitigation/ environmental specific conditions like green belt development. Citing safety guidelines for not developing proper greenbelt cannot be justified as it leads to the apprehension that the project proponents has not considered or earmarked sufficient space for developing greenbelt after making provisions to

comply with the applicable safety distance criteria. If safety criteria are reasoned for not developing green belt, then it can be presumed that there may be issues with proper project layout, proper placement of installations, inadequate consideration to environmental concerns and inadequate project land for complying both safety criteria & environmental safeguards like a proper green belt. From the satellite images, it is evident that the process/ storage installations are squeezed in to the available project land and there are no vacant slots available for the development of proper green belt in many locations. In a follow-up visit held on 29-12-2020, it was observed that several plant saplings were planted inside the project site in the available space. The observations of the follow-up visit are enclosed as ANNEXURE R3-5. Though the saplings seem to be planted recently, the area of plantations still may not fulfil the committed 200m green belt in the boundary of the project site

The applicants' question is based on the Environmental Guidelines for Industries available in the public domain at the following URL: http://moef.gov.in/wp-content/uploads/2017/06/moef_gov_in_citizen_specinfo_enguin_html.pdf (accessed latest on 05-02-2021). The above guideline is about general siting criteria for industries. Further specific clarification on green belt may be obtained from the EC issuing/ granting authority.

Specific comments and clarification on the committed green belt of 200m width, made in the EIA report of PDPP project may be obtained from the EIA appraising/ EC issuing authority.

It is submitted that, CPCB official along with concerned KSPCB officers carried out inspection/ hearing on 23-10-2020. Due to COVID restrictions imposed by BPCL, the team could not verify the ground realities inside the project site. The team carried out inspection of project periphery and interacted with aggrieved public in the vicinity of the project site. The observations and recommendations of the inspection report are summarised above and the detailed inspection report prepared is submitted as ANNEXURE R3-2.

Based on the observation that, the project area seems to be inadequate to develop a proper green belt around the project site and to maintain proper buffer zone around the site; CPCB recommended to carry out a detailed assessment of project area with respect to green belt development/ buffer zone in line with the stipulated EC condition and relevant safety distance standards applicable to petroleum installations/ industries. Since, various authorities need to be involved in the above assessment, CPCB suggested KSPCB to constitute a committee to look into the matter.

As per the satellite map accessed from Google Map & Google Earth, many storage installations are erected close to the boundary of the project site. In many locations the space available for developing green belt is also

inadequate. The specific question regarding the distance criteria of storage tank (PDE-T-601) with respect to the boundary wall may be clarified with the relevant authorities concerned with safety distance criteria for petroleum installations.

The specific query is regarding the report submitted by MoEF&CC on the non-compliances of EC conditions by BPCL. Further clarifications may be sought from the respective authority on this matter.

Based on the satellite maps, there is gross inadequacy of space inside the project site to develop a 200m wide green belt as committed in the EIA report of the PDPP. There are restrictions like over-head, high-tension power lines in the southern side of the project site (Kakkad Kara) which may hinder the development of green belt owing to safety reasons. Moreover, the BPCL officials are highlighting that the safety criteria adopted in petrochemical unit is in conflict with green belt development, which give rise to the apprehension that the space available is inadequate to comply with safety distance criteria and green belt requirement. As per the EC clearance dated 12-05-2015, it is obligatory to develop green belt in at least 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines.

No comments on the phased commissioning activity and start-up of the PDPP project of BPCL.

No comments on the reduction of green belt width of Numaligarh refinery Ltd in Assam by the EC issuing authority.

No comments on the recommendations of M B Lal Committee to create a buffer zone around high hazard petroleum installations as the subject matter is not under the purview of CPCB."

23. Thereafter, this Tribunal had adjourned the case, enabling the parties to file their respective statements and also official respondents to file their respective reports.

Original Application No.01 of 2022 (SZ):

24. In the meantime, Residents Association viz., Kuzhikkad Residents Association along with another person filed an application as [O.A. No.01 of 2022 (SZ)] raising similar issues and they have more or less raised the allegations made in O.A. No.265 of 2017 (SZ).

25. According to the applicants, at the time when they started the industrial estate that whenever expansion is required, they have undertaken to acquire the neighbouring lands, for which, the 1st Applicant Association was prepared to surrender the land. On several occasions, 1st Applicant Association requested the 10th Respondent in O.A. No.01 of 2022 (SZ) viz., M/s. Bharath Petroleum Corporation Limited who is the 1st Respondent in other two cases to shift the plants so that there will be a buffer zone atleast 500 meter radius around it and green belt. The 10th Respondent was also informed by the 1st Applicant Association that if they were not able to provide buffer zone of 500 meter radius, they will not raise any objections regarding acquisition of land of the members of the 1st Applicant Association if it is required, but no steps were taken by them in regard. They are going on making expansion activities without providing necessary safeguards.

26. It was further alleged in the application that the 1st Applicant Association approached the Kerala State Human Rights Commission, Thiruvananthapuram by filing a petition dated 06.11.2014, evidenced by Annexure - A6 and the said petition was taken on file by the Kerala State Human Rights Commission and numbered the same as **HRMP 11018 of 2014**, evidenced by Annexure - A7. An order was passed on 24.11.2014 by the said Commission, evidenced by Annexure - A8, by directing the Kerala Pollution Control Board to file a report, otherwise they would be summoned to appear before the Commission on 28.01.2015 along with the report. Thereafter, the Pollution Control Board filed a report before the Human Rights Commission, evidenced by Annexure - A9 and on the basis of the same, the Kerala State Human Rights Commission passed

Annexure - A10, Order dated 29.04.2015 wherein, it was observed that *"The development of the factory and the establishment cannot be stopped as it is a necessity of the nation. But, at the same time, environment protection is necessary and by the developmental activities, the nearby residents cannot be denied their right to get unpolluted air and water"* and thereafter, directed the Pollution Control Board to inspect the unit again and ascertain as to whether the green belt has been developed in between the place of the proposed unit and the area where the members of the petitioner reside and directed to file a report. Accordingly, the Pollution Control Board filed Annexure - A11, Report and on that basis, the Human Rights Commission passed another order dated 08.02.2016, evidenced by Annexure - A12, and on the basis of the recommendations of the Joint Committee appointed by the Commission, closed the matter with a direction to ensure that report of the joint inspection should be considered as per law, at the time of renewal of consent/license. Even thereafter, they have not taken any steps.

27. They also reiterated the allegations regarding the complaints made to the Prime Minister Cell on the basis of which a Committee inspected the area including the Central Pollution Control Board and the various reports filed therein were produced as Annexure - A18 to A21. They also mentioned about the pendency of the application viz., O.A. No.17 of 2021 and O.A. No.265 of 2017 (wrongly shown as O.A. No.216 of 2017). They also produced the report of the technical committee along with the observations and recommendations as Annexure - A22. Earlier, the applicant filed a Writ Petition as *W.P. (Civil) No.25244 of 2016* in respect of the pollution caused and non-compliance of the conditions by the

BPCL and the same was later withdrawn with liberty to approach this Tribunal and the same was disposed of as withdrawn with the above liberty, evidenced by Annexure - 23, Order dated 15.11.2021 and it is thereafter, applicants filed this application.

28. Since these issues are being considered by this Tribunal in O.A. No.265 of 2017(SZ) and O.A. No.17 of 2021 (SZ), this Tribunal has not admitted the matter. But at the same time, directed to be tagged along with the other connected cases to consider the grievance of the applicants as well and thereafter, all these three cases were considered together.

29. In O.A. No.265 of 2017 (SZ), the 1st Respondent (BPCL) has filed the reply affidavit contending that the application is not maintainable and they denied most of the allegations made in the application. The BPCL Kochi Refinery (KR) has completed Integrated Refinery Expansion Project (IREP) which was commissioned in the year 2017 at a cost of Rs.14,656 Crore. This project will integrate the Refinery with the downstream petrochemical unit at an investment Rs.6,000 Crore. The PDPP project was conceptualized as a part of 'Make in India' initiative which will help the country to reduce imports of niche petrochemical products and will lead to valuable foreign exchange savings. They have taken utmost care to incorporate all the necessary features which ensures safety during normal operations & emergency conditions. Before installation of any such complex Process Plants, detailed studies were conducted through agencies having expertise in the field of Environment and Safety and plants are built, according to well established design practices/codes incorporating outcome of such studies. The studies includes, (i)

Environmental Impact Assessment (EIA) Study, (ii) Rapid Risk Assessment study (RRA), (iii) Hazard and Operability study (HAZOP) and Assessment of Safety Integrity Level (SIL), (iv) Quantitative Risk Assessment study (QRA), and (v) Emergency Response and Disaster Management Study (ERDMP). Various clearances and approvals for IREP were obtained from regulatory/ Govt bodies which ensured compliance to applicable rules and standards are as follows:

- ❖ *Environment Clearance from MOEFCC – 22nd Nov 2012, F. No. J 11011/341/2011- IA II (I)*
- ❖ *Amendment to MOEFCC Clearance - 23rd May 2014, F. No. J 11011/341/2011- IA II (I)*
- ❖ *Consent to establish from KSPCB – 21.10.2013*
- ❖ *Consent to operate from KSPCB – PCB/HO/EKM-2/ICO/08/2017 dated 30.09.2020*
- ❖ *Site Appraisal committee clearance from Govt of Kerala - Labour Dept GoK 10.06.2013, G.O.(Rt)No.1033 /2013/LBR*
- ❖ *Approval from Dist administration - 21.05.2013, NOC no. 18/2013, D Dis-22621/2013/M4*
- ❖ *State Fire Service NOC - 21-05-2013, D Dis-22621/2013/M4, & No.DI.1973/13, 23/04/2013*
- ❖ *Overall Plot Plan approval from PSEO approval (Initial) – 14th March 2013 (1st Set)*
- ❖ *P-5(2)455/Refinery/I; Nagpur; 14.03.2013, 19th Feb 2014 (2nd set) P-5(2)455/Refinery/I*
- ❖ *NOC from Airport Authority of India for Demountable Flare - 31.05.2013, AAI/SR/NOC/RHQ*

30. Highly automated and integrated control networks and the qualified manpower ensure proper monitoring & control of the plants. Multi-layer Mechanical & Automated Systems ensure safe handling of process emergency conditions. Refinery is having best of the kind fire emergency response unit to handle any unwanted situations. Various statutory agencies such as PESO, F&B & OISD conduct regular audit of the

facilities. As part of the Integrated Refinery Expansion Project (IREP), the Hydrogen, Nitrogen, Oxygen and Synthesis Gas (Syn Gas) requirements were outsourced to M/s Air Products and Chemicals Inc, USA (AP) through Build-Own-Operate (BOO) route. AP has assigned this work to its 100% subsidiary M/s. Prodair Air Products India Pvt. Limited with parent company guarantee. BPCL has signed an agreement with M/s Prodair Air Products on 21st August, 2013 for 15 years for the supply of these gases to BPCL. As per the agreement between BPCL & Prodair Air Products, BPCL has provided land required on lease and will provide feed & utilities to Prodair Air products and in turn, Prodair will transfer all the Products (Hydrogen, Nitrogen, Oxygen, Synthesis Gas & associated Steam produced) to BPCL through pipelines. M/s. Prodair Air Products was responsible to take all the statutory clearances required for setting up such a facility in the leased land and has taken all the statutory clearances applicable. The MoEF&CC Clearance for BOO facility was included in the IREP MoEF&CC clearance which was taken by BPCL. The BPCL would like to submit the fact that M/s Prodair Air Products India Limited produces Hydrogen, Nitrogen, Oxygen, Synthesis Gas and associated Steam only in the production facility. As part of our CSR initiative, BPCL & Prodair Air Products has been supplying free of cost the entire Liquid Oxygen produced at BOO facility (More than 400 MT as on date) to the Government Hospitals in Ernakulam District for meeting the oxygen demand to treat Covid patients. This noble effort of BPCL & Prodair Air Products has been highly appreciated by the entire State Government machinery. The BPCL has also supported the Kerala State Government Health department by providing tie infrastructure support like Building, Utilities and Precious Oxygen free of cost to maintain a 500

bed Covid Hospital in BPCL-KR colony premises. As per the direction of MoEF&CC - IREP Environment Clearance (Annexure 1 - IREP Environmental Clearance), the BPCL - KR has developed green cover more than 33% of the plant area in and around the plant premises. They also given the details of the work done and work to be done as follows:-

- *The IREP project was proposed within the existing Refinery complex*
- *BPCL Kochi Refinery has conducted an exclusive survey for calculating plant area and green belt area inside Refinery premises.*
- *With reference to that survey, it has been identified that the total area at Kochi Refinery is 1344.93 acres out of which plant area is 909.01 Acres. The available green belt inside Refinery premises is which is 315.3 acres which is more than 33% of required green belt*
- *Complainant himself points out that as per MoEFCC: under specific condition: XXIV that total greenbelt requirement is 33% of the plant area, which is very well met by BPCL-KR.*
- *The green belt is being maintained at various locations such as Eco parks, rainbow parks, Bird parks, Bamboo parks, Kalpakodan, Miyawaki forest etc. inside Refinery premises.*
- *All conditions and requirements related to green belt are fulfilled and being maintained as per EC and CPCB guidelines.*
- *The suitable native plant species were procured from the forest nurseries in consultation with Retired Dy. Forest Conservator.*

31. All project Units and facilities are strictly constructed as per OISD / PESO guidelines and all distance criteria have been maintained and checked by the statutory agencies before the commissioning of units. There are no existing statutes from regulatory bodies regarding maintenance of buffer zone for Refinery. The Environmental Clearance (EC) obtained from MoEF&CC for IREP project also does not stipulate any requirement of buffer zone. The Environment Clearance (EC) for the Projects were

issued only after scrutiny of the recommendations of different reports viz., Rapid Risk Analysis (RRA) Report, the Public Hearing etc. No forest land was converted to non-forest activity and no prime agriculture land was converted into Industrial site for IREP project. The following mitigations were taken towards air, water and land pollution:-

“Air Pollution Mitigation

- *Continuous stack monitoring has been provided for all the major parameters and the data is available on line to statutory agencies like KSPCB / CPCB. In addition to this Monthly monitoring by a third party lab accredited by NABL is also done.*
- *Five Continuous Ambient Air Quality Monitoring Stations (AAQMS) are installed at the periphery of the refinery to enable close monitoring of ambient air quality near the refinery. Online data from all the five AAQMS is transmitted to statutory agencies on a continuous basis.*
- *Hydro treating units along with Sulfur Recovery Units are installed in the refinery to recover the Sulfur from the product and offgas stream. This ensures SO₂ emissions are minimum from the internal fuels and also minimizes the vehicular emissions. Tail gas treatment unit (TGTU) which was installed along with the Sulfur Recovery unit of IREP helps to achieve 99.9% recovery.*
- *BPCL - KR employs tall flares for safe disposal of gases generated from units during any emergency or unit upsets. BPCL - KR has also installed flare gas recovery unit to recover gases from flare system which helps to move one step closer towards 'Zero flaring' concept.*
- *Various measures are taken and maintained to minimize VOC emissions from, storage, transport and Effluent handling facilities.*
- *Double seal floating roofs ensure low vaporization and avoids escape of hydrocarbon vapors.*
- *Double mechanical seal are provided for pumps. Closed loop sample points are employed for sampling.*
- *VOC control and treatment system have been installed in ETP for VOC vapors generated in the effluent treatment area.*
- *A number of hydrocarbon detectors are installed at different locations of the Refinery including product loading, storage tank farms, process plants etc.*

Liquid Effluent Mitigation

Several measures have been taken by Kochi Refinery to reduce water pollution and some of these are:

- Refinery has installed a RO based plant to ensure maximum recycle of the effluents.
- Refinery operates full - fledged Effluent treatment plants (ETPS) to meet all the standards stipulated by KSPCB and is stored in our fire pots and the excess treated effluent meeting all MINAS standards a discharged.
- Treated effluent / RO rejects water is used for fire fighting purposes, process area cleaning and for watering of plants and trees inside refinery premises.

Rain Water harvesting system

Kochi Refinery has also installed rainwater harvesting scheme with a view to conserve water resources.

- KK is having 2 nos. of Rain Water Harvesting Pond inside refinery premises
 - Rain water harvesting pond with an area of 18.83 acres and water storage capacity of 2, 87,340 (M³) which is one of the largest rain water harvesting system in Kerala.
 - Temple pond with an area of approx. 1.5 acres and has an approx. storage capacity of 10000 (M³).
- Roof top rain water harvesting systems with an area of 5500 (M²) and Roof top rain water recharging wells with an area of 6500 (M²) are also installed in different locations inside refinery premises.

Waste Management Mitigation

- BPCL KR in agreement with KEIL (Kerala Enviro Infrastructure Private Limited) at Ambalamugal for disposing hazardous waste at their KSPCB approved TSDF (Treatment, Storage and Disposal Facility).

32. They also wanted to take note of various activities done by them during

Covid period which reads as follows:-

“i) The COVID First Line Treatment Center (CFLTC) and Govt. COVID hospitals with 1500 beds are functioning right next to the plant in Refinery land and there are several hundred of patients undergoing treatment and care with direct Oxygen supply from the Refinery. These facilities are under the supervision of the Govt. Health Dept. and District Administration with the help of nearly one hundred nurses and Doctors (Annexure - 2 Letter from Chief Secretary for providing Oxygen beds- COVID).

(ii) Many families are living in the Refinery Quarters and have not been afflicted by any of the pollutions as alleged by the residents.

Over 2000 Refinery employees and 5 times its number of contract employees are working round the year in the past so many years on totally safe. No extreme health issues were found as per the Medical examinations report in the investigations done as per directive of the Human Rights Commission.

iv) CISF officials total strength of 324 staff with 144 family accommodation and balance 180 bachelor accommodation totaling around 750 people are also staying inside Refinery land and many migrant workers are also staying near vicinity which are equally populated like outside.”

33. As regarding the gas leakage on 29.09.2016, near Kuzhikad

Ambalamugal, the statutory body, F&B accepted that the activity carried out by BPCL KR was universally followed procedure and to avoid such incident in future, they recommended best practices to be incorporated and all the recommendations/suggestions recommended by F&B were complied and the same was witnessed. Post IREP units commissioning and stabilization, they were not in receipt of any such complaints in recent past in this regard. Several petitions were brought to the notice of the Government of Kerala through various complaints regarding the

safety and health related issues and that was brought to the notice of the Kerala State Legislative Assembly Petition committee. The Petition committee consists of 5 MLAs with officials from the legislative assembly and they conducted two public hearings with all petitioners, statutory authorities and the company. After the second hearing Petitions' Committee recommended the formation of an expert committee for scientific study of health and safety of the residents living near BPCL Kochi Refinery and also to conduct a complete Refinery Quantitative Risk Assessment (QRA) study with an external independent agency. The Government of Kerala considered these recommendations of the Petitions Committee, of Kerala legislative Assembly and MD, KSIDC vide GO (Ord) No:669/2020/Industries, Thiruvananthapuram dated 20.08.2020 formed the expert committee presided over by the Principal Secretary (Industries). The Expert Committee was presided by Shri. APM Mohammed Hanish, IAS, Principal Secretary (Industries) Govt. of Kerala with the following Members:

- (i) *Prof Shiva Nagendra, Professor, CIVIL Engineering Dept, Indian Institute of Technology (IIT), Chennai.*
- (ii) *Dr. R. Venugopal, IPES, Dy. Chief Controller, Petroleum & Safety Organization (PESO)*
- (iii) *Dr. T. Mukundan, Scientist - G, Associate Director (Materials), Naval, Physical & Oceanographic Laboratory (NPOL)*
- (iv) *Dr. V. Sivanandan Achary, Professor and Director, School of Environment Studies, CUSAT*
- (v) *Shri. S. Suhas IAS, District Collector, EKM (Rep. Revenue Dept)*
- (vi) *Shri. Santosh Koshy Thomas, Managing Director KINFRA.*

34. The Expert Committee appointed by Government of Kerala visited Kochi Refinery and had three review meetings detailed below:

S. No.	Proceedings	Date
1	Kochi Refinery site visit & First sitting	06 th November 2020
2	Second sitting at Kochi Refinery	04 th December 2020
3	Third sitting at Kochi Refinery	22 nd January 2021
4	Report submitted by the Expert Committee to Govt. of Kerala.	

35. The Expert Committee also reviewed the independent Quantitative Risk Assessment study (QRA) report of the entire Refinery including PDPP and Motor Spirit Block Project (MSBP) submitted by M/s. Bureau Veritas Industrial Services (I) Pvt. Ltd, Mumbai. This scientific QRA study was conducted as per the directive of the Govt. Petitions Committee. M/s Bureau Veritas Industrial Services (I) Pvt. Ltd, Mumbai was selected based on the tender floated as per the list given by Govt. of Kerala. The study extensively covered consequence analysis and considered hazard distances for all selected failure cases including explosions, major leaks etc. and concluded that the impact of all scenarios are contained within the boundary limits of BPCL Kochi Refinery. Further, with the safety measures, maintenance program and emergency response plans that were available with BPCL-KR, the risk falls in "As Low As Reasonably Practical" (ALARP) level. The expert committee has already submitted their report dated 15.02.2021 to the Government Petitions' Committee. This Expert Committee concluded that the health, safety and environment norms are as applicable to a refinery unit as per State and Central statutory stipulations have been met by BPCL Kochi Refinery.

The Report dated 15.02.2021 was enclosed as Annexure – 3 along with the reply. So, they prayed for dismissal of the application.

36. In O.A. No.17 of 2021 (SZ), the 2nd Respondent/MoEF&CC filed a reply in the form of an affidavit contending that the allegations made in the present application relates to non-compliance of the Environmental Clearance conditions by the BPCL namely, the 1st Respondent. They have reiterated the procedure to be followed under the EIA Notification and authorities who are vested with the powers to grant clearance etc. depending on the category of the project. Setting up of Propylene Derivatives Petrochemical Project (PDPP), is listed at S.No. 5(c) under category 'A' to the EIA Notification, 2006 and all are categorized as Category 'A' projects requiring prior Environmental Clearance (EC) from the Ministry of Environment, Forest and Climate Change. The MoEF&CC, New Delhi vide EC No. J-11011/26/2013 - IA II(I) dated 15th May, 2015 accorded Environmental Clearance (EC) to M/s Bharat Petroleum Corporation Limited (BPCL) - Propylene Derivatives Petrochemical Project (PDPP), Kochi under the provisions of EIA Notification dated 14th September 2006 for the manufacturing of speciality petrochemical like Acrylic Acid, Oxo Alcohols and Acrylates subject to compliance of certain specific and general conditions which the Project Authority (PA) is required to comply with. As per the available records, the project cited above was inspected by the Integrated Regional Office (IRO) of the answering respondent at Bangalore on 03rd November, 2020 and in the latest report of IRO it is observed that all major facilities have been completed and pre-commissioning activities and development of green belt are in progress. The operation is expected in a phased

manner from December, 2020 to March, 2021. Overall compliance status of the conditions stipulated in the EC was found to be satisfactory except condition pertaining to greenbelt development. As per the EC condition, the Project Authority (PA) was to develop greenbelt of 40 acres around the plant premises. It was observed during the visit that the Project Proponent has so far developed green - belt of 25 acres with 13,166 plants. Further, the Project Authority (PA) has assured that the greenbelt will be further increased after completion of landscape development works. The relevant part of the Report is reproduced as follows:

"A. As regards the green belt, PA has developed about 25 acres and assured that they will develop the remaining greenbelt gradually after completion of landscape development works.

B. As regards the death of fishes in Natural water body, PA informed that the canal passes through HOCL prior to the entry into BPCL. No discharge is let into this canal by the BPCL

C. As regards, Air and Noise pollution, the PA has taken required abatement measures and carries out regular monitoring apart from online monitoring. The latest monitoring report reveals that all the parameters are within limit.

D. As regards the Distance criteria, PA informed that all necessary approvals were obtained from statutory bodies before construction was started and relevant statutory guidelines like OISD, Petroleum rules etc. for distance criteria around the premises followed.

E. As regards the alleged harmful effects/ anticipated gas leak due to Petrochemicals, PA has informed that Petrochemical complex is not producing or handling most of the compounds indicated as harmful in the complaint. Further, PA has taken required safety measures for handling of materials. The technology and associated safety features of the facility are at par with world class technology and associated safety features of the facility are at par with world standards and technically competent and trained personnel are handling the operation of the facilities. More over adequate safety systems are inbuilt in the design of all the facilities, which has gone through multiple rounds of safety reviews and safe operating practices are strictly followed across all facilities of BPCL."

37. The Inspection report cum Monitoring Report was produced as Annexure - 1 along with the reply affidavit. They prayed for accepting their contentions and pass appropriate directions.

38. In O.A. No.17/2021, the 1st Respondent has filed reply affidavit more or less raised the similar contentions raised in O.A. No.265 of 2017 in this case as well regarding the nature of studies conducted by them and also various clearance and consent and other permissions obtained. They also detailed the few features of PDPP project that are incorporated to ensure safe handling and disposal of gaseous & liquid effluents as follows:-

- “• Pressure relieving system are connected to flare and the gases are safely disposed at elevated flare stacks.*
- Process vents from units and storage tanks are handled in incinerators*
- There are no fired process heaters or boilers as part of the complex.*
- Clean fuels like RLNG is used as fuel in waste gas and waste liquid incinerators.*
- Stack of these analysers are installed and will be connected to PCB servers*
- All the liquid waste, liquid effluents and the floor wash effluent are collected using dedicated networks and are handled in submerged type waste incinerator.”*

39. They also mentioned about the sophisticated systems used to avoid any emission from the fittings/ moving parts such as Pump seals, tank seals, valve packing etc.

- “• PDPP project employs seal less - Canned pumps for all organic liquid services.*
- Special type of high efficient Karlrez type packing material is used for valve glands to avoid emissions from the valves.*
- All the tanks are closed and any off gas that could be generated are collected through the vents connected to incinerator or flare system where it is safely oxidized.*

- *Approx. 350 numbers of gas detectors and 8 numbers of VOC detectors are available for quick detection and continuous monitoring*
- *One exclusive Continuous Ambient Air Quality Monitoring station (CAAQMs) is installed for PDPP project to monitor the ambient air quality at this location*
- *The Refinery has a dedicated asset Integrity Management team which have structured monitoring schedules and carry out the scheduled inspections to identify any maintenance needs well in advance. “*

40. They also mentioned about the Noise control mechanism provided by them as follows:-

- “• *All installed equipment are properly designed for limiting noise within the unit boundaries as per norms during the normal operation.*
- *During the construction and commissioning phase activities, which may cause noise, such as steam blowing / steam venting are addressed by providing silencers. These facilities were further strengthened by in-house modifications carried out as some complaints in this regard were received.”*

41. In addition to this, additional barricading was provided above the boundary wall wherever noise complaints were reported. The BPCL has always taken all necessary and timely measures to limit the disturbance caused to the neighbourhood because of construction. During the construction phase, water sprinklers were employed extensively inside the site and nearby areas to suppress dust if any due to construction activities and movement of heavy vehicles. On the fish deaths quoted in Para 3, BPCL would like to submit that the process plants of petrochemical complex had not even started its operation that time and products were yet to be produced in the complex. The reason for fish deaths has no relation attributable to any activity inside their complex. As regards the allegation in Para (4), they submitted that the

PDPP Project has paid a high level of attention to contain the escape of volatile organics as follows:-

- *PDPP project employs seal less - Canned pumps for all organic liquid services.*
- *Special type of high efficient Karlrez type packing material is used for valve glands to avoid emissions from the valves.*
- *All the tanks are closed and any off gas that could be generated are collected through the vents connected to incinerator or flare system where it is safely oxidized.*
- *Approx. 350 numbers of gas detectors and 8 numbers of VOC detectors are available for quick detection and continuous monitoring*
- *One exclusive Continuous Ambient Air Quality Monitoring station (CAAQMs) is installed for PDPP project to monitor the ambient air quality at this location. However, the plant is yet to be fully operational.*

42. There was no scientific evidence produced from the applicant side to show that there is severe stench emanating from BPCL plant and people residing around the plant are suffering from fatal respiratory ailments. They have further mentioned that they provided the following measures to curb noise pollution as follows:-

- “1. All installed equipment are properly designed for limiting noise within the unit boundaries as per norms during the normal operation.*
- 2. During the construction and commissioning phase activities which cause noise such as steam blowing / steam venting are addressed by providing silencers. These facilities were further strengthened by in house modifications carried out as some complaints in this regard were received.*
- 3. In addition to this additional barricading was provided above the boundary wall wherever noise complaints were reported.*
- 4. Noise monitoring at this area is carried out regularly and the results are within the applicable limits.*

43. As regards the green belt, as per the direction of MoEF&CC in respect of the PDPP Environment Clearance, they are developing green cover by providing 40 acres of land for that purpose and the details of which are given as follows:

- *The green belt development had started along with the construction activities and in the first phase, the green belt was developed along both sides of the canal and near the boundary walls in PDPP.*
- *The suitable native plant species were procured from the forest nurseries in consultation with a Retired Dy. Forest Conservator,*
- *In the second phase, the green belt was developed aggressively around the PDPP areas earmarked as the green belt. The green belt is being developed in the form of various parks such as herbal park, Fruit Parks, Bird parks, Bamboo Parks, etc., inside the PDPP premises.*
- *In the final phase of green belt development, the large areas for sapling plantation was limited due to the various site clearance activities. Miyawaki approach was introduced for the faster and dense development of the green belt.*
- *In addition to the green belt, various gardens are being developed along the road sides and buildings.*

44. The PDPP project has developed sufficient green belt in the facility required as per EC conditions issued by MoEF&CC. As committed to MoEF&CC, 40 acres of green belt developed in phased manner which includes Miyawaki forest also. The BPCL Kochi Refinery had obtained Environmental Clearance from MoEF&CC as proceedings dated 15.05.2015. As per the Specific Condition - xxi of EC Clearance, they will have to develop 33% of the total project area viz., at least 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB

guidelines. The BPCL has earmarked 40 Acres of the land for complying with the above requirement. They already completed development of green belt of 40.1 acres as on 15.04.2021, the details of year wise plantation incurred are as follows:

Sl. No.	Year (FY)	No. of Saplings Planted	Area (In Acres)	Remarks
1	2017-2018	700	0.91	Planted under Green Belt Phase I
2	2018-2019	2650	1.84	Planted under Green Belt Phase I
3	2019-2020	697	1.33	Planted under Green Belt Phase II
4	2020-2021	22042	36.02	Planting under Green Belt Phase II
		26089	40.1	

45. They are strictly complying with the Environmental Clearance (EC) in respect of development green belt and also other conditions imposed. The claim of KSEB 110 KV High tension line passing through the PDPP site preventing the development of green belt is not factual, as the HT line is predominantly passing above the canal which is not hindering the development of green belt on either sides of canal. The PDPP Units and its facilities are strictly constructed as per OISD / PESO guidelines and all distance criteria have been maintained. They have obtained necessary approvals from the statutory authorities for this purpose. They have given the details of the distance criteria as follows:-

OISD Distance Norms to Boundary wall		
Sl. No.	From	Distance in (Mts)
1	Process Unit	60
2	Process control room	30
3	Class A Storage tank	0.5 D Min 20
4	Class B Storage tank	0.5 D Min 20
5	Pressured storage LPG	Max 90
6	Flare	90

7	POL Bulk Loading	Max 20
8	POL Bulk Loading LPG	30
9	Fire Station/ First Aid Centre	12
10	Boiler House/Process Unit Heaters	50
11	Rail Spur	30
12	Cooling tower	30
13	Electrical Sub Station	15

46. All major facilities/ units are under various stages of commissioning and stabilization with the support of foreign national experts from OEMs and Technology Licensors in line with COVID-19 protocols. Prohibiting habitations to come up within 250-300 meters comes under the purview of Government. As an industrial installation, BPCL is meeting the distance guidelines stipulated by regulatory bodies. They are strictly complied with the norms applicable as per law. They also reiterated the inspections and reports submitted by the Petitions Committee of the Government of Kerala on the basis of the complaints received as directed by the Government of Kerala. According to the 1st Respondent, the Committee was satisfied with the existing facilities and submitted a report to the Government Petitions Committee. They further contended that with reference to the incident and subsequent analysis report for the Vizag incident, the PDPP storage tanks and the related facilities have the following safety features.

"1. The tanks containing polymerizing products have been constructed with stainless steel metallurgy and the chemical cleaning/pickling of the tank internals have been conducted for removing rust/other materials that cause polymerization. Such tanks have been constructed as per process licensor data sheets.

2. The polymerizing products/ intermediates are stored in tank farms after addition of required inhibitor contents for preventing polymerization reactions. To support the inhibitor, depleted air (with 8-10 Vol % of oxygen) is added to the tanks. The oxygen concentration of the depleted air is measured with an online analyzer with indication and alarm in the DCS (Distributed Control System) Control Room.

3. Provisions are provided for addition of inhibitors in the tanks in case the concentration is found less. Adequate quantity of inhibitors have been procured and stored in the warehouse facility.

4. The tanks with polymerizing products/intermediates are provided with cold insulation and the tank temperatures are maintained within the permissible limits (18 deg C for Acrylic acid and below 30 deg C for Acrylates) to avoid polymerization reactions. Venturi mixers are provided for mixing the cold liquid from the chiller exchanger with the tank bulk liquid content for ensuring proper mixing and avoiding localized temperature gradients

5. The offsite tanks are cooled with refrigerated water from the offsite chiller and ISBL (Inside battery limit) tanks are cooled with water from ISBL chiller system. The chiller system is automatically controlled from the DCS system. Scheme for interconnectivity between the chiller systems has also been proposed for redundancy.

6. Acrylic acid tanks are provided with short stop systems which are used to inhibit and stop the polymerization reactions thereby preventing run away reactions. This imported facility is one of the latest available technologies for handling emergencies in tanks handling polymerizing products.

7. The normal tank breath outs are routed to either the flare or the incinerator system for safe disposal without letting to atmosphere.

8. The indications of parameters such as temperature, pressure, flow and level are provided in the 24x7 manned DCS system. Also alarms are provided to alert the DCS when any of the values go beyond safe limits.

9. Tanks are provided with online temperature indications in DCS. Critical tanks are provided with temperature indications at multiple levels and directions for reading the tank temperature from all parts. This would prevent any localized temperature gradients.

10. Process/ safety interlocks are provided in the PLC system for cutting of inlet flow/stoppage of pump/closing of outlet ROV etc.

11. The tank inlet and outlets are also provided with ROV (remote operated valves) which can be closed from DCS or field in case of any emergency/leak scenario.

12. The tanks have been provided with pressure vacuum relief valves and emergency vent systems for prevention against over pressure.

13. Sampling schedules has been incorporated for frequent sampling of the tank contents for detecting any polymerization/ other abnormalities.

14. Dyke enclosures are provided for enclosing the entire content of the largest tank in the dyke.

15. The safety distances (inter tank distance and outside dyke distances) and firefighting facilities are provided conforming to OISD and other statutory standards.

16. Gas detectors, fire call points, hydrants, monitors, HVLRRMS and communication systems are provided for emergency use.

17. The tank operations are carried out following well outlined procedures (SOPs) approved/as advised by the process licensor.

18. The operating personnel/supervisors have undergone proper training about the properties, and handling of emergency scenarios with respect to the tank contents

19. An emergency plan has been developed for the entire facilities of the PDPP project for taking care of emergency scenarios. Also the pre commissioning safety audits has been completed by statutory agencies like OISD, PESO etc. and their recommendations has been complied.”

47. So, they prayed for accepting their contentions and dismissal of the application.

48. The 5th Respondent has filed the report of the Technical Committee as directed by this Tribunal which reads as follows:-

“PREAMBLE

Kochi Refinery is located at Ambalamugal, near Kochi in Kerala, and is one of the two Refineries of BPCL, presently having a crude oil refining capacity of 15.5 Million Metric Tonnes per Annum (MMTPA). The product portfolio of the Kochi Refinery today includes petrochemical feed stocks and specialty products in addition to its range of quality fuels. The products of this fuel based refinery include Liquefied Petroleum Gas, Naphtha, Motor Spirit, Kerosene, Aviation Turbine Fuel, High Speed Diesel and Asphalt. Specialty products for the domestic markets include Benzene, Toluene, Food Grade Hexane, Propylene, Special Boiling Point Spirit, Mineral Turpentine Oil, Sulphur, Pet coke and Hydrogen. Kochi Refinery consists of different projects like BPCL-Polypropylene Derivatives Petrochemical Project (PDPP), BPCL Kochi Refinery IREP, and BPCL Kochi Refinery MSBP.

BPCL KOCHI REFINERY

Old refinery having a production capacity of 9.5 MMTPA and producing various petroleum products like LPG, Motor spirit, Naphtha, Benzene, Toluene, Kerosene,

Aviation fuel, HSD, Furnace oil, Bitumen etc. This unit has valid consent up to 30.06.23.

Source of water: River Periyar (33,000 cubic meter/day) Wastewater generation- 10,700 cubic meter/day Effluent treatment capacity-

- ETP III-220 m³/hr ,
- ETP IV-80 m³/hr,
- ETP V-700 m³/hr (Common for IREP project and PDPP)

IREP PROJECT

Integrated Refinery Expansion Project for the expansion of 9.5 MMTPA to 15.5 MMTPA. New crude distillation unit of 10.5 MMTPA replaced old CDU of 4.5 MMTPA. Delayed coker unit (DCU), Petrochemical Fluidized Catalytic Cracker Unit (PFCCU), Vacuum Gas Oil Hydro Treater (VGO HDT), Diesel Hydro Treater (DHDT), Sulphur Recovery Unit (SRU), Hydrogen Generation Unit (HGU), Sour Water Stripper are associated with this expansion project. Raw materials are light and heavy Arab crude oil and products include Propylene, LPG, Motor spirit, Naphtha, Benzene, Toluene, Kerosene, Aviation fuel, HSD-Euro IV, SKO, Bitumen etc.

- Water consumption-32585 KLD
- Source-River Periyar
- Wastewater generation-15672 KLD
- ETP capacity-700 m³/hr (ETP-V)

PDPP PROJECT

Propylene Derivatives Petrochemical Project (PDPP) by using Polymer Grade Propylene 250,000 MT/Annum to produce Ester Grade Acrylic Acid, Butyl Acrylate, 2-Ethyl Hexyl Acrylate, Normal Butanol, 2 Ethyl Hexanol, Iso-Butanol.

- Plant area- 132.4 Acres
- Area ear marked for Green belt-40 acres
- Consent No. PCB/HO/EKM-2/ICO/09/2019
- Valid Up to 28/02/2022
- Environmental Clearance-F. No. J-11011/26/2013- IA II (I) dated 12.05.15
- Water consumption-15000 m³/day
- ETP components
 - For high COD effluents-Incinerator
 - Other wastewater to ETP-V of IREP project

BPCL- MSBP PROJECT

In this new project production of motor spirit from Naphtha and Kerosene. Raw materials are Naphtha and Kerosene and the products are Reformate, Isomate and kerosene.

- Water Consumption-3400 KLD
- Wastewater generation-120 KLD
- ETP Capacity-700 m³/hr (ETP-V)
- PCB/HO/EKM-2/ICE-EXP/06/2018 dated of issue 25-10-2018 Valid till 31-03-2020

LPG BOTTLING PLANT

- Capacity-650 Ton/Day
- Water consumption-12000 LPD
- Consent Validity-30.06.2023

PRODAIR AIR PRODUCTS INDIA PVT LTD

This is Built Own and Operate (BOO) plant which produce Hydrogen, Syngas, Nitrogen and Oxygen and supply to BPCL-Kochi Refinery. Raw materials used are Naphtha, Natural Gas and Hydrogen rich offgas.

- Water consumption-11510 KLD
- Wastewater generation-1729.3 KLD
- Treatment plant- ETP OF BPCL REFINERY
- Nos. of stacks- 4

CHAPTER 2

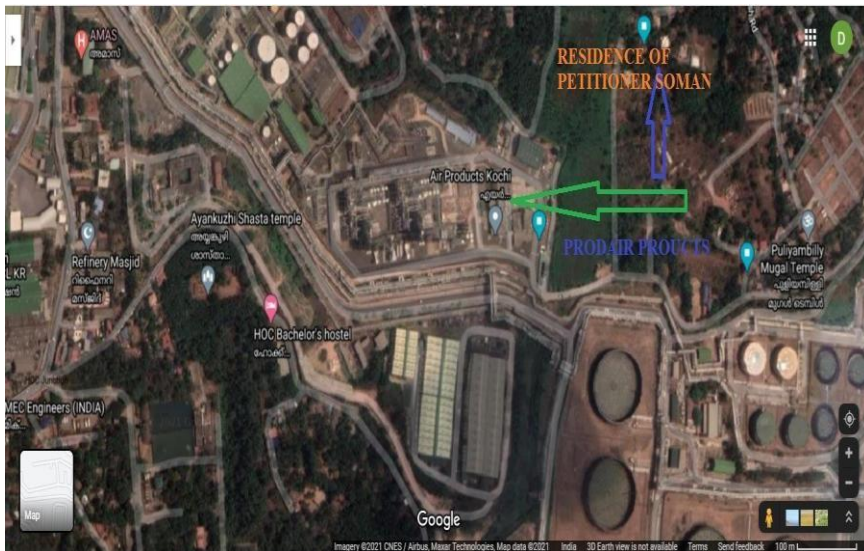
LOCATION SKETCH OF ALLEGED AREAS

LOCATION OF PDPP PROJECT



The figure shows the PDPP Project area and the Adookara and Kakkad area outside. The project area marked in the figure where the complainants of Ambalamughal south west residents association and the petitioner in OA NO. 17/2021 resides.

LOCATION OF PRODAIR AIRPRODUCTS



The figure shows the location of Prodair air products where industrial gases has been producing and the unit owned by BPCL-Refinery on BOO scheme. Outside this area the petitioner in OA No. 265/2017 resides.

LOCATION OF NEERAMEL/CHALLIKARA AREA



The figure shows the location of Sulphur recovery plant of IREP Project and MSBP Project and the Neeramel area outside the company premises.

LOCATION OF IREP AREA



The figure shows the location of IREP Project. The location of LPG bottling plant and the Kuzhikkadarea outside the LPG Bottling plant also marked in the figure.

LOCATION OF AYYANKUZHY AREA.



The figure shows the location of location of Ayyankuzhy area; where about 9 families are sandwiched between M/s. BPCL- KRL and M/s. HOC Limited.

LOCATION OF OLD REFINERY AREA



This figure shows the location of Old Refinery area.

CHAPTER 3

COURT CASES & COMPLAINTS

COURT CASES

- ORIGINAL APPLICATION NO. 265 OF 2017 (SZ) filed by N.G. Soman and others
- ORIGINAL APPLICATION NO. 17 OF 2021 (SZ) FILED BY VIPIN NATH

COMPLAINTS

1. PMOPG/E/2020/0724861 & PMOPGN2020/O72754 dated 09/08/2020 FILED BY Vipin Nath AV AGAINST PDPP PROJECT
2. PMOPG/E/2020/0837775 on 15/09/2020 FILED BY MATHU RAVEENDRAN
3. Complaint from Mani.K.J, President, Kuzhikkad residents association.
4. Complaint from Mrs. Girija Rajendran and Mrs. Sasikala from Chalikkara Neermel area.
5. Complaint from Pramod Luckose, President, Ambalamugal south west Residents Association.
6. Complaint from locals residing in Ayyankuzhi, an area sandwiched between BPCL and HOCL (M/s. Hindustan Organic Chemicals Limited).
7. Complaint from Dileep Vadassery through E- mail.
8. Complaint from Puliyaampillymughal Residents Association
9. Complaint from Ward 16 of Vadavucode-Puthencruz Panchayath

BACKGROUND

Based on the complaints received in PMOPG a virtual meeting was conducted on 29.09.2020 from KSPCB, Regional Office, Ernakulam. Official from CPCB, Officials from BPCL-Kochi refinery and the complainants, Smt. Mathu Raveendran, Sri. Vipin Nath and Sri. Sinu Jacob attended the virtual meeting and the complainants raised their problems regarding lack of proper buffer zone and Green belt in the PDPP project area and noise and other pollution during the commissioning activities. In reply to these allegations company officials said they obtained EC for the project and provided green belt as per the condition given in the EC and all control measures and safety measures provided during the commissioning and operational stage to contain/mitigate pollution problems and safety issues.

As per the decision taken in the above meeting CPCB official and SPCB officials conducted an inspection in the alleged area on 23.10.2020, interacted with the complainants and heard their problems/ grievances. Following locations around the BPCL-Kochi Refinery visited by the officials

1. Kuzhikkad Ashraam area
2. Near Prodair Air products
3. Ayyankuzhi area
4. Kakkad area
5. Neeremel area
6. Adookara area behind PDPP project

In the inspection report submitted by CPCB dated 03.12.2020 following recommendations are given

1. *The allegations levelled against the unit regarding air, water and noise pollution from the project commissioning activities needs to be verified and assessed by a thorough inspection of project site and commissioning activities.*
2. *The absence of green belt around the project site is not in compliance with the specific EC condition regarding development of green belt and the matter has to be referred to the EC issuing authority for further necessary actions.*
3. *The layout of installations close to the public roads and residences suggests that buffer zone/ area is not maintained. Proper safety distance criteria from the project installations needs to be evaluated by a proper safety adequacy assessment in line with the various OISD standards and PESO guidelines. A proper safety assessment may be conducted with a committee comprising relevant regulatory authorities.*
4. *The project area seems to be inadequate to develop a proper green belt around the project site as committed by the project proponent and to maintain proper buffer zone around the site. A detailed assessment of project area required with respect to green belt development/ buffer zone in line with the stipulated EC condition and relevant safety distance standards applicable to petroleum installations/ industries. Considering these recommendations Chairman, Kerala State Pollution Control Board including SPCB constituted a technical committee to verify the ground realities of allegations against BPCL-Kochi Refinery projects as per Proceedings No: PCB/HO/HWM/416/90 dated 14.12.2020.*

The members of the committee are from following Departments

1. *Ministry of Environment, forest and climate change*
2. *Central Pollution Control Board*
3. *Petroleum and Explosives Safety Organization (PESO)*
4. *District Collector-Ernakulam*
5. *Chief Environmental Engineer-Regional Office, Ernakulam*
6. *Environmental Engineer – Convenor, KSPCB, DO-II, Ernakulam*

Following officers are nominated by the concerned departments to the technical committee

1. *Dr. Prabhu, Scientist "C"*
Ministry of Environment, forest and climate change, Integrated Regional office- Bangalore
2. *Dr. Deepesh.V., Scientist "C" Central Pollution Control Board*
Regional Directorate (South), Bangalore
3. *Dr. P.K.Rana, IPES controller of Explosives, Ernakulam*
4. *Smt. Afsana Perween, IAS,*
District Development Commissioner, Ernakulam
5. *Sri. Baiju. M.A.*
Chief Environmental Engineer-Regional Office, KSPCB, Ernakulam
6. *Sri. Dinesh K.S, Environmental Engineer, KSPCB, DO-II, Ernakulam*

Report

The technical committee members had the first meeting on 23.03.2021 at Regional office, Ernakulam of SPCB, invitation given to all the representatives of complainants to present their grievances to the committee. Following persons representing associations presented their grievance and complaints.

1. N. G. Soman, Petitioner of OA-265/2017.

- Earlier a gas leak from IREP, affected 36 children in Kuzhikkad School.
- In the PDPP project acid and other toxic chemicals are discharged into the canal flowing inside the project area causing wide fish deaths.
- Safety problems as the gas lines and explosives products are passing through the boundary of Prodair air products and Refinery premises.
- Not provided green belt as per the guidelines.
- Company shall acquire nearby residential area for avoiding safety and pollution problems.

2. Smt. Girija Rajendran, Resident Neeremel area

- The sulphur recovery unit of DHDS plant is very near to the Neeramel area and the fumes and dust coming from this plant affecting people's health.
- As this plant has not provided proper green belt or Buffer zone, diseases such as asthma, cough, skin diseases are common to the residents
- Heavy sound, smoke and odor problems in night time affecting night sleep and thereby increasing mental stress.
- In order to rectify these problems company shall acquire the nearby land.

3. Vipin Nath, Resident Kakkad area and complainant

PMOPG/E/2020/0724861 & PMOPGN2020/O72754 dated 09/08/2020

- Presented the details given in the PMOPG complaint and the images and videos of the flaring, fish death, noise problems from the PDPP project area during commissioning time.
- Not provided Green belt in and around the project area as per EC conditions
- Fish death due to discharge of toxic wastewater in the canal flowing through the project area.
- Smoke and odour problems from the flare stack causing health problems like respiratory diseases, suffocation.
- Noise problems affecting night sleep and thereby causing high BP, mental stress.
- Not provided buffer zone of 250-300 m wide around the installation, as per the recommendation of M.B. Lal committee on Petroleum and Natural gas, in order to minimize the impact on the surrounding areas in case of a major accident

4. Sinu Jacob, Resident Kakkad area.

- Noise and odour problems from the project area
- Health problems due to air pollution
- Supported the problems raised by Vipin Nath

5. Mani. K.J., President, Kuzhikkad Residents Association

- Kuzhikkad area located in the Northern side of the BPCL-Kochi refinery company, LPG bottling plant and Prodair air products producing Hydrogen in nearer to this area
- Sound and air pollution problems from these units make life miserable and affecting the health of residents.
- Not provided enough Buffer zone and Green belt to mitigate the pollution problems.
- Requested to direct the company authorities to provide a Green belt of 500 m width and relocate those peoples inside this area.

6. Ravi T. K., Secretary, Kuzhikkad Residents Association

- Along with the above mentioned problems and he added suggestion that the light from flare stacks have adverse effect during night time.

7. Pramod Lukose, President, Ambalamughal south west Residents Association

- BPCL never complied the Green Belt Guidelines since its Phase 2 Expansion.
- There is no sufficient buffer zone and Green belts between the industry plants and Habitat.
- Frequent leakages, foul smell and accidents are making life miserable for people living in this area.
- Kids, the aged and even youngsters are suffering from major health issues (Breathing trouble and Skin Diseases) and life is under threat
- Heavy Sound from project area- above allowed levels for residential area.
- Rivers are getting contaminated, from that only our wells are getting re-charged in summer. More over River flowing through inside petrochemical project premises.
- Low lying area – all sediments are getting deposited
- No Emergency Exit – Getting Surrounded (Last time on Explosion all house got major damaged)
- No sufficient road and parking area, Causes regular road accidents and deaths.
- Diverted the natural canal/ river flowing through the PDPP project area which is a source of fresh water to locals.

- Provide 500 m wide Green belt as per the guidelines of CPCB.

8. Complaint from locals residing in Ayyankuzhi, an area sandwiched between BPCL and HOCL (M/s. Hindustan Organic Chemicals Limited)

- Alleged that their plight of living between two petrochemical units is not addressed by either of the companies.
- There are no green belts and buffer zones in the BPCL side in this locality.

9. Complaint from Dileep Vadassery through e- mail

- His house and the agricultural land is located near the south of the PDPP project area, and due to improper layout of drainage provided by company authorities his agricultural land is water logged and earnings from the land has been lost.

10. Puliyaampillymughal Residents Association

- It is an area where 75 families are residing near Hydrogen, DHDS and LPG bottling plants.
- They are highlighting noise in exceeding levels and air pollution due to the operation of such units. They also alleging that an Anganvady is situated there in which about 30 children are studying.

11. Ward 16 of Vadavucode-Puthencruz Panchayath

- This area has been isolated due to the unscientific land acquisition and was surrounded by M/s BPCL Main plant, IREP of BPCL, HOCL, PDPP of BPCL, all of them are red category industries.

The committee met at the BPCL conference hall along with the senior representatives of BPCL-KRL on 24.03.2021. BPCL- KRL officials presented details of the issue to the committee.

The committee conducted site inspection in the Project areas of BPCL-Kochi refinery including IREP, PDPP and verified the green belt provided in both the project sites and the flare stacks, tank farms etc. Then committee visited following areas around the BPCL-Kochi refinery and met the complainants and heard their grievances.

1. Kuzhikkad Ashramam area
2. Near Prodair Air products
3. Ayyankuzhi area
4. Kakkad area
5. Neeremel area
6. Adookara area behind PDPP project

At the time of inspection representatives from the associations and public residing near the alleged areas presented their grievances to the committee members.

Through letter dated 31.03.21 requested all committee members to submit their suggestions/remarks based on the inspection.

Based on the discussion conducted on 24.03.2021, M/s BPCL – Kochi refinery was instructed to submit the following details through letter dated 31.03.2021.

- Details including the area of the Green belt and buffer zone provided in IREP project area. PDPP project area. Number of saplings planted terrain map and survey sketch marking the area of Green belt provided.
- Pollution control measures provided in both the project areas for mitigating water pollution, air pollution and noise pollution.
- Copy of permission obtained from revenue department for diverting the natural canal/ river flowing through the PDPP project area.
- Permission from the concerned authority for installing high tension power line inside the project area.
- Reason for not providing Green belt / buffer zone in certain area around the project areas including the area around the flare stack.
- Copy of gazette notification regarding declaration of notified industrial area. In reply to this letter company provided the details asked for along with following documents.
- Green belt development survey sketch – BPCL –KR-PDPP.
- Details of tree species planted in BPCL – KR- PDPP.
- Green belt and details of tree species planted for IREP project.
- Request from Thiruvaniyoor Gramapanchayat and the minutes of the meeting regarding the diversion of natural canal.
- Permission from KSEB to reroute the overhead lines of 66KV double circuit line through the periphery of BPCL property.
- Environmental clearance obtained for PDPP project.
- Latest PDPP Environmental clearance compliance report.

Regarding the Green belt provided in the PDPP project. They stated that as per EC obtained for the PDPP project. They earmarked 40 acres of land for developing Green cover and green belt development started along with the construction activities and developed green belt along both the sides of the canal and other areas adjacent to the boundary walls in PDPP, in consultation with Retired Dy. Forest Conservator. They selected suitable native plant species for green belt. And in the second phase the green belt was developed in other areas earmarked for the green belt. A total number of 24,286 saplings are planted as a part of the green belt and an amount of Rs. 1.1873 crores spend towards the development of Green belt.

And for IREP project approximate 25,000 number saplings planted in an area of 40 acres which is more than 33% of IREP plant area. Also a mini Miyawaki forest developed in that area.

Regarding the air pollution mitigation measures in the IREP project area, they

provided following details.

- *They are using RLNG and desulphurised used gas as primary fuel for reducing SO₂ emission much below permitted levels.*
- *Low NOX burners used in heaters /boilers to reduce NOX emissions.*
- *Continuous emission monitoring facility provided in all the stacks for measuring the major parameters like PM₁₀, PM_{2.5}, SO₂, NOX etc.*
- *Five continuous ambient air quality monitoring stations (CAAQMS) are installed in and out of refinery area to monitor ambient air quality.*
- *Hydro treating units along with sulphur recovery units are installed in the refinery to recover the sulphur from the product and off gas streams.*
- *Provided tall flare stacks for safe disposal of gases generated from units during emergency or units upsets.*
- *Provide various measures to minimize VOC emissions from storage, transport and effluent handling facilities.*
- *Provided various control measures to avoid dust problems in coke handling systems like water cutting system, pipe conveyor system for transportation, full covering at transit area, closed storage area for pet coke with dust suppression system.*
- *Three stage cyclone with ESP in PFCCU regenerator stacks.*

Regarding the liquid effluent management provided in the IREP project, following details are provided.

- *Closed blow down networks for direct recovery of waste oils for reprocessing oily sewer networks provided for recovery of oil from wasting and contaminated rain water networks provided for recovery of oil from floor wasting.*
- *Detention system provided to recover any accidental slippage in to storm water networks.*
- *Provided RO plant for using treated water.*
- *Provided full fledged ETP having a capacity of 700 m³/hr.*
- *A sour water stripping unit is available for recycling the maximum quantity of water in processing units.*
- *Minimized sludge generation by using hydrogen peroxide for oxidation requirements in ETP.*
- *Steam condensate recycled back to Boilers.*
- *Treated water and rejects used for firefighting purpose, process area cleaning and irrigation and gardening purposes.*
- *Provided rain water harvest system.*

Regarding Noise Pollution Control in IREP project, they provided following details.

- *Segregation of high noise generating sources is considered during equipment layout plan.*

- Silencers are provided in steam venting lines to reduce sound generated during unexpected venting.
- Suitable enclosures are erected to minimize the impact of high noise generating sources.
- Steam turbines of main air blower and turbo generator set are provided with hard ware to minimize sound pollution.

PDPP Project

Project proponent M/s. BPCL –Kochi refinery reported that they give highest priority for identifying potential environmental and safety risks associated with the facility and necessary mitigation measures were incorporated in the designs of the facility. Also due attention is given for implementing and maintaining such protection system and they conducted various studies to minimize impact on health, safety and Environment.

- 1) Environmental impact assessment study.
- 2) Rapid risk assessment study (RRA).
- 3) Hazard and Operability Study (HAZOP) and assessment of safety integrity level (SIL).
- 4) Quantitative risk assessment study (QRA).
- 5) Emergency Response and Disaster Management Study (ERDMP).

Also reported that the energy requirements are met by using the steam produced in existing Refinery. The fuels used in incinerators or flare. Two specially designed incinerators, conventional and submerged, provided to handle petro chemical effluents.

Noise Pollution mitigation measures in PDPP

The noise producing equipment are identified and all necessary noise control measures as incorporated in the design stage itself to minimize below the standard limits.

- Noise associated with steam blowing activities and pipeline cleaning activities during commissioning phase were mitigated using suitable steam silencers.
- Further additional silencers were installed for noise reduction as part of standard practice before the blowing activity was started.
- Additional fencing provided near human habitations.

Regarding the diversion of natural canal /river flowing through the PDPP project area, an allegation raised by the complainants, that the canal was diverted based on the request from Thiruvaniyoor Grama Panchayath and a resolution to effect was issued for a stretch of the Thodu (Natural water body) flowing inside PDPP project area was extended as a boundary wall and a 4-meter-wide periphery road also constructed along the canal.

Regarding the rerouting of high tension power line inside the project area, the work

was done by KSEB on deposit work basis.

Following clarifications given for the reason for not providing green belt/ buffer zone in certain area.

- They developed green belt inside the project area as mentioned in environmental clearance conditions.
- And no stipulations and buffer zone given in EC conditions.
- They provided 40 acres of Green belt in and around PDPP project site as recommended in EC condition.

They also reported that they constructed all PDPP units as per OISD/PESO guidelines by maintaining the distance criteria specified in the status. Flare stacks having a height of 91m from ground level as emergency relief device provided and during normal operations, only pilots flame with minimal fuel firing will be in line. Because of high elevation level and temperature, the combustion products are dispersed easily in to atmosphere.

CHAPTER 5

OBSERVATIONS AND RECOMMENDATION OF THE COMMITTEE

- 1. The allegations levelled against the unit regarding air, water and noise pollution due to the commissioning activities of different expansion projects needs to be verified and assessed by a thorough inspection of project site and commissioning activities.**

The industry has provided with 5 numbers of CAAQM stations from where details are collected and verified. Counter checks of CAAQMS stations and data validation may be carried out by KSPCB in consultation with CPCB. As per the order of the Hon'ble NGT, the SPCB had conducted 24-hour ambient air quality and sound monitoring in different locations outside the boundary of the company on

05.09.20 and 04.03.21. Stack monitoring also conducted in the main stacks of IREP and Prodair Air products. Details of the study are attached as Annexure-8. According to the study the values of gaseous pollutants in the ambient air are within the prescribed standards. But the reported value of NO_x in the PFCCU regenerator is higher than the standard value i.e. 406.19 mg/Nm³ against 350 mg/Nm³. Ambient sound level reported during night time at Neermel area, North East side of IREP unit, is higher than the noise standard prescribed for residential Zone i.e. 55.8 dB(A) against 45 dB(A). Though the subsequent monitoring showed readings within the stipulated limits, the phenol compounds in the treated water samples collected from the authorized outlets was 3.2612 mg/L and 8.103 mg/L against prescribed standard of 0.35 mg/L. Based on the repeated complaints received during the commissioning time of PDPP unit, monitoring conducted by

SPCB. It was found that the noise level exceeded the prescribed standard for residential zone. Copy of the data sheet attached as Annexure-9. Even though the project area is claimed to be a notified industrial area, the residential area around it is not included in the industrial zone. The ambient noise standard for residential zone seems to be applicable there which is a major concern of the public residing nearby. The proximity of flare stack in PDPP project to the residential area is a grave concern. The higher noise level, continuous lighting, foul smell and smoke emission during flaring affect the normal life. The sulphur silos and stacks in SRU, in IREP project causing dust / odor problems in the Neermel are lying in low level. The high noise level in the residential zone is a clear violation of the EC/ Consent conditions.

2. The absence of green belt “around the project site” is not in compliance with the specific EC condition regarding development of green belt and the matter has to be referred to the EC issuing authority for further necessary actions.

As per EC granted by the MOEF&CC for the PDPP project, a Green Belt is to be developed in an area of 40 Acres. M/s. BPCL has claimed that 40 Acres have been developed as green belt. The committee observed that the map submitted to show the Green belt development is not factual as it shows the entire vacant land as green patch irrespective of the buildings, internal roads, open scrap yards, clearance zones under the high tension power lines exist. It is also observed from the layout plan that, the vacant area marked for ‘future installations/ facilities’ is projected as an area under green belt development. Scrap and construction materials seen dumped in the area marked for Green belt. The Green belt provided in the project area of IREP area is not developed as thick green plantation as per EC condition. Hence the committee unanimously recommended that the Green belt provided in the PDPP/ IREP project area is not adequate to mitigate the air and noise pollution and is not statutorily meeting the requirements of EC conditions. The Committee recommends: a) To remove all scrap and construction material dumped / lying in the Green belt and plant area, b) To Consider on indigenous / native species for future green belt development and follow the CPCB guidelines for selection of plant species and submit action plan with time schedule to achieve the required green belt around the project periphery.

3. The layout of installations close to the public roads and residences suggests that buffer zone / area is not maintained. Proper safety distance criteria from the project installations needs to be evaluated by a proper safety adequacy assessment in line with the various OISD standards and PESO guidelines. A proper safety assessment may be conducted with a committee comprising relevant regulatory authorities.

The committee observed that, the requirement of Buffer zone or Green belt

beyond the boundary is to be addressed immediately as all the complainants who were present before the committee on 23rd March 2021 and met during field visit conducted on 24th March 2021, especially petitioners in OAs explicitly expressed their anxiety on safety and pollution issues due to the operation of the industry in question. Hence the committee after hearing the illustration of related rules observed that the requirement of Buffer Zone or Green Belt beyond the installation boundary is not within the scope of the Petroleum Rules under which the license has been granted by the PESO. From the interaction with industry representatives, it was learnt that M B Lal recommendations applicable to existing installations in the refinery has been complied with by the unit. In this regard, it is pertinent to highlight the recommendations of the M B Lal Committee report in the aftermath of the October, 2009 fire accident at IOCL installation in Jaipur that a buffer zone around high hazard installations is to be maintained. However, the recommendations especially the 250-300m buffer zone as given in item (ii) in section 10.20 of chapter 10 of the M B Lal Committee report which are yet to be implemented. Relevant portion of the committee report is attached as Annexure- 10.

- 4. The project area seems to be inadequate to develop a proper green belt around the project site as committed by the project proponent and to maintain proper buffer zone around the site. A detailed assessment of project area required with respect to green belt development/ buffer zone in line with the stipulated EC condition and relevant safety distance standards applicable to petroleum installations/ industries.**

Since some areas outside the boundary of PDPP project and MSBP project area, near the flare stack of PDPP and near the SRU plant of IREP project, the noise level, lighting intensity and dust problems are experienced. Non availability of enough buffer area or Green belt between the flare stack and the company boundary is the cause for these problems. Company may acquire the land adjacent to these areas and provide a proper buffer zone and Green belt to mitigate all the shortfalls mentioned above.

General recommendations and suggestions

- Due to improper layout and storm water drainage provisions in the project area, there are chances of water logging in several low lying areas surrounding the PDPP project. Due to the diversion of the natural canal which was flowing through the project area and the reclamation of paddy fields, the local hydrology is very much affected. The committee also observed that proper scientific studies were not undertaken on the consequences of the local hydrology of the area before diverting the natural canal and reclamation of paddy fields.
- As per the entry 17 in list II of the seventh schedule of constitution, water is a State subject and in the 1992 amendments to the Constitution regarding Panchayats and Municipalities, the following entries in the schedules introduced

listing the subject-areas in which the State Governments and legislatures may devolve functions to such bodies, so as to make them evolve as local self-governing institutions. In the Eighth Schedule (Part IX) dealing with Panchayats, the subjects, "Minor irrigation, Water management and Watershed development", "drinking water" and "maintenance of community assets" are listed. In this regard, it is pertinent to note that there is no clarity on the involvement of State water resources department and other relevant State agencies in the diversion of a natural stream for industrial expansion.

- Also proper drainage facilities need to be provided by the company to address the water logging problems and unauthorized effluent discharge if any through this stream which find its way to the nearby Chithrapuzha River making it polluted as identified by the CPCB. It is to be importantly decided that acquired land for buffer zone if any shall not be used for future expansions/installations."

49. Pursuant to the order of this Tribunal dated 30.07.2021 in I.A. No.104 of 2021 (SZ) in O.A. No.17 of 2021 (SZ), the Kerala State Pollution Control Board also filed a report dated 06.08.2021 which reads as follows:-

"REPORT SUBMITTED AS PER THE ORDER DATED 30.07.2021 IN IA 104 OF 2021, IN O A 17 OF 2021 & IN OA 265 OF 2017/M A 216 OF 2017 OF THE HON'BLE NGT BY THE SPCB.

I, M.A Baiju, 55 years, S/o M.K Aravindakshan, now working as Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulum. I am competent to and duly authorized to represent the 5th Respondent in I A No 104 of 2021 and connected applications. I know the facts and circumstances of the case. The factual submissions made here under are true and correct to the best of my knowledge, information and belief. It is important to note that the Hon'ble Tribunal heard the Interlocutory application on 30.07.2021 and delivered an order which is noted as follows,

"So, we direct the Kerala State Pollution Control Board to inspect the area in question and submit a report as to whether there was any noise as well as air pollution caused on account of offending units which are said to have committed the violation of conditions and submit an independent report regarding the same and if there is any violation of norms, then they are directed to provide remedial measures in this regard. They are directed to submit the report to this Tribunal on or before 11.08.2021 on which date, the cases were originally posted"

Also ordered,

"With the above observation and direction, this interlocutory application [I.A. No.104/2021(SZ) in O.A. No.17/2021(SZ)] is disposed of"

“Post the matter to 13.08.2021 on which date, the cases were originally posted for consideration of joint committee report”.

1. I may humbly submit that the industrial premises of M/s BPCL, especially PDPP plant was inspected on 03.08.2021 by the Surveillance team of the Board to verify the situation with respect to noise level as per the order of the Hon'ble Tribunal mentioned above. Air pollution monitoring is yet to be done. Noise monitoring was conducted in the night hours on 03.08.2021 where levels were recorded in exceeding concentrations than the standards stipulated for residential area (45 dB(A) Leq). Now, it is important to note that some of the residents informed that usually sound levels are much more than that measured during monitoring conducted on 03.08.2021. Three sets of readings were measured details of which are illustrated below.

Sl No	Place	Time	Location	Reading d B (A) Leq
1	Residence Vipin Nath, Kakkad	10.33 - 11.03 pm	Lat 9.959171 Long 76.380925	55.0
2	Residence Kuttan Nair, Adookkara	11.18 - 11.48 pm	Lat 9.963116 Long 76.37625	59.5
3	Residence Viju, Ambalamughal	11.57 pm - 12.27 am	Lat 9.966825 Long 76.380215	65.4

Regarding air and sound pollution, there were regular complaints from local residents including petitioners and the Board had conducted monitoring of ambient air and noise levels at these areas which were already forwarded to Hon'ble Tribunal along with the status report dated 29.05.2021 as Annexures 5 and 12 respectively. Copy of the data showing ambient air monitoring is once again produced herewith and marked as **Annexure A** and data showing noise level monitoring is produced herewith and marked as **Annexure B**.

2. It is respectfully submitted that the Hon'ble Tribunal also mentioned as follows, “Without getting the report to be submitted by the Joint Committee, it is not possible for this Tribunal to dispose of the case. So, there is no necessity to advance the hearing, as sought for by the applicant in the interlocutory application, but at the same time, the grievance in this application will have to be considered”.

3. It is respectfully submitted that the joint committee constituted as per the recommendation of CPCB with the following members already met on 23.03.2021 to hear the complainants.

a. Dr. S Prabhu, Scientist 'C', MoEF & CC

b. Dr. Pramod K Rana, IPESSE Controller of Explosives

c. Sri. M A Baiju, Chief Environmental Engineer, KSPCB

d. Smt. Afsana Parveen IAS, District Development Commissioner(DDC)

e. Dr. V Deepesh, Scientist 'C'/Laboratory Supervisor, CPCB

*4. The committee also visited the respective places of the complainants on 24th March 2021 and also the industrial plants in question. After preparing individual reports, the committee met again through VC on 13.04.2021 and 05.07.2021 where individual reports were discussed in detail and submitted before the Hon'ble Tribunal on 29.05.2021. 5. It is respectfully added that some more discussions were completed within the committee after the last meeting conducted on 05.07.2021 since difference of opinions were pointed out by some members and accordingly prepared the report on 31.07.2021. Thereafter, the member convener informed that the final report prepared after consultation with all members was sent to PESO member along with a request on 04.08.2021 for signature of the PESO member since he was repeatedly asking for corrections in the report. However, the PESO member now submitted report with his dissent note. Copy of the final report is produced herewith and marked as **Annexure C**. 6. I may humbly submit that the delay occurred in submitting the report was due to time constraints faced by the Board in conducting meetings of the technical committee during this COVID-19 pandemic situation and the same may be condoned.*

All that is stated above are true to the best of my knowledge information and belief.

Dated this 6th day of August 2021."

50. In O.A. No.17/2021, the 4th Respondent filed a reply statement denying the allegations made in the application. They contended that the Engineers India Limited (EIL)/Respondent No. 4 is a Public Sector Undertaking, Govt of India having its registered office at New Delhi and also having Regional Offices at Chennai, Kolkata and Vadodara and a branch office in Mumbai. It was established in 1965 to provide engineering and related services for Petroleum Refineries and other industrial projects. Over the years, it has diversified into and excelled in various fields. EIL has emerged as Asia's leading design, engineering and turnkey contracting company in Petroleum Refining, Petrochemicals, Pipelines, Onshore Oil & Gas, Mining & Metallurgy, Offshore Oil & Gas, Terminals & Storages and Infrastructure. EIL provides a wide range of

design, engineering, procurement, construction supervision, commissioning assistance and project management as well as EPC services. It also provides specialist services such as heat & mass transfer equipment design, environment engineering, information technology, specialist materials and maintenance, plant operations & safety including HAZOPS & risk analysis, refinery optimization studies and yield & energy optimization studies. Engineers India Limited (EIL) has earned recognition for jobs executed in India and several countries of West Asia, North Africa, Europe and South East Asia including Algeria, Bahrain, Kuwait, Korea, Malaysia, Norway, Qatar, Saudi Arabia, Sri Lanka, UAE and Vietnam. They are diversifying into the areas of Water & Waste Management, Nuclear Power, Thermal and Solar Power and City Gas Distribution. It has inspection offices at all major equipment manufacturing locations in India and a wholly owned subsidiary Certification Engineers International Limited (CEIL) for undertaking independent certification & third-party inspection assignments. They reiterated their activities in several parts of the world. The BPCL intends to establish a Propylene Derivatives Petrochemical Project (PDPP) at Kochi, India, to manufacture niche Petrochemicals products such as Acrylic acid, Oxo-alcohols and Acrylates. Polymer Grade Propylene (PGP) shall be supplied by BPCL Kochi Refinery after implementation of the Integrated Refinery Expansion Project (IREP) at Kochi, Kerala, India. Initially, the Propylene Derivatives Petrochemical Project (PDPP) was planned with LG Chem, South Korea as a joint venture (JV). Project proposal for issue of Terms of Reference (TOR) for EIA was considered in the 6th reconstituted Expert Appraisal Committee (EAC) (Industry) meeting held on 05.03.2013. The Committee discussed the project details,

utility requirements and the presentation by the project proponent/EIA Consultant (Engineers India Limited). After detailed deliberations, the Expert Appraisal Committee prescribed the following Terms of Reference (TOR) dated 30.04.2013 for preparation of EIA/EMP.

“• To establish environmental setting of the project in terms of site details, project description, products/chemicals its storage, safety measures and precautions taken during storage and transportation, pollution control devices/measures, emission summary, hazardous waste/chemicals management etc.

• Establish existing environmental status for the period of 3 months (except monsoon season) for meteorology, air quality, water quality, noise, soil, ecology and Socio economic aspects.

• Prediction and evaluation of the environmental impacts that may result from project development.

• Outline the Environmental Management Plan (EMP) to mitigate the negative impacts, if any.

• Risk assessment for storage for chemicals/ solvents. Action plan for handling & safety system.”

51. They further contended that the BPCL awarded the contract for preparation of Environmental Impact Assessment (EIA) and Risk Analysis/Assessment (RRA) studies to the 4th Respondent for obtaining Environmental Clearance. They examined and deliberated the entire project proposal document in accordance with the prescribed MoEF&CC Terms of Reference (ToR) and the EIA Notification dated 14.09.2006 as amended from time to time for establishing of Petro chemical projects and prepared the Environmental Impact Assessment (EIA) Report following the guidelines. The details of such assessment studies are given in Chapters 3 to 5 of the EIA Final Report No. A419-E1-1741-1401 of January 2015. The EIL is an accredited consultant for carrying out EIA studies by Quality Council of India in petrochemical industry. M/s. BPCL

Kochi Refinery had obtained Environmental Clearance from MoEF&CC vide their Proceedings dated 15.05.2015. As per Specific Condition - XXI of EC Clearance, *“Green belt shall be developed at least in 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines”*. The MoEF&CC has already considered the EIA recommendations and prevailing norms before issuing the Environmental Clearance conditions considering this particular site. Without providing necessary information, the applicant is trying to mislead this Tribunal and to get favourable orders and they prayed for accepting their contentions and dismissal of the application.

52. In O.A. No.17/2021, the 7th Respondent filed counter affidavit contending that Oil Industry Safety Directorate (OISD) was set up in 1986 by Ministry of Petroleum & Natural Gas for development of technical safety standards, carrying out External Safety Audits of Oil & Gas industry and verify their compliance to requirement of OISD standards. OISD conducts Pre-Commissioning Safety Audits of petroleum refineries, gas-processing plants, cross country pipelines and marketing locations prior to commissioning of the facility. OISD disseminates knowledge by organizing seminars, training, workshops and through OISD Newsletter at regular intervals. They are not a regulatory body and does not issue any approval/ NOC/Clearance/ Consent to Refineries/ Petrochemicals projects. Vide Online requests (Reference Request ID Nos. 102019650, 32020698 and 82020733), the 1st Respondent (M/s. BPCL) requested OISD to carry out pre-commissioning safety audit of following process units of

Propylene Derivatives Petrochemical Project (PDPP) at BPCL Kochi Refinery: a) Acrylic Acid Unit and associated facilities during 25th - 26th November 2019; b) Acrylate unit and associated facilities during July, 2020; c) Oxo-alcohol unit and associated facilities during 23rd - 24th October 2020. After carrying out each pre-commissioning safety audit, they submitted the report to the 1st Respondent. During the pre-commissioning safety audit, OISD checked the compliance of OISD safety standards in the above process units and availability of applicable clearances/ approvals/ licenses from various authorities. The OISD standards lay down guidelines for inter-distance of processing facilities from the boundary wall (inside the premises). Issues related to developing green belt and buffer zone around the industry complex is beyond the scope of OISD Standards/ safety audits. The Government in its submission made to the 24th and 26th Standing Committee on Petroleum & Natural Gas has stated that the regulation of the land use around Oil installations has to be dealt by the States/ Union Territory by issuing appropriate instructions to the concerned authorities to make adequate provision under the relevant Acts and Rules to prohibit proliferation of unauthorized hutment, shops or residential houses within a band of at least 250-300 meters around periphery of the Oil and Gas installation. OISD has no role in the present dispute and no relief is claimed against it by the Applicants. However, 2 Nos. of RTI OISDE/R/E/20/00005 dated 26.09.2020 by Mathu Raveendran and OISDE/R/E/20/00007 dated 01.12.2020 by Vipin Nath AV (Applicant No. 1), connected to the subject dispute, were marked to OISD, for which, replies were duly sent. Copies of the RTI Replies sent by them are produced as Annexure - R7 (1). Since none of the issues related to the 7th

Respondent and no reliefs have been claimed against them, they prayed for deleting them for the party array.

53. In O.A. 17 of 2021(SZ), the applicant filed counter affidavit to the objections filed by the 1st Respondent contending that as per the Environmental Clearance (EC), the 1st Respondent is expected to develop green belt around the site and it is for capturing the fugitive emission emanating from the plant operations, attenuate the noise generated and improve the aesthetics. Environmental protection has been considered as an important domain for industrial development. Trees help in trapping particulate matter, removing carbon dioxide and other pollutants from air and by release of oxygen into the air, thereby improving the air quality. The 1st respondent claims that 33% (40 Acres) of land is earmarked for Green Belt development. But the report of the statutory authorities will go to show that no Green Belt development has taken place on the shore of Kakkad Kara (South Side of PDPP) or space to develop green belt where the applicants reside, and they produced the screenshot of Google Map attached as Annexure - 1 along with this counter. When Green Belt was developed, it did matter, if it was located anywhere inside the plant. According to the 1st respondent, 33% of the land has been provided for Green Belt. The importance of greenbelt in and around the industry is to control air and noise pollution. When developing a green belt, it should be designed to protect the adjacent residential area, but the plant is very close to the residential area. It is clear from the inspection reports of Respondents No.3 & 5 that in and around the boundary, there is absolutely no space to develop green belt in the area. With respect to the individual report of the Central Pollution Control Board, the map

submitted to show the greenbelt development is misleading, as it shows entire vacant site as green belt patch irrespective of the building, internal/peripheral roads, open scrap yards, clearance zone, under the high-tension power line etc. As per the conditions of Environmental Clearance (EC) obtained by the 1st Respondent, the Greenbelt of 500 meters wide as recommended by the consultants in their report should be developed and maintained. According to the 1st Respondent, as per the Environmental Clearance (EC) granted to them on 20.08.1991, they have developed 500 meters green belt. But the Committee inspection report and the report of the Central Pollution Control Board, Kerala State Pollution Control Board and Ministry of Environment, Forest and Climate Changes highlight the absence of Greenbelt around the project area. The importance of Buffer Zone after the Visakhapatnam gas leak was to protect the nearby areas. The buffer zone with tree cover was also available with a limited width. It is strongly suggested that in the development of chemical industrial areas by the Industries Department, a buffer zone of minimum 100 - 500 meters shall be maintained within the factory and this was on the basis of the report of the High Power Committee constituted by the National Green Tribunal in respect of Vishakhapatnam Gas leak. The residential areas will not develop near to the industrial establishment for a specified distance, which can be prescribed based on the hazard and pollution potential. With the history of accidents on the part of the 1st Respondent, how can they ensure that it will not happen again? Twenty fourth standing committee on Petroleum and Natural Gas in the Lok Sabha (2017-2018) recommendation of the M.B. Lal Committee was to create a buffer zone around installations and regulating land use pattern around high hazard petroleum installations.

Accordingly, all the Chief Secretaries of States/UTs were requested in April 2013 to ensure adequate provisions in their land allotment rules to prohibit habitations to come up within a band of at least 250 - 300 meters around the periphery of the oil installations and to maintain a buffer zone to minimize the impact on the surrounding areas. The Committee was informed that no feedback has been received from the State Governments. The Committee felt that buffer zones around petroleum installations are an important aspect for maintenance of safety and therefore, desire that there should be no let-up in pursuing the matter with the States/UTs and the importance of creation of buffer zones should be impressed on them so that M.B. Lal Committee recommendation regarding safety of high hazard installations is implemented without any further delay. According to the 26th Standing Committee of Petroleum and Natural Gas in the Lok Sabha (2018-2019), Action Taken by the Government on the recommendations contained in the 24th Report (Sixteenth Lok Sabha) of the Standing Committee on Petroleum and Natural Gas (2017-18) on the subject Safety, Security and Environmental Aspects in Petroleum Sector, it was stated that a communication was sent to all the Chief Secretaries of States/Union Territories in the matter on 02.04.2013 wherein, it was requested to issue appropriate instructions to the concerned authorities to make adequate provision under the relevant Acts and Rules to prohibit proliferation of unauthorized hutment, shops or residential houses within a band of at least 250 - 300 meters around periphery of the Oil Plant installation. As per the Rules, the unit was allowed industrial standard of 75-70 dB A Leq whereas it's the constructional right of the individual not to suffer noise in exceedance of residential maximum standard of 55 dBA Leq and 45

dB(A) Leq in day time and night time respectively. The Board is insisting residential standard for other units viz. crusher etc. where residential plots are available nearby. This is a serious discrimination and a public undertaking shall not be allowed to continue with this type of violations. They are expected to maintain the noise level at residential standard in order to protect the interest of the people. The greenbelt and Buffer Zone around the project site has to be maintained by them. The individual report submitted by the PESO clearly states that the recommendation of the M.B. Lal committee was completed in year 2016 as applicable to the refinery. By this statement, it is clear that M.B. Lal Committee is not some other committee, as it was constituted as per the Ministry of Petroleum and Natural Gas directive and Bharat Petroleum Corporation Limited is also a public sector under Ministry of Petroleum and Natural Gas and it is not known as to why the buffer zone noted must be deleted as per the dissent note. They are directed to maintain the buffer zone or greenbelt so as to protect the interest of the people in that locality.

54. The Kerala State Pollution Control Board filed a further report on the basis of the orders of this Tribunal dated 18.12.2021, e-filed on 20.12.2021 which reads as follows:-

**"REPORT SUBMITTED AS PER THE ORDER DATED
16.11.2021 IN O A 17 of 2021 & IN OA 265 of 2017/M A 216 OF 2017**

1. I, M. A. Baiju, 55 years, S/o Sri. M. K. Aravindakshan, am working as Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulum. I am competent and duly authorized to represent the 5th Respondent in the Original Applications mentioned above. I know the facts and circumstances of the case. The factual submissions made hereunder are true and correct to the best of my knowledge, information and belief. It is important to note that the Hon'ble Tribunal heard the Interlocutory application on 30.07.2021 and delivered an order which was noted as follows,

“So, we direct the Kerala State Pollution Control Board to inspect the area in question and submit a report as to whether there was any noise as well as air pollution caused on account of offending units which are said to have committed the violation of conditions and submit an independent report regarding the same and if there is any violation of norms, then they are directed to provide remedial measures in this regard. They are directed to submit the report to this Tribunal on or before 11.08.2021 on which date, the cases were originally posted” Also ordered, “With the above observation and direction, this interlocutory application [I.A.No.104/2021(SZ) in O.A. No.17/2021(SZ)] is disposed of” “Post the matter to 13.08.2021 on which date, the cases were originally posted for consideration of joint committee report”. There were some objections raised by the 1st respondent through affidavit dated 13.09.2021. Item wise clarifications are given hereunder:

Items 7, 12. *A complaint was lodged by Sri. Vipinnath A. V. before the Hon'ble Prime Minister's Office. As per the order of the CPCB, CPCB official conducted a virtual hearing with SPCB, complainants and industry authorities on 29.09.2020 and inspection at the site on 23.10.2020 and submitted report dated 03.12.2020. Based on the direction of CPCB a technical committee was constituted by the Chairman, SPCB. This committee consists of officials of different regulatory agencies viz. SPCB, CPCB, PESO, MoEF&CC and District Magistrate, Ernakulam. The Committee's report was submitted before the NGT through status reports by the CEE, authorized by this respondent and Environmental Engineer, the member convener of the committee. Thereafter, the complainant Sri.Vipinnath A. V. filed application before the Hon'ble NGT numbered as OA 17 of 2021.*

Item 13.b. *The samples collected by SPCB from the outlet showed exceeding concentrations in phenolic compound. But repeat sampling showed concentration within the limit.*

c. *Noise level measured at almost all places showed exceedance from standards stipulated as per Noises Rules 2000, especially during night along residential area. Here, the committee unanimously recommended that the industry is not complying with standards applicable to residential areas whereas they are following the industrial standards ie, 75 -70 dB(A) (Day and night). Here, it is important to note that the residential limits are 55-45 dB(A) (Day and night).*

Item 13. ii. *Pollution issues due to the continuous operation of different processing sections of the industry are specifically addressed by the technical committee. iii.* *Proceedings on Human Rights Commission (HRMP No. 11018 of 2014 filed by T.K Ravi, Secretary, and K.J Mani, President, Kuzhikkad residence association) was mentioning about insisting Green belt and Buffer zone while issuing authorization to industry by regulatory authorities.*

Items 14, 15. It is important to see that several complaints were registered during the expansion stage which was specifically related to the environmental issues due to such development. It is also noted that EC was issued earlier specifying 500 m Green belt around the unit. They are not able to maintain it and the mandate was re-fixed to 33% area around the unit. This is not maintained by the factory till date which was specially addressed by the CPCB and technical committee in their reports.

Item 20. ICO issued to PDPP during 2019 after severe revisions and by accepting industry's representation that the commencement of operation of the unit will be usually batch wise where periodical commissioning is needed and ICO with variation will be required on each occasion. But it is to be noted that PDPP plant is not yet commissioned fully and ICO is not renewed by the SPCB till now.

Item 21. It is true that the MoEF&CC considered EIA recommendation since the EIA preparation was done by an agency accredited by them but the unit failed to comply with the specific conditions stipulated in the EC with respect to Greenbelt which was specially remarked by the Technical Committee.

2. This Tribunal vide order on 01.10.2021 directed as follows:

"Kerala State Pollution Control Board is directed to conduct noise level monitoring test inside the factory premises and also outside the premises at different locations including near the houses of the applicants in both cases so as to compare the noise levels difference as to whether it tallies with the standard provided or norms provided and submit a report." Further the case was heard on 29.10.2021 and the order of the Hon'ble Tribunal was specific with respect to noise level monitoring which read as follows, "They can conduct test only on the basis of the manner in which the tests are being conducted and if there is any difference between the Online Monitoring and the physical test conducted by the Pollution Control Board, they are at liberty to mention the reasons as to why such things are happening. Further, they can also ascertain as to whether there is any possibility of cumulative impact of the noise that is likely to be emanated from other industries, if they are situated near or away from the 1st Respondent unit and that aspect can be noted by them in the report."

3. It may also be noted that, the order dated 29.10.2021 is self-explanatory that the industry had produced online data for noise monitoring at four locations. On verification it is understood that those are not real time online monitoring data and the industry has not installed any such continuous online noise monitoring arrangements till now whereas those are daily noise data having 1 hr noise level/day submitted by the unit for the period from 29.03.2021 to 12.06.2021 (Total 34 hourly readings out of 74 days) seen submitted along with their report and the Hon'ble Tribunal finally ordered to countercheck those readings. However, it was planned to monitor noise levels

due to the operation of the respondent industry and other industrial units in the nearby vicinity for which source level noise inside the factory as well as sound level at complainant's dwellings.

4. It is respectfully submitted that though the 1st respondent has submitted application for consent to Operate/Renewal MSBP, IREP and PDPP plants, Integrated Consent to Operate (ICO) was issued to MSBP only with specific conditions. It is pertinent to note that a condition was added in the ICO that online noise monitoring stations shall be installed at strategic points to ensure that this unit is not creating any nuisance to nearby residential areas. During inspection conducted on 26.11.2021 it was intimated that they are going to install such noise monitoring arrangements immediately.

5. It is respectfully submitted that the Hon'ble Tribunal heard this application once again on 16.11.2021 and delivered an order, the main portion of which read as follows,

"The applicant in O.A. 17 of 2021 had submitted their objections and additional documents for the rejoinder submitted by the project proponent. Ms. Nivedita S. Menon representing Ms. Rema Smrithi Learned Counsel for the Pollution Control Board submitted that they want some for submitting the report as directed. They are forgetting the fact that the matter was advanced at the request of the applicant in O.A. No. 17 of 2021 and other matter is pending since 2017. They are expected to file the report at the earliest possible time, so as to enable this Tribunal to dispose of the matter without further delay"

6. I may humbly submit that there were certain issues in satisfactorily completing monitoring though the action plan for such monitoring was finalized well in advance, important among which are as follows,

a. Heavy rain during the previous month which continued till first week of December hindered the noise monitoring. Proper placement of sound level meters at different stations / actual sound measurement due to the operation of the industrial unit during rain was difficult. Hence, the Board had to wait for such rainless day/night.

b. The industry had responded to Board's letter asking their operation status of certain plants on 23.11.2021 only. This was issued to ensure that these plants are working sufficiently to measure noise levels.

7. However, monitoring was rescheduled and completed on 04.12.2021. Copy of the report on noise monitoring is attached as **Annexure 1**.

8. I may humbly submit that the delay occurred in submitting the report may be condoned. The delay occurred due to the bad weather conditions.

All that is stated above are true to the best of my knowledge information and belief.

Dated this 18th day of December 2021."

55. The 1st Respondent has filed an objection to the Joint Committee wherein, they have categorically stated that there was no proper inspection conducted and they did not enter the project area to verify the real state of affairs. Further, on the basis of the complaints made by the local residents, the State Assembly Petition Committee constituted a team to inspect the unit and they inspected the unit and gave a report that BPCL is maintaining the necessary mechanism and they operating the unit by complying with the conditions imposed by various departments in this regard. The complaint of sound pollution is not genuine and the report of the Pollution Control Board itself will go to show that within the industrial area, they are maintaining the standard and when it comes to the residential area, only at certain locations, it exceeds the limit and it cannot be contributed to the unit alone, as there are other sources of sound pollution which has not been properly considered.

56. The M.B. Lal Committee report's recommendation is only at the recommendatory stage and the same has not been implemented so far and as such, the same cannot be directed to be complied with by the 1st Respondent. They produced certain documents to show that they are properly maintaining the greenbelt and completion of greenbelt will be after completion of the project work. They have already planted the saplings and they will develop further greenbelt, so as to protect the environment. Being a public sector undertaking, they are committed to protect the environment and they are doing the same. They have taken all steps to minimise the pollution and they are using all scientific methods to curb pollution as well. Various inspection reports produced by them will go to show that there was no possibility of any pollution

being caused as alleged on account of their operation. However, they further submitted that in the interest of justice, if this Tribunal directs any further things to be done, they are prepared to do the same, not because there was any pollution caused on account of their activities but to show their bonafides of commitment to protect environment.

57. Heard the learned counsel appearing for the applicant in O.A. No.265 of 2017 and O.A. No.01 of 2022 and the 1st Applicant who appeared in person in O.A. No.17 of 2021 and also the learned counsels appearing for the BPCL, State Departments, Kerala State Pollution Control Board, Central Pollution Control Board, MoEF&CC, PESO and OISD.

58. The learned counsel appearing for the applicant in O.A. No.265 of 2017 and O.A. No.01 of 2022 argued that as per the report submitted by the High Level Committee constituted as per the directions of the Prime Minister's Office, based on the complaints received from various residents, they have categorically found that there was improper layout and the greenbelt was not properly maintained. Further, proper drainage system will have to be provided to avoid discharge of effluent into the nearby Chithrapuzha River to avoid pollution. Further, they also directed to acquire land for providing buffer zone and greenbelt. The report of the Pollution Control Board shows that there was sound pollution, and as such, they will have to provide necessary mechanism to curb the same.

59. The first applicant in O.A. No.17 of 2021 had relied on certain self assessments made by them to assess the sound pollution caused and also the report submitted by the State Pollution Control Board on this aspect.

He had further argued that their intention is not to close down the industry, but they will have to abide by the conditions imposed by the authorities. The greenbelt was not properly maintained which is the root cause for the complaints of pollution being alleged against the 1st Respondent's company and appropriate directions will have to be issued for that purpose.

60. The learned counsel appearing for the Pollution Control Board both the Central and State reiterated their reports wherein, they have found some deficiencies in the mechanism provided which will have to be rectified by them. The reports, in a way suggest the case of the applicants and that will have to be dealt with by the 1st Respondent company to avoid complaints.

61. The learned counsel appearing for the MoEF&CC also argued that they have inspected the area and violation aspects will have to be dealt with by the Pollution Control Board and necessary directions will be issued in this regard.

62. The learned counsel appearing for the different Central Government Departments argued that the allegation was only in respect of pollution which is nothing to do with these respondents and it is for the Pollution Control Board to take appropriate action. They are only concerned about the safety aspects and other approvals and permissions to be granted and if there is any complaint of violations that will be dealt with by appropriate department which are not falling within their purview.

63. On the other hand, the learned counsel appearing for the 1st Respondent viz., M/s. BPCL argued that none of the complaints made against the 1st Respondent are genuine and they are imaginary in nature. Further, the area was declared as an industrial area long ago and large area was acquired for the purpose of establishment of their unit. The subsequent expansions were happened on the basis of the Environment Clearance (EC) granted in 2015 and they are doing the work in a phased manner and only after commissioning of all units, they may be able to develop the greenbelt. But even before that, they have earmarked the areas for development of greenbelt and they have planted as many plants as possible and the reports will go to show that around 40 Acres of land has been earmarked for developing green belt.

64. The learned counsel also argued that the report of the Pollution Control Board regarding the sound pollution cannot be accepted, because within the industrial area, some results will go to show that it is less than even the standard prescribed for residential area and if that be the case, there is no possibility of sound pollution being caused on account of their activity in the nearby residential areas. They cannot acquire more land, as huge amount will be required for the purpose of acquisition under the present Land Acquisition Act, 2013 and it will affect the economy of the company and also cost of production, which indirectly affect the people by raising the price of the cost of petroleum products. The M.B. Lal's Committee Report is only of recommendatory nature and that has not been accepted by the Government and no directions have been issued in this regard. So, it cannot be directed to be implemented at any cost.

65. Further, the learned counsel also argued that whenever any directions were issued by the regulating agencies, they were complying with the same and they will continue to abide by the same in future as well. They have provided all necessary pollution control mechanism including rising of the compound wall and providing windshields to avoid sound pollution being caused to the neighbouring areas.

66. We have considered the pleadings, submissions made by both the parties who appeared in person and the learned counsel for the parties and also perused the documents available on record.

67. The points that arise for consideration are:-

- (i) Whether there was any violation committed by the 1st Respondent unit in complying with the conditions imposed in the Environmental Clearance (EC) and other clearances granted?
- (ii) Whether the pollution control mechanism provided is sufficient or not and if so, what is the nature of further direction to be issued to address the issue?
- (iii) What are all the further directions, if any, to be issued to meet the situation?

POINTS:-

68. The grievance in these applications is that on account of the operation of the 1st Respondent/BPCL unit, large scale air and sound pollution is being caused, affecting the peaceful life of the people residing near the unit.

69. Even in the year 2017, when an application (i.e. O.A.No.265 of 2017) was filed, the nature of complaint was same. Subsequently, another application viz., O.A. No.17 of 2021 was filed by some of the residents in that area, on the basis of the report submitted by the High Power Committee appointed on the basis of the directions from the Prime Minister Office, on receipt of large number of complaints of pollution caused on account of the operation of the 1st Respondent unit and the Committee found that there were certain violations and that will have to be rectified out by the 1st Respondent. O.A. No.01 of 2022 was also filed subsequently based on the same report and rising same complaints and in fact, the applicant in O.A. No.01 of 2022 had preferred a Writ Petition before the Hon'ble High Court of Kerala in 2016 making similar allegations. But subsequently, the said writ petition was dismissed as withdrawn with liberty to approach this Tribunal to redress their grievance. The above said allegations were denied by the 1st Respondent.

70. It is an admitted fact that there was a Technical Committee appointed as per the order from the Prime Minister Office on the basis of the complaints received and as per the order of this Tribunal dated 30.07.2021, the report of the Technical Committee has been produced and they have made certain observations and recommendations which reads as follows:-

“OBSERVATIONS AND RECOMMENDATION OF THE COMMITTEE

1. The allegations levelled against the unit regarding air, water and noise pollution due to the commissioning activities of different expansion projects needs to be verified and assessed by a thorough inspection of project site and commissioning activities.

The industry has provided with 5 numbers of CAAQM stations from where details are collected and verified. Counter checks of CAAQMS stations and data validation may be carried out by KSPCB in consultation with CPCB. As per the order of the Hon'ble NGT, the SPCB had conducted 24-hour ambient air quality and sound monitoring in different locations outside the boundary of the company on 05.09.20 and 04.03.21. Stack monitoring also conducted in the main stacks of IREP and Prodair Air products. Details of the study are attached as Annexure-8. According to the study the values of gaseous pollutants in the ambient air are within the prescribed standards. But the reported value of NO_x in the PFCCU regenerator is higher than the standard value i.e. 406.19 mg/Nm³ against 350 mg/Nm³. Ambient sound level reported during night time at Neermel area, North East side of IREP unit, is higher than the noise standard prescribed for residential Zone i.e. 55.8 dB(A) against 45 dB(A). Though the subsequent monitoring showed readings within the stipulated limits, the phenol compounds in the treated water samples collected from the authorized outlets was 3.2612 mg/L and 8.103 mg/L against prescribed standard of 0.35 mg/L. Based on the repeated complaints received during the commissioning time of PDPP unit, monitoring conducted by SPCB. It was found that the noise level exceeded the prescribed standard for residential zone. Copy of the data sheet attached as Annexure-9. Even though the project area is claimed to be a notified industrial area, the residential area around it is not included in the industrial zone. The ambient noise standard for residential zone seems to be applicable there which is a major concern of the public residing nearby. The proximity of flare stack in PDPP project to the residential area is a grave concern. The higher noise level, continuous lighting, foul smell and smoke emission during flaring affect the normal life. The sulphur silos and stacks in SRU, in IREP project causing dust / odor problems in the Neermel are lying in low level. The high noise level in the residential zone is a clear violation of the EC/ Consent conditions.

2. The absence of green belt "around the project site" is not in compliance with the specific EC condition regarding development of green belt and the matter has to be referred to the EC issuing authority for further necessary actions.

As per EC granted by the MOEF&CC for the PDPP project, a Green Belt is to be developed in an area of 40 Acres. M/s. BPCL has claimed that 40 Acres have been developed as green belt. The committee observed that the map submitted to show the Green belt development is

not factual as it shows the entire vacant land as green patch irrespective of the buildings, internal roads, open scrap yards, clearance zones under the high tension power lines exist. It is also observed from the layout plan that, the vacant area marked for 'future installations/ facilities' is projected as an area under green belt development. Scrap and construction materials seen dumped in the area marked for Green belt. The Green belt provided in the project area of IREP area is not developed as thick green plantation as per EC condition. Hence the committee unanimously recommended that the Green belt provided in the PDPP/ IREP project area is not adequate to mitigate the air and noise pollution and is not statutorily meeting the requirements of EC conditions. The Committee recommends: a) To remove all scrap and construction material dumped / lying in the Green belt and plant area, b) To Consider on indigenous / native species for future green belt development and follow the CPCB guidelines for selection of plant species and submit action plan with time schedule to achieve the required green belt around the project periphery.

3. The layout of installations close to the public roads and residences suggests that buffer zone / area is not maintained. Proper safety distance criteria from the project installations needs to be evaluated by a proper safety adequacy assessment in line with the various OISD standards and PESO guidelines. A proper safety assessment may be conducted with a committee comprising relevant regulatory authorities.

The committee observed that, the requirement of Buffer zone or Green belt beyond the boundary is to be addressed immediately as all the complainants who were present before the committee on 23rd March 2021 and met during field visit conducted on 24th March 2021, especially petitioners in OAs explicitly expressed their anxiety on safety and pollution issues due to the operation of the industry in question. Hence the committee after hearing the illustration of related rules observed that the requirement of Buffer Zone or Green Belt beyond the installation boundary is not within the scope of the Petroleum Rules under which the license has been granted by the PESO. From the interaction with industry representatives, it was learnt that M B Lal recommendations applicable to existing installations in the refinery has been complied with by the unit. In this regard, it is pertinent to highlight the recommendations of the M B Lal Committee report in the aftermath of the October, 2009 fire accident at IOCL installation in Jaipur that a buffer zone around high hazard installations is to be maintained.

However, the recommendations especially the 250-300m buffer zone as given in item (ii) in section 10.20 of chapter 10 of the M B Lal Committee report which are yet to be implemented. Relevant portion of the committee report is attached as Annexure- 10.

4. The project area seems to be inadequate to develop a proper green belt around the project site as committed by the project proponent and to maintain proper buffer zone around the site. A detailed assessment of project area required with respect to green belt development/ buffer zone in line with the stipulated EC condition and relevant safety distance standards applicable to petroleum installations/ industries.

Since some areas outside the boundary of PDPP project and MSBP project area, near the flare stack of PDPP and near the SRU plant of IREP project, the noise level, lighting intensity and dust problems are experienced. Non availability of enough buffer area or Green belt between the flare stack and the company boundary is the cause for these problems. Company may acquire the land adjacent to these areas and provide a proper buffer zone and Green belt to mitigate all the shortfalls mentioned above.

General recommendations and suggestions

□ Due to improper layout and storm water drainage provisions in the project area, there are chances of water logging in several low lying areas surrounding the PDPP project. Due to the diversion of the natural canal which was flowing through the project area and the reclamation of paddy fields, the local hydrology is very much affected. The committee also observed that proper scientific studies were not undertaken on the consequences of the local hydrology of the area before diverting the natural canal and reclamation of paddy fields.

□ As per the entry 17 in list II of the seventh schedule of constitution, water is a State subject and in the 1992 amendments to the Constitution regarding Panchayats and Municipalities, the following entries in the schedules introduced listing the subject-areas in which the State Governments and legislatures may devolve functions to such bodies, so as to make them evolve as local self-governing institutions. In the Eighth Schedule (Part IX) dealing with Panchayats, the subjects, "Minor irrigation, Water management and Watershed development", "drinking water" and "maintenance of community assets" are listed. In this regard, it is pertinent to note that there is no clarity on the involvement of State water resources department and other relevant

State agencies in the diversion of a natural stream for industrial expansion.

□ Also proper drainage facilities need to be provided by the company to address the water logging problems and unauthorized effluent discharge if any through this stream which find its way to the nearby Chithrapuzha River making it polluted as identified by the CPCB. It is to be importantly decided that acquired land for buffer zone if any shall not be used for future expansions/installations."

71. The Central Pollution Control Board also mentioned in the report that due to Covid conditions, they could not assess the actual impact of noise pollution. As regards the greenbelt is concerned, though they claim to have earmarked 40 Acres of land for developing greenbelt and 8,000 saplings have been planted, but the same could not be verified at the time of inspection. But as per the EIA Report of PDPP Project provided by the project proponent that they have committed to provide 200 Meter wide greenbelt in the boundary of the project, evidenced by Annexure – R3(3) produced along with the counter statement filed by the Central Pollution Control Board.

72. It is seen from the report that there was no proper layout made by the 1st Respondent in making the construction and those installations were very close to the public roads and residences and as such, they could not maintain the buffer zone as required. They further mentioned that proper safety distance criteria from the project installation needs to be evaluated by proper safety adequacy system in line with the OISD standards and PESO guidelines and further safety assessment has to be conducted with the committee comprising of relevant regulatory authorities.

73. Various reports submitted by the Pollution Control Board also will go to show that though the Ambient Air Quality was in conformity with the standard provided, noise pollution was at variance at several locations which they have extracted in Annexure - B attached to the report dated 06.08.2021 which reads as follows:-

Sl N	Area	Date	Monitoring Done by	Time of Monitoring	Measured Sound (d B(A) Leq	Limiting Standard d B(A) Leq
1	IREP gate at Jwalagiri stop(Along Thrippunit hura-Karimughal road)	30.12.2020	Surveillance Team of RO	10.17 PM	78.1	45(night)
2	Adookkara Area,near PDPP	Letter from DO 17.02.2021	District Office-2	Day	60-65	55 (Day)
3	Adookkara , near PDPP	03.03.2021	Surveillance Team of RO	Night	57 51.4 54.3	45(night)
4	Adookkara ,near PDPP	21.03.2021	Surveillance Team of RO	Night	55.5	45(night)
5	Adookkara Area,near PDPP	07.04.2021	Surveillance Team of RO	10.05 PM	59.5	45(night)
6	Kakkad Area near PDPP	10.04.2021	Surveillance Team of RO	10.15 PM	55.2	45(night)
7	Residence of Omanakuttan, Near SRU of IREP	16.04.2021	Surveillance Team of RO	10.02 PM	54.5	45(night)
8	Residence of Viju, Near PDPP	17.04.2021	Surveillance Team of RO	10.01 PM	64.9	45(night)
9	Residence of Viju, Near PDPP	04.05.2021	Surveillance Team of RO	10.00 PM	65.3	45(night)

74. Even, the report of the Committee appointed on the basis of the directions issued by the Prime Minister Office relied on by the 1st Respondent also made their following recommendations:-

“Recommendations:

1. The allegations levelled against the unit regarding air, water and noise pollution from the project commissioning activities needs to be verified and assessed by a thorough inspection of project site and commissioning activities.

2. The absence of green belt around the project site is not in compliance with the specific EC condition regarding development of green belt and the matter has to be referred to the EC issuing authority for further necessary actions.

3. The layout of installations close to the public roads and residences suggests that buffer zone/ area is not maintained. Proper safety distance criteria from the project installations needs to be evaluated by a proper safety adequacy assessment in line with the various OISD standards and PESO guidelines. A proper safety assessment may be conducted with a committee comprising relevant regulatory authorities.

4. The project area seems to be inadequate to develop a proper green belt around the project site as committed by the project proponent and to maintain proper buffer zone around the site. A detailed assessment of project area required with respect to green belt development/ buffer zone in line with the stipulated EC condition and relevant safety distance standards applicable to petroleum installations/ industries.”

75. The findings and observations of the Member of the MoEF&CC is as follows:-

“FINDINGS/OBSERVATIONS OF MEMBER - MOEF

Sl. No.	Name of the project, Environmental Clearance (EC) No and EC Conditions	Compliance reported by PA	Remarks
1.	<p>M/s BPCL - PDPP</p> <p>EC. No. J-11011/26/2013 - IA.II (I) dt 12.05.2015.</p> <p>Specific Conditions:</p> <p>No. xxiv. Green belt shall be developed at least in 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB</p>	<p>As per the direction of PDPP Environment clearance (F.No.J-11011/26/2013 - IA II (I)) issued by Ministry of Environment, Forest and Climate Change (MoEFCC), BPCL-Kochi</p> <p>Refinery has earmarked 40 acres of land for developing green cover in PDPP project and the details of green cover are as below.</p> <ul style="list-style-type: none"> The green belt development had started along with the construction activities and in the 	<p>Partly complied.</p> <p>During the visit, following were observed:</p> <ol style="list-style-type: none"> Saplings are recently planted. PA has planted some shrubs like Ixora, Calotropis, Punica, Plumeria & Nerium species. The shrubs and lawns cannot be treated as tree / green belt area.

	<p>guidelines in consultation with DFO. Thick green belt with suitable plant species shall be developed around unit selection of plant species shall be as per the CPCB guidelines.</p>	<p>first phase, the green belt was developed along both sides of the canal and near the boundary walls in PDPP.</p> <ul style="list-style-type: none"> • The suitable native plant species were procured from the forest nurseries in consultation with Retried Dy. Forest Conservator. • In the second phase, the green belt was developed aggressively around the PDPP areas earmarked as the green belt. The green belt is being developed in the form of various parks such as herbal park, Fruit Parks, Bird parks, Bamboo Parks, etc., inside the PDPP premises. • In the final phase of green belt development, the large 	<p>3. PA has not followed CPCB guidelines for plant selection. Some of the species are not indigenous like Royal palm, red palm, Foxtail palm, Casuarina etc.,</p> <p>4. So many scraps, waste materials and other constructed materials are stored in the Green belt.</p> <p>Recommendation:</p> <ol style="list-style-type: none"> Remove all scrap and construction material dumped / lying in the Green belt Area and plant area. Consider on indigenous / native species for
		<p>areas for sapling plantation were limited due to the various site clearance activities. Miyawaki approach was introduced for the faster and dense development of the green belt. In addition to the green belt, various gardens are being developed along the roadsides and buildings.</p> <ul style="list-style-type: none"> • Measures have been adopted and the contractors are mobilized for the maintenance of the green belt. <p>Green belt development survey sketch – BPCL KR- PDPP - attached as Annexure -1. Details of Tree species planted in BPCL KR- PDPP Annexure-2.</p>	<p>future green belt development and follow the CPCB guidelines for selection of plant species.</p> <ol style="list-style-type: none"> Submit action plan with time schedule to achieve the required green belt.
<p>2.</p>	<p>Integrated Refinery Expansion project</p> <p>EC. No. J-11011/341/2011-IA.II(I) dt. 22nd November, 2012.</p> <p>Specific Conditions:</p> <p>Developed at least in 33% of the premises to mitigate the effects of plant as per the CPCB FO. Thick green belt with ped around unit selection of the CPCB guidelines.</p>	<p>The IREP “plant area” including plant and tank farm facilities and excluding open spaces roads & buildings works out to 90 acres. The 33% of this area works out to be approximately 30 acres. IREP plant was incorporated inside the existing premises and the major project area was away from human habitation. Further there is a green belt existing adjacent to the populated areas (Google map attached, Annexure-3). Hence the 25000 tree saplings were planted across the refinery premises details of which is attached as Annexure -4. (Details of locations & plant varieties listed). The approximate area of green cover works out to be 40 acres (1500 trees per hecter).</p>	<p>Partly complied.</p> <p>PA should have calculated 33 % for the total area of this project.</p> <p>Further, during the visit it is noted that PA has developed green belt areas but not developed thick green plantation as per the EC.</p> <p>Recommendation:</p> <p>(ii) and (iii) above may be considered.</p>

<p>3.</p>	<p>M/s. BPCL – Expansion- cum- Modernization of Refinery Unit.</p> <p>EC. No. J-11011/369/2005- IA II(I) dated 2ndFebruary, 2006.</p> <p>Specific Conditions:</p> <p>No. x. Green belt of adequate width and density shall be provided to mitigate the effects of fugitive emissions all around the plant. Green belt shall be developed in 116 ha out of total 461.7 ha land with local species in consultation with DFO and as per the CPCB guidelines.</p>	<p>Green belt was being developed as per EC conditions for CEMP-II. During IREP project, some part of this green belt was utilized for integrating new plants to the existing facilities. Hence new areas are being acquired/ developed to compensate this. A survey of green cover done in the year 2018 revealed that 153 acres of green cover is available across Refinery premises (Executive summary of the Survey report attached as Annexure - 5. In addition, during IREP project more than 25,000 saplings were planted and being maintained (Details, Annexure - 4). If we consider 1500 trees per ha this estimates to about 40 acres. 52 acres of land is being procured (33.6 already procurement completed, documents being regularized for the remaining) near to DHDS facility for development of green belt. In the procured area, around 5863 number of trees are already existing. In addition, another 170 acres are leased from Kinfra in the year 2019 for Refinery green belt. Summary of the green belt requirements Vs actuals is attached as Annexure - 6.</p>	<p>Partially complied.</p> <p>During the earlier inspections in the year 2017, PA reported that “Out of total approx area of 1265 acres, approx 40 acres of Green Belt have been developed and another 40 acres will be developed as part of Petchem project. Also propose to acquire another 168 acres of adjacent FACT land, which is having thick green belt and propose to maintain the same. So that total green belt area would be approximately 248 acres, which is above the 33% of the Plant area”.</p> <p>Further, it was observed that the green belt development has been focused on few locations and PA informed that it was due to safety point of view. However, PA has been advised to explore development of green belt wherever possible within /around each plant taking into consideration of safety to which PA has been agreed.</p> <p>It was noted during the recent inspection that the land acquired (FACT) has been diverted for project development and not for green belt development.</p> <p>As regards, 170 acres leased from Kinfra in the year 2019 for Refinery green belt, PA has not submitted any relevant documents like land lease copy.</p> <p>Recommendation:</p> <p>i. Submit undertaking that Kinfra land will be utilized for Green belt development purpose only and will not be diverted for any other purpose.</p> <p>ii. (ii) and (iii) above may be considered.</p>
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4.	<p>Expansion of Capacity of Cochin Refinery from 4.5 MMTPA to 7.5 MMTPA</p> <p>EC. No. J-11011/32/90-IA. II dated 20th August, 1991.</p> <p>xvi. Green belt, 500 meters wide, as recommended by the consultants in their report should be developed and maintained. The treated effluent conforming to the standards should be used for green belt development. Detailed green belt development plan taking in to account attenuation factors and submitted to this Ministry within 6 months.</p>	<p>This was a condition proposed for the refinery of 1991. The green belt was developed in an area of around 8.11 hectares and 4020 saplings were planted under Green Belt Development Project and the details were submitted to MOEF & CC at that point of time. Later on Refinery has undergone major expansion / Modernization Projects and the Current stipulations/ actual conditions are as summarized above.</p>	<p>Partly Complied.</p> <p>PA has developed green belts area in some places. But has not developed 500 m wide as per the EC condition.</p> <p>It was noted that the EC dt 22.2.2012 insisted following specific condition:</p> <p>“(i) Compliance to all environmental conditions stipulated in the environmental clearance letter nos. J-11011/32/90- IA. II dated 20th August, 1991, J-11011/78/1996-IA.II (I) dated 5th march, 1997, J-11011/58/2003-IA.II(I) dated 19th May, 2003, J-11011/369/2005-IA II(I) dated 2nd February, 2006 and J-11011/238/2008-IA.II(I) dated 18th February, 2009 shall be satisfactorily implemented and compliance reports submitted to the Ministry’s Regional office, Bangalore”.</p>
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76. They also found that certain conditions are only partly complied with and directed to comply with the conditions fully. As regards the State Pollution Control Board is concerned, they have also given their findings and observations as follows:-

“FINDINGS/OBSERVATIONS OF MEMBER - SPCB

Submission of Main Suggestions by the SPCB before the Technical Committee With Regard To OA 17 of 2021 and OA 265 of 2017

1. Light from Flare Stacks

Intensive and continuous light from flare stacks created annoyance and mental depression among the people residing near to such installations. There are complaints from public against spreading of smoke from these stacks also causing severe health problems especially during night and early morning hours since temperature inversions are there. Hence an expert impartial medical study shall be immediately done to assess how many of the are seriously affected due to this severe continuous lighting in the odd hour sand smoke and dust. It is so suggested since no known standards are available for

such "pollution" and an expert agency may be appointed to study these verity of such lighting and remedial measures if any could be adopted.

2. Noise Pollution

The claim of the company authorities is that the location of this industry as a whole is already declared as industrial area as per the notification of Industries Department. To substantiate this, it is noticed that the sound limit of 70-75 d BA (Leq) is specified in the EC. If this criterion, which is remarkably beneficial to industry, is allowed, the constitutional right of the people residing near to the plant that residential limits of 45-55 d BA (Leq) are applicable would not be protected. There were instances while sound level exceedance was noticed near to industrial boundary from the industrial as well as residential limits especially during odd hours. Also, to ensure that there are no exceedances of sound levels during construction/operation phases as insisted through ICE/ICO/EC, continuous sound level monitoring with display system around the periphery of every individual plants shall be immediately completed so that there will not be any confusion among local people as well as the industry and transparency could be maintained.

3. Buffer zone

Since buffer zone issue is significantly raised by the petitioners pointing out the recommendation of the MB Lal committee which is seen forwarded in the year 2013 to Govt. for implementation and the **twenty fourth** standing committee (**Loksabha 2017-2018**) commented that no feedback were received from State Governments. Also, the **twenty sixth** Standing committee (**Loksabha2017-2018**) verified the actions on this recommendation and identified that the same was not implemented till then. It is pertinent to note that there is an explicit recommendation also of the **Hipower** committee appointed for styrene gas leak at Visakhapatanam exclusively for this type of 17 category installations where explosion/serious pollution chances are there. Hence, actions in this regard shall be examined in detail as it is importantly on safety precautions and pollution problems and people residing around the unit is anxious more on safety issues and pollution issues due to recent expansions of the industry. It is understood that the Factories & Boiler Department is the local agency and PESO/OISD are industry/public specific authorities looking into the safety aspects and they may be asked to suggest remedial measures by suggesting acquisition if any needed of sufficient land around the unit which will be served as buffer zone. Also, buffer zone implementation with regard to pollution issues, MoEF, CPCB and SPCB shall suggest options. It is to be importantly decided that acquired land for buffer zone if any shall not be used for future expansions/installations.

4. Greenbelt

"Green belt" is a term which may be defined as suitable species of trees as per the rules and guide lines by CPCB shall behaving sufficient thickness and there should be a clear guideline for such thickness (Say 500 m between

plant and nearby residential area as specified in the EC guidelines). Though there are green covers provided/tree saplings planted inside the plant area, several pockets are seen where no greenbelt as specified by PCB are identified. Since the complainants are pinpointing the inadequacy of green cover as insisted in the EC, specific directions are needed to mitigate the pollution problems due to improper greenbelt.

5. Water pollution

Pollution due to waste water shall be addressed in such a way that continuous online monitors/electromagnetic flow meters shall be provided along outlets/reuse lines of the industry and upstream/ downstream of river Chithrapuzha where treat effluent is being discharged. This is recommended since there were incidents of fish deaths near to this plant and there cent monitoring of Chithrapuzha reveals certain exceedance in the concentration of some of the parameters like phenolic compounds etc. Also, water balance shall be closely verified and flow meters shall be installed at every extraction points. Insisting reuse of treated effluent to the maximum extent possible also shall be practiced to progressively achieve zero effluent discharges.

6. Air Pollution

Air emission shall be continuously monitored through CAAQMS, Online stack monitors (OCEMS) and if needed manual monitoring of air quality at the complainant's area. Also, these monitors shall be periodically counter checked by accredited third parties like CPCB, MoEF&CC etc. for transparency.

7. Health Effects

Periodical health surveys shall be done by accredited agencies among people within 10 km radius since the Ambalamughal area is already crowded with lot of major industrial/waste processing activities.

8. Corporate Social Responsibility

CSR fund utilization shall be strictly verified and ensure that the funds are utilized among nearest residing public."

77. As regards the PESO's recommendations, they have given their findings and observations as follows:-

"FINDINGS/OBSERVATIONS OF MEMBER- PESO

The following is the remarks of the Petroleum and Explosives Safety Organization (PESO) on the complaints concerning to this organization.

1. The complainants raised the issue of 50 meters of buffer zone and 500 meters of green belt surrounding the IREP projects, PDPP unit and MSBP unit during their presentation at KSPCB office on 23/03/2021 as well as during the site visit by the team on 24/03/2021.

Reply- It is clarified that, the requirement of buffer zone or green belt beyond the installation boundary is not within the scope of the Petroleum Rules under which the licences have been granted by the PESO.

2. The complainants also raised before the committee that M/s BPCL KRL has not implemented the recommendations of the M B Lal committee recommendations in the installation.

Reply- It is stated that M/s BPCL KRL has already completed the recommendations of the M B Lal committee as applicable to the refinery in the year 2016 and documentary evidence to the effect is available online in the refinery website. Copy submitted by BPCL may be attached.

3. LPG tankers are parking on both sides of the roads blocking the traffic movement which results with number of fatal accidents.

Reply- The provisions of parking of tankers within the LPG filling plant area have been earmarked. The compliance of the same shall be ensured by BPCL."

78. So, we cannot fully agree with the submissions made by the learned counsel appearing for the 1st Respondent - M/s. BPCL that they are strictly complying with the conditions and there was no violation committed by them and there was no pollution both air, sound and water caused on account of their activities. The very purpose of developing greenbelt around the industry area, abutting the boundary of the project area is to absorb the noise and air pollution that is being caused on account of the operation of the machineries and emission of fugitive gases and effluents from the industries. The greenbelt is to be created as contemplated and planting of trees in an extent of the area equivalent to 33% if allowed to be considered as greenbelt at the whims and fancies of the project proponent, the purpose of protection of environment by developing greenbelt cannot be achieved.

79. It is seen from the reports submitted by the various authorities that there was no proper layout made by the 1st Respondent while expanding their projects and installing their plants without providing sufficient space from the boundary for developing necessary greenbelt which is the sole cause for complaints being received from the neighbouring residents. Though a higher sound level standards have been provided within the industrial area, but they are also expected to maintain the standard for residential area and ensure that the protective mechanism provided to maintain that standard is required for residential areas so as to maintain the standard to make the life of the people who are residing near the industrial area peaceful. In order to avoid such complications only that M.B. Lal Committee which was appointed when gas leak incident occurred in Vishakhapatnam made the recommendations to provide buffer zone of some distance from the residential area considering the nature of industries and that will have to be maintained as well. But quite unfortunately, it is not known as to whether that committee's report has been accepted and any directions have been issued in this regard by the Central Government. Further, that report will apply only to future development and it cannot be imposed on the existing industrial units and these aspects will have to be considered by the authorities who are issuing permissions for expansion and starting of new units within the industrial area. They must also consider the carrying capacity of the area within which the further units will have to be established as well. All these things are required for the purpose of striking a balance between the sustainable development and 'impact of such development on environment and if such a standard has been adopted by the authorities

while granting necessary clearance/permission, such complaints could be avoided in future.

80. It is true that as per the conditions of the Environmental Clearance (EC) of 2015, issued for PDPP projects developed within the complex of the 1st Respondent, the condition of greenbelt can be possible only after commissioning of the unit. But at the same time, the Petroleum Refinery was there since long time and when permissions were granted for that purpose, whether there was any provision for greenbelt and whether that has been complied with by the 1st Respondent, also will have to be looked into by the authorities. If they could not develop the greenbelt even at that time to protect environment, when they are granting clearance or permission for establishment of new projects, then the issuing authority has to evaluate the same as well and impose further conditions taking into these aspects to be implemented by the 1st Respondent. There must be regular monitoring by the regulators as to whether those conditions are complied with and if not, what is the nature of further directions to be issued and action to be taken against the 1st Respondent.

81. It has been observed by the Hon'ble Apex Court in **Alembic Pharmaceuticals Limited Vs. Rohit Prajapati & Ors.**¹ that for violations (if any) committed, it is not always necessary to close down the industry, but at the same time, applying the '*Doctrine of Proportionality*', applying the '*Precautionary Principles*', the remedial measures will have to be provided to protect environment applying the above principles. So, we feel that certain directions can be issued to redress the grievance of the

¹ 2020 SCC Online SC 347

public which a public sector undertaking viz., 1st Respondent has to comply and ensure that their operation should not cause any nuisance to the residents who are residing near the unit, as admittedly, the applicant in these cases are residing in close proximity to the 1st Respondent unit along the boundaries.

82. So, under such circumstances, we feel that these applications can be disposed of by giving the following directions:-

- a) The Bharat Petroleum Corporation Limited (BPCL) is directed to maintain the greenbelt along the boundaries as far as possible and plant such species which will not cause any impediments for safety measures of the existing plants as per the guidelines issued by the different departments. But at the same time, they are directed to maintain the greenbelt along the boundaries as far as possible, in consultation with the concerned safety departments, so as to avoid air as well as noise pollution being caused to the neighbouring residents.
- b) The State Pollution Control Board is directed to suggest the methodologies by which the complaint of sound pollution can be avoided on account of the operation of the 1st Respondent unit and if any recommendation is made by the State Pollution Control Board, then the 1st Respondent is directed to carry out the same in its letter and spirit.
- c) The regulating authorities are directed to take appropriate action against the 1st Respondent/ Bharat Petroleum Corporation Limited (BPCL) for non-compliance of the conditions, if any, imposed in the

Environmental Clearance and other clearance/permission granted, strictly in accordance with law.

- d) The MoEF&CC is directed to ensure that in future if the 1st Respondent/Bharat Petroleum Corporation Limited (BPCL) applies for any expansion or starting of new unit within the area available in the industrial complex, then they are directed to conduct carrying capacity study and also whether the conditions, if any, to be imposed can be implemented by the 1st Respondent within that area and only on such satisfaction, the further expansion or establishment of new units within that area can be permitted.
- e) The State Government is also directed to instruct the Industries Departments whenever they are going for establishment of any industrial park or notifying any new industrial area, taking into account M.B. Lal's Committee report direct the project proponent to provide necessary buffer zone within the area to create greenbelt as suggested by the M.B. Lal's Committee and restrict construction of buildings maintaining that buffer zone, so that a safe distance can be maintained to avoid complaints of industrial pollution both air and sound which is likely to be raised by the public in future. They must consider the question of providing 'No Construction Zone' within the particular area near the industrial zone or estate as well.
- f) The Bharat Petroleum Corporation Limited (BPCL)/1st Respondent is also directed to take appropriate steps to avoid complaints of sound as well as air pollution on account of operation of their existing units, if they are not able to develop the greenbelt as suggested along the boundary in consultation with the Central

Pollution Control Board and State Pollution Control Board, evolve other suitable mechanism to maintain the sound level emanating from the industrial unit in conformity with the standards prescribed for residential area as well, when residential houses are situated very close to the unit and the 1st Respondent is directed to carry out those recommendations in its letter and spirit to avoid any further complaints from the local residents in this regard.

g) The State Pollution Control Board is also directed to monitor the functioning of the 1st Respondent unit periodically and if there is any violation found by causing any air or sound pollution in the neighbouring areas on account of the operation of the 1st Respondent, and found any violation of conditions imposed in the statutory clearance granted, then they are directed to suggest their recommendations to redress the same and the 1st Respondent is directed to carry out the same in its letter and spirit and in case of any non-compliance of the directions so issued, then the State Pollution Control Board is directed to take appropriate action against the 1st Respondent including imposition of compensation as directed by the Principal Bench of National Green Tribunal, New Delhi and also by this Bench in several cases of this nature, applying the guidelines issued by the Central Pollution Control Board in this regard.

h) The State Pollution Control Board is also directed to file an action taken report giving their suggestions to avoid complaints redressing the public grievance of sound and air pollution to be implemented by the 1st Respondent and its compliance by the 1st Respondent **within a period of 4 (Four) Months.**

i) The Bharat Petroleum Corporation Limited (BPCL)/1st Respondent is directed to pay an environmental compensation of **Rupees Two Crores** to the Kerala State Pollution Control Board **within a period of 2 (Two) Months** for the unscientific greenbelt developed by them. The said amount is to be used by the State Pollution Control Board for increasing the green cover in and around the factory and the residential areas. The 1st Respondent is also directed to increase the density of tree cover in the areas already earmarked for greenbelt, in consultation with the Forest Department and if the amount is not paid, the State Pollution Control Board is directed to take steps to recover the same from the 1st Respondent/BPCL in accordance with law.

83. The points are answered accordingly.

84. **In the result, all these original applications are allowed in part and disposed of with the following directions:-**

(i) The Bharat Petroleum Corporation Limited (BPCL) is directed to maintain the greenbelt along the boundaries as far as possible and plant such species which will not cause any impediments for safety measures of the existing plants as per the guidelines issued by the different departments. But at the same time, they are directed to maintain the greenbelt along the boundaries as far as possible, in consultation with the concerned safety departments, so as to

avoid air as well as noise pollution being caused to the neighbouring residents.

(ii) The State Pollution Control Board is directed to suggest the methodologies by which the complaint of sound pollution can be avoided on account of the operation of the 1st Respondent unit and if any recommendation is made by the State Pollution Control Board, then the 1st Respondent is directed to carry out the same in its letter and spirit.

(iii) The regulating authorities are directed to take appropriate action against the 1st Respondent/ Bharat Petroleum Corporation Limited (BPCL) for non-compliance of the conditions, if any, imposed in the Environmental Clearance and other clearance/permission granted, strictly in accordance with law.

(iv) The MoEF&CC is directed to ensure that in future if the 1st Respondent/Bharat Petroleum Corporation Limited (BPCL) applies for any expansion or starting of new unit within the area available in the industrial complex, then they are directed to conduct carrying capacity study and also whether the conditions, if any, to be imposed can be implemented by the 1st Respondent within that area and only on such satisfaction, the further expansion or establishment of new units within that area can be permitted.

(v) The State Government is also directed to instruct the Industries Departments whenever they are going for establishment of any industrial park or notifying any new industrial area, taking into account M.B. Lal's Committee report direct the project proponent to provide necessary buffer zone within the area to create greenbelt as suggested by the M.B. Lal's Committee and restrict construction of buildings maintaining that buffer zone, so that a safe distance can be maintained to avoid complaints of industrial pollution both air and sound which is likely to be raised by the public in future. They must consider the question of providing 'No Construction Zone' within the particular area near the industrial zone or estate as well.

(vi) The Bharat Petroleum Corporation Limited (BPCL)/1st Respondent is also directed to take appropriate steps to avoid complaints of sound as well as air pollution on account of operation of their existing units, if they are not able to develop the greenbelt as suggested along the boundary in consultation with the Central Pollution Control Board and State Pollution Control Board, evolve other suitable mechanism to maintain the sound level emanating from the industrial unit in conformity with the standards prescribed for residential area as well, when residential houses are situated very close to the unit and the 1st Respondent is directed to carry out those recommendations

in its letter and spirit to avoid any further complaints from the local residents in this regard.

(vii) The State Pollution Control Board is also directed to monitor the functioning of the 1st Respondent unit periodically and if there is any violation found by causing any air or sound pollution in the neighbouring areas on account of the operation of the 1st Respondent, and found any violation of conditions imposed in the statutory clearance granted, then they are directed to suggest their recommendations to redress the same and the 1st Respondent is directed to carry out the same in its letter and spirit and in case of any non-compliance of the directions so issued, then the State Pollution Control Board is directed to take appropriate action against the 1st Respondent including imposition of compensation as directed by the Principal Bench of National Green Tribunal, New Delhi and also by this Bench in several cases of this nature, applying the guidelines issued by the Central Pollution Control Board in this regard.

(viii) The State Pollution Control Board is also directed to file an action taken report giving their suggestions to avoid complaints redressing the public grievance of sound and air pollution to be implemented by the 1st Respondent and its compliance by the 1st Respondent **within a period of 4 (Four) Months.**

(ix) The Bharat Petroleum Corporation Limited (BPCL)/1st Respondent is directed to pay an environmental compensation of **Rupees Two Crores** to the Kerala State Pollution Control Board **within a period of 2 (Two) Months** for the unscientific greenbelt developed by them. The said amount is to be used by the State Pollution Control Board for increasing the green cover in and around the factory and the residential areas. The 1st Respondent is also directed to increase the density of tree cover in the areas already earmarked for greenbelt, in consultation with the Forest Department and if the amount is not paid, the State Pollution Control Board is directed to take steps to recover the same from the 1st Respondent/BPCL in accordance with law.

(x) Considering the circumstances, parties are directed to bear their respective cost in these applications respectively.

(xi) The Registry is directed to communicate this order to the Bharat Petroleum Corporation Limited (BPCL)/1st Respondent, Ministry of Environment, Forests & Climate Change (MoEF&CC), Ministry of Petroleum and Natural Gas, Petroleum and Explosives Safety Organization (PESO), Oil Industry Safety Directorate (OISD), Kerala State Pollution Control Board (KSPCB), Central Pollution Control Board (CPCB), Principal Secretary to Government, Department of Environment, Forest and Industries, the

Chief Secretary to Government, State of Kerala for their information and compliance.

85. With the above observations and directions, all these Original Applications are disposed of.

86. Since all these original applications are disposed of, pending miscellaneous application [M.A. No.216/2017 (SZ) in O.A. No.265/2017 (SZ)] is also disposed of. सत्यमेव जयते

Sd/-
Justice K. Ramakrishnan, JM

Sd/-
Dr. Satyagopal Korlapati, EM

O.A. No.265/2017 (SZ)
O.A. No.17/2021 (SZ)
O.A. No.01/2022 (SZ)
19th April 2022. Mn.

NGT

ITEM NO.23

COURT NO.5

SECTION XVII

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

Civil Appeal No(s). 5128-5130/2022

M/S BHARAT PETROLEUM CORPORATION LIMITED

Appellant(s)

VERSUS

N.G. SOMAN & ORS.

Respondent(s)

(FOR ADMISSION and IA No.109533/2022-STAY APPLICATION
and IA No.109534/2022-PERMISSION TO FILE ADDITIONAL
DOCUMENTS/FACTS/ANNEXURES)

Date : 22-08-2022 These appeals were called on for hearing today.

CORAM :

HON'BLE MR. JUSTICE S. ABDUL NAZEER
HON'BLE MR. JUSTICE J.K. MAHESHWARI

For Appellant(s)

Mr. V.Giri, Sr. Adv.
Mr. T. Sundar Ramanathan, AOR
Mr. Vivek Pandey, Adv.
Ms. Sukanya Viswanathan, Adv.
Mr. Shrirang B.V.Arma, Adv.

For Respondent(s)

UPON hearing the counsel the Court made the following
O R D E R

Issue notice.

Operation of the impugned order shall remain stayed
until further orders.

Tag with Civil Appeal No.4576 of 2022.

(ANITA MALHOTRA)
AR-CUM-PS

(KAMLESH RAWAT)
COURT MASTER