

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN BENCH, CHENNAI**

ORIGINAL APPLICATION NO. 17 OF 2021 (SZ)

Vipin Nath, A V & Sinu C Jacob : Applicant(s)

Verses

M/s. Bharat Petroleum Corporation

Limited and Others. : Respondent(s)

and

ORIGINAL APPLICATION NO. 265 OF 2017

&

M A 216 OF 2017

N.G. Soman : Applicant

Verses

The State of Kerala,

Kerala State Pollution Control Board : Respondent(s)

**REPORT FILED BY THE CHIEF ENVIRONMENTAL ENGINEER, REGIONAL
OFFICE, ERNAKULAM FOR AND ON BEHALF OF THE 5th RESPONDENT IN OA
17 of 2021 AND ON BEHALF OF THE 3rd & 4th RESPONDENTS IN OA 265 of
2017 AS PER THE ORDER DATED 19.04.2021.**

Adv. Rema Smrithi

STANDING COUNSEL FOR THE RESPONDENT

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Dated this the 29th May 2021

Rema Smrithi, Advocate
STANDING COUNSEL FOR THE RESPONDENT

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of 2017 AS PER THE ORDER DATED 19.04.2021.**

I, M.A Baiju, 54 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 OA 17 of 2021 and 3rd and 4th Respondents in OA 265 of 2017. 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 to be noted that the Hon'ble Tribunal heard the petition in OA 265 of 2017 on 08.01.2021 and OA 17 of 2021 on 25.01.2021. As per the hearing dated 25.01.2021 in OA 17 of 2021 the Hon'ble Tribunal delivered an order to hear these two petitions on 09.03.2021. The Hon'ble Tribunal on 09.03.2021, directed as follows,

“The parties are directed to file their independent response and the Pollution Control Board and Central Pollution Control Board are directed to file their independent action taken report on the basis of the recommendations made by the Committee appointed by the Central Ministry on the basis of the complaints from




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local people. The respective parties and the official respondents are directed to file their respective independent statement as well as action taken report, if any, on the basis of violations said to have been committed by the first respondent on or before 19.04.2021 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”.

On 19.04.2021, the Hon’ble Tribunal adjourned the case to 01.06.2021. In these circumstances, it is just and necessary that this Hon’ble Tribunal may be pleased to accept the accompanying information on file and it is so humbly prayed in the interests of justice in this case.

1. The application numbered as OA 17 of 2021 filed by the applicants primarily against the noncompliance with the conditions stipulated in the Environmental Clearance obtained by the 1st respondent unit M/s Bharath Petroleum Corporation Limited, situated at Ambalamughal in Ernakulam District issued by the 2nd respondent Department. The petitioners pinpointing that various expansions allowed by the Ministry of Environment, Forest and Climate Change (MoEF & CC) for which Public hearing were conducted and Environmental Clearances (EC) were allowed. Details of these projects are as follows

a. Integrated refinery expansion Project (IREP)

This expansion is to enhance the production of Kochi refinery from 9.5 MMTPA to 15.5 MMTPA at Sy. No.206, Village Puthencruz, Kunnathunadu Taluk, Ambalamugal, Ernakulam. The capacity expansion by 6.0 MMTPA will be facilitated by installing a new state of art crude distillation units of 10.5MMTPA so as to replace the existing old 4.5MMTPAA CDU-1 which is not energy efficient. During expansion, total capacity of the refinery will be enhanced to 15.5 MMTPA by addition of crude distillation. Associated process units like delayed coker units(DCU), petrochemical fluidised catalytic cracker Unit(PFCC), Vacuum Gas Oil Hydro Treater (VGO HDT), Diesel Hydro Treater(DHDT), Sulphur Recovery Unit(SRU) Hydrogen Generation Unit(HGU), Sour water stripper etc. This expansion project was proposed in 2012 on which a Public Hearing was conducted on 14.02.2012 and was allowed with an EC from MoEF and Integrated Consent to Establish from SPCB. Copy of the EC is produced herewith and marked as **Annexure 1** and modified EC is produced herewith and marked as **Annexure 2**. On completion of the project Integrated Consent to Operate also was allowed and the unit periodically submitting compliance reports on EC.




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b. Prodair Air products

Project comprising of Gas Supply Facility (GSF) located within the facility of Bharat Petroleum Corporation Limited (BPCL) or Kochi Refinery (BPCL-KR) situated at Ambalamugal near Kochi City, under the revenue limits of Puthencruz village in Kunnathunadu Taluk of Ernakulam District.

This expansion project was proposed in 2012 along with IREP and Public Hearing was conducted on the same day and was allowed with an EC from MoEF and CE from SPCB. On completion of the project CO also was allowed and the unit periodically submitting compliance reports on EC.

c. Propelyne Derivative of Petrochemical Plant (PDPP)

This project is established to utilise the polymer grade propylene for the manufacture of Niche/speciality petrochemicals viz. acrylic acid, oxo alcohol and acrylates. This expansion project was proposed in 2012 on which a Public Hearing was conducted on 23.12.2014 and was allowed with an EC from MoEF & CC and Integrated Consent to Establish (ICE) from SPCB. Copy of the EC is produced herewith and marked as **Annexure 3**.

d. Polyol Project

Polyol is the project proposed for utilising 250kTPA of polymer grade propylene produced from post expansion of Kochi refinery for manufacture polyols and propylene glycol which finds major applications in sectors like automotives, refrigeration, construction, foot wear coatings, adhesives, sealants etc. This is a project for which a Public Hearing was held on 04.06.2018. Recent finding is that they have started land development activities. The proposed date of completion of this project is 2023-24.

e. MSB Project (BS VI)

BPCL-Kochi Refinery is implementing BS-VI MS Block Project to upgrade surplus Naphtha produced in the Refinery to Motor Spirit meeting BS-VI specifications. Mechanical completion of the project is scheduled during first quarter of 2020-21 and now it is ready for commissioning

2. It is respectfully submitted that this respondent is well aware that a complaint has been registered at the Prime Minister's Office (PMO) which was received in the office of this respondent on 19.08.2020. On hearing from the Zonal Office of the CPCB at Bangalore, a hearing was arranged with the applicants in this Original Application (OA 17/2021)ie. Sri. Vipin nath and Sri. Sinu C Jacob, Sri. N.G Soman who filed OA 265 of 2017 and some other




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complainants who are residing near around the unit. It is humbly submitted that Sri. Deepesh V, Scientist C, Central Pollution Control Board was attended the hearing mentioned above for and on behalf of the CPCB. Though individual complaints were there and all of them were against individual processing plants, such combined hearing was convened since both these petitioners as well as others were repeatedly complaining against a single industry ie M/s Bharath Petroleum Corporation Limited situated at Ambalamughal in Ernakulam District.

2. It is respectfully submitted that during hearing it was decided to inspect all these areas from where complaints were being registered and accordingly intimated all complainants and visited all such areas. It is pertinent to note that these areas are situated around or along the near boundaries of M/s Bharath Petroleum Corporation Limited. Copy of the inspection report prepared by the CPCB after conducting joint inspection based on the complaint registered at PMO is produced herewith and marked as **Annexure 4**

3. It is respectfully submitted that this applicant as per application OA 17 of 2021 seeking specific reliefs as follows,

a. *Direct the first respondent to develop and maintain proper green belt and buffer zone around the boundary of PDPP (South Side of PDPP, Kakkad Kara) as recommend by Ministry of Environment Forest and Climate Change/CPCB/KSPCB.*

b. *Direct the respondent 2, 3 and 5 to take action against the first respondent for the violation committed by them.*

It may be pertinent to note that the applicant in OA 17 of 2021 seeking reliefs which he has pointed out as violations of Environmental Clearance already allowed to the PDPP plant of 1st respondent industry ie M/s Bharath Petroleum Corporation Limited, situated at Ambalamughal in Ernakulam District by the MoEF&CC. It can be seen that the applicant in **OA 265 of 2017** also seeking same reliefs from the Hon'ble Tribunal and the Hon'ble Tribunal has specifically commented about these particular issues. To highlight the plant which, as per the applicant in **OA 265 of 2017** creating nuisance is integrated refinery expansion project (IREP) of M/s BPCL. However, different orders of the Hon'ble Tribunal are there to note that the industry M/s Bharath Petroleum Corporation Limited, situated at Ambalamughal in Ernakulam District has to be properly addressed on account of pollution they are generating and any violation they have committed by way of air, water and sound. Also, all the complainants unanimously placing allegation that the industry is not maintaining sufficient




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green cover and buffer zone which are mandatory as per relevant provisions of different environmental rules available in the country. It is very much important to note that the industry had replied as follows,

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 Organisation (PESO), Oil Industry Safety Directorate (OISD) standards 118. Accordingly adequate buffer zones are being maintained”.

4. It is respectfully submitted that though the CPCB through the report had pointed out the issues related to the installation/ expansion of the industry in question, the Hon’ble Tribunal vide order dated 02.03.2020 directed the Board as follows,

“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”.

and,

“They may also take water samples from the water source available in the nearby area including the river Chithrapuzha 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”.

5. It is respectfully submitted that, obeying the orders of the Hon’ble Tribunal in OA 265 of 2017 monitoring were fixed on different occasion but was not able to conduct the same as the applicant himself had requested not to conduct such monitoring since full capacity production was not effected. But the industry had informed vide submission dated 03.07.2020 through mail that they




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were functioning almost in its full capacity (73%) and accordingly this respondent had conducted air monitoring of all strategic locations and stacks. It was once again informed by the petitioners in OA 17 of 2021 that the operation of PDPP plant was not in its full swing as the industry was not fully commissioned at that point of time. Hence the air monitoring at that particular area was once again postponed to another date but conducted sound monitoring as and when complaint arose. Copy of monitoring results with respect to ambient air/emission is produced herewith and marked as **Annexure 5**.

6. I may humbly submit that all the complainants are unanimously pointing out the inattentive expansions carried out in the industry and there are deficiency in the provision of green belt and buffer zone around the unit. They also complained about the frequent episodes of air, water and sound pollution from the industry in question. As mentioned earlier M/s BPCL Kochi Refineries has been expanded by way of proposals for Integrated Refinery Expansion Project (IREP) in 2012, Propylene Derivatives Petrochemical Project (PDPP) in 2014, MS Block Project (BS VI) and a proposal for Polyol Project of BPCL in 2018 and is the largest industry in Kerala. For all these projects Public hearings were being conducted and obtained EC. The applicant in OA 265 of 2017 is emphasizing Integrated Refinery Expansion Project (IREP) and in particular against M/s Prodair Air Products, unit engaged in the production of Hydrogen and Syngas etc. attached to IREP whereas the applicant in **OA 17 of 2021** is against PDPP Project situated very near to his residence.

7. I may humbly submit that the applications viz OA 265 of 2017 and OA 17 of 2021 are against respective plants situated at their nearby places, ie Prodair Air products of IREP at Kuzhikkad and PDPP at Kakkad area respectively. Apart from the petition there are specific complaints from the petitioners in OA 17 of 2021 submitted before the Chairman and Member Secretary of the Board which are self explanatory that they are facing acute catastrophe due to the functioning of the respective industrial plants especially violations on the establishment of such installations. It is important to close watch on other complaints who also alleging on the pollution that occurs due to the operation of M/s BPCL as a whole especially against these expansions and other plants viz. Petcoke, Sulphur recovery etc. details of complainants and their specific complaints are as follows,

i. Kuzhikkad Residence Association - The location is in the Aasramam road, Kuzhikkad, near to LPG bottling plant of BPCL. The residents complained about noise pollution and frequent gas leakages from bottling plant and the adjacent project site (Air Products division). They also raised serious apprehension on the minimum safety distance required for LPG bottling plant




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and alleged that the plant boundary wall is just 10m away from the public road. Past gas leakage issues were highlighted by the public and complained on air and noise pollution from the plant. It was also highlighted that a Govt. School in this area was shifted to another location due to gas leakage accident in the past. Copy of the recent complaint received from Kuzhikkad Residence Association is produced herewith and marked as **Annexure 6**.

ii. Area near to M/s Prod Air Product – It is the area near main gate of this industry along the Kuzhikkad-Puthenkurishu road. Main complaint is that the local resident's houses are separated just by a road from the boundary wall and inside the BPCL campus huge pipelines are laid within few meters all along the boundary. Local public complaining that this area contains several storage tanks and these storage tanks are within 50 m from the residence across the road. Also no green belt is there along the boundary wall and there is no sufficient buffer area / set back maintained in this location as the pipelines are very much close to boundary wall.

iii. Ayyankuzhi Area – Public complained that they are placed badly in between BPCL and HOCL (M/s. Hindustan Organic Chemicals Limited) and alleged that their plight of living between two petrochemical units are not addressed by either of the companies. There are no green belts and buffer zones in the BPCL side in this locality.

iv. Kakkad Area – Here, residence of complainant Shri Vipin Nath & Smt. Mathu Raveendran at Kakkad Kara, the southern side of the PDDP project complex. The complaints house is across the road and a drain flowing along the boundary of PDDP-BPCL project site. The house is 45-50m away from the boundary wall and there are no green belts in the area. There is a high tension power line runs inside the project site close to the boundary. They are alleging how green belt could be developed under high tension power lines and why not enough buffer area. **(Petitioners in OA 17 of 2021)**

v. Neermel Area near Sulphur recovery plant - The place called Neermel, adjacent to the sulphur plant of IREP project. The road and residences are on elevated area and the sulphur plant is approximately 125m away from the public road. Several complaints were received against dust and noise pollution from the project site. This land was recently acquired by BPCL and no green belts as prescribed in the EC condition are available. Copy of the recent complaint received from Kuzhikkad Residence Association is produced herewith and marked as **Annexure 7**.



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vi. Adookkara area – This is a place situated along the western side of the PDPP project site and near to the BPCL water storage quarries. The locals claimed that the area has been enclosed by BPCL project site from three sides and in the event of emergencies, proper evacuations are not possible. In this area also, complaint against improper green belts where the flare stack in the project site is around 100-125m from the nearest residence. Copy of the Complaint submitted is produced herewith and marked as **Annexure 8**.

vii. Puliampillymughal 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. Copy of the Complaint submitted is produced herewith and marked as **Annexure 9**.

viii. 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. Copy of the Complaint submitted is produced herewith and marked as **Annexure 10**.

8. It is respectfully submitted that the industry officials are reiterating that they have maintained green belt around, planting of tree saplings are still continuing which will be completed on the completion of the commissioning of these individual plants. It is also informed by the officials that there are no specific guidelines available for buffer zone to be provided around except the guidelines of Petroleum and Explosives Safety Organization (PESO) that they have already maintained there. But it is precise to note that the petitioner put forward serious allegations and the main contentions are identified and commented as follows,

a. *Neighbours has been feeling discomfort since the construction of the Petro Chemical Plant due to pollution. There are only few feet difference between our property and the BPCL boundary. A canal has been constructed along this boundary. Water flows from Petro Chemical plant into this canal. A few months ago (July 2020), the fishes were died due to poisoning in this canal. On the same day, we have informed the senior officials. But this happened again three times a few months after the canal was cleaned. Same happen on 02nd January 2021 and this incident was reported by most of the daily newspapers.*




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Comments - It is true that fish kill incidents have been noticed during July 2020 and necessary enquiries were conducted by the Board. It may also be noted that water sample was collected from the thodu. As part of monitoring as per the order of the Hon'ble Tribunal treated effluent were collected from Outlet A and chithrapuzha outlet which also showed exceeding concentration for phenolic compounds. A notice was then issued asking explanation from the unit authorities for which they had claimed that simultaneous samples collected along with SPCB officials were showing low concentrations for same parameters. Hence, re-monitoring is planned which will confirm whether there is any abnormality in the analysis report of treated effluent from the unit. Directions will be given to company authorities to install online monitoring arrangements and connectivity mechanisms to ensure all parameters insisted are within the stipulated concentrations along discharge outlets also. Copy of the data sheet explaining water from thodu and effluent monitoring results is produced herewith and marked as **Annexure 11**.

b. *The Sound Pollution that occurs in this area most of the day (including night) is unthinkable. Families living too close are experiencing these difficulties.*

Comments - Often complaints are received against the noise that generated from the PDPP and other plants. It is noticed that the company officials reiterating that during commissioning phase normally some sort of sound pollution is expected and proper care will be taken to arrest that. It cannot be entertained that they are still on the commissioning phase. It is now worthwhile to note that a surprise check was done at the boundary of IREP by the Surveillance team of Regional Office, Ernakulam and found exceeding level of sound at the night on 30.12.2020. The industry was addressed about the exceedance and the reply received from the industry explains that the same was **“due to sudden development of heavy steam trap leak”**. Since there were repeated complaints against noise level exceedance from different pockets, surveillance team of the Board was engaged to conduct sound level monitoring wherever necessary especially during odd hours where noise limit specified for residential area was 45 d B (A) Leq whereas the levels obtained were normally high. Copy of data sheet explaining noise monitoring results is produced herewith and marked as **Annexure 12**.

c. *M/s BPCL, Kochin has obtained EC from Ministry vide EC No J-110t t/26/2013 -IA II(I) dated 15th May, 2015 for manufacturing specialty petrochemical like Acrylic Acid, oxo Alchols and Acrylates. It is mentioned in the EC document that, Green Belt development has been focused at few locations. (Page No. 11)*




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As per the Environment Guidelines of Industry by EIA Division, MoEF&CC, GOI Petrochemical Industries must have developed half a kilometre-wide Green Belt around the boundary limit. For the industries having odour problem it shall be one kilometre (Ref: F.No. Tech/83/RTI(Online)/RDS/2020-21/602).

Environment Impact Assessment for PDPP of BPCL at Kochi, Kerala by EIL (Engineers India Limited), document no: A419-EI-1741-1401 dated January 2015. In this EIL assessment that Green Belt towards the boundary of 200 M width is recommended.

Comments - It may be noted that the company reiterating that they have earmarked 40% of green cover where as green belt insisted in the EC is 33%. Though trees are planted which might cover the stipulated area as per EC, specific provision of green belt which surrounded the entire periphery is not witnessed. There are certain areas where tree saplings are planted recently and cannot be called as "Green belt" at present, especially along the southeast, southern and south west sides. It is important to note that official of MoEF&CC visited the industrial plant under commissioning on 03.11.2020 as a part of verification of EC Compliances by which he had commented that the industry plant ie, PDPP "**satisfactorily complied with all stipulations except Greenbelt development**". Copy of the report submitted dated 01.12.2020 by the responsible official of MoEF&CC is produced herewith and marked as **Annexure 13**.

d. *With respect to my complaint against 1st respondent, CPCB official carried out site inspection and hearing in the presence of KSPCB officials on 23-10-2020. The report prepared in this connection is submitted for further necessary actions and information. Document No: F. No. Tech/38/PC(Ker)/RDS/2020-21/Vol2/918 dated December 03, 2020.*

Comments - It is true that the official of CPCB conducted enquiry on the complaint registered at PMO which was forwarded on 19.08.2020 to SPCB also. During enquiry the CPCB addressed all the issues connected with all complainants residing around by considering the industry M/s Bharath Petroleum Corporation Limited, situated at Ambalamughal in Ernakulam District as a single unit and prepared his report.

e. *It is evident from the inspection around the project site, proper green belt and Buffer Zone is not maintained around the project site. It is also observed that*




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there are several restrictions like high-tension power lines, inadequate space inside the project location, etc. 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.

With respect to our complaint regarding the Non compliances of EC conditions by BPCL, MoEFCC carried our site inspection inside the plant and found that Green Belt development is not satisfactory. Date of inspection 3^d November 2020. Monitoring report Part 1. EP/12.1/1/2015-16/KER. In general, PA has taken steps for compliance of EC conditions and the status of compliance to the stipulated in the EC is Satisfactory except Green Belt Development. Report date: 1st December 2020

In the preliminary inspection report of CPCB states that, the 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). BPCL project has to strictly comply the safety directive standards imposed by OISD/ PESO/ other safety related authorities.

Comments - It is due to COVID restrictions the committee consisting of CPCB official and this respondent were not able to enter in to the factory during the enquiry conducted on 23.10.2020 and the official during his second visit on 29.12.2020 along with this respondent conducted inspection along inside area of the industry and copy of the report on the inspection conducted on 23.10.2020 is **annexed** as **4** with the application in OA 17 of 2021. The main observations during second visit are illustrated below,

- i. Several restrictions for planting trees like high tension power lines, inadequate space inside the project location etc.
- ii. No vacant slots available for development of green belt in many locations.
- iii. Earth levelling works for planting saplings were also done without complete removal of scraps and other materials stored in the premise.
- iv. No adequate green belt area available in south eastern extension

It is important to note that the CPCB vide its direction dated 09.12.2020 instructed the SPCB to conduct a inspection to verify the ground realities of the allegation against M/s BPCL Project and suggested a committee consist of responsible officials of PESO/OISD, MoEF&CC, SPCB, District Collectorate and CPCB to conduct such joint inspection. Accordingly, the Chairman, SPCB had




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constituted a technical committee vide order dated 14.12.2020. Copy of the Proceedings is produced herewith and marked as **Annexure 14**. It may be noted that PESO, MoEF&CC, SPCB, District Collectorate and CPCB have nominated their responsible officials in the committee whereas the Environmental Engineer, District Office-2 as the convener. The Committee preliminary heard the complaints of the representatives of complainants on 23.04.2021 and visited the plant and its premises on 24.04.2021. It may be noted that the Committee members met once again through Video Conference on 13.04.2021 and made individual findings through presentations. It is important to note that the District Magistrate, Ernakulam, one of the members is still not able to submit his report on the findings since he is engaged with COVID eradication engagements and hence the committee is not able to finalize its report. However, individual reports submitted by each committee members are produced herewith and marked as **Annexure 15, Annexure 16, Annexure 17 and Annexure 18** for **SPCB, CPCB, MoEF**, and **PESO** respectively. Here, it is important to note that certain queries were also raised (**Page no. 73 of Annexure 16**) by the CPCB member about diversion of a natural stream by the unit.

f. Numaligarh Refinery Limited (Assam) is a petroleum refinery with a 61.65 percentage stake in Bharat Petroleum Corporation Limited which has a capacity of only 1/2 of BPCL. Environmental Clearance of Numaligarh Refinery Limited states that, "Environmental Clearance granted for the Numaligarh Refinery Project, Ministry of Environment & Forest had stipulated a 500 mtrs wide green belt all around the refinery based on the EIA of Numaligarh Refinery carried out by NEERI. On request from Numaligarh Refinery, the width of the Green Belt was later reduced from the suggested width of 500 mtrs to 100 mtrs because of the reason that almost all the surrounding areas are having tea garden with shade trees (Sirish trees). A wide natural green belt already existed all around the refinery." Letter no: J-1 t001t/113/2009-IA II (I), dated 5th Sep, 12

Comments - It can be considered here also where less areas available inside the plant on which a decision can be taken during the finalization of the committee report in which all regulatory bodies including Officials from MoEF&CC and District Collectorate are members. However, the official of the MoEF already inspected the unit on 03.11.2020 towards identification and verification of EC compliance and submitted his report on 01.12.2020 which is seen **annexed** as **5** with the application in OA 17 of 2021 and enclosed herewith as Annexure 13.

g. 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




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*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 minimise the impact on the surrounding areas in case of a major accident. In this regard, the Committee were informed that no feedback has been received from the state governments. The Committee understand 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.*

Comments - It seems to be a serious matter that need be addressed immediately as the Hon'ble National Green Tribunal took up the case (**Case No: 134/2020, Principal Bench, New Delhi**) on the styrene vapour release accident took place at M/s L G Polymers India Pvt. Ltd., Visakhapatnam, Andhra Pradesh and formed a High-power committee and submitted a report, highlights of which are read as follows,

"Hence, extra precautions need to be taken in earmarking of Industrial Zones and Residential Zones. It is absolutely essential that there is sufficient buffer zone between the Industrial Zones and the Residential Zones. Change of land use should not be done under any circumstances unless the buffer zone is properly maintained between the Industrial and Residential Zones. Frequent land use changes from Industrial area to residential area and vice versa is strictly not desirable. There is an immediate need for a comprehensive approach in earmarking the Industrial areas so that the residential areas will not be affected in case of unforeseen incidents/accidents".

"The Industries Department and the DTCP / MA&UD Department along with APPCB should work on creating earmarked Industrial zones which are suitable for Industries. A clear buffer should be provided from the Residential areas. This would also be helpful for the project proponents who would know in advance the areas available for Industrial development. There shall be restriction of residential developments around the Industrial zones especially those which deal with hazardous, explosive and polluting product and processes". [Page No. 306]



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Chief Environmental Engineer

9. It is humbly submitted that the applicants recently submitted complaint before the Member Secretary indicating the **Twenty fourth standing committee** on Petroleum and Natural Gas in the Lok Sabha (2017-2018) which is found to be **annexed** as **6** with the original application (OA 17 of 2021) and before the Chairman of the Board illustrating the **Twenty sixth Standing committee** on Petroleum and Natural Gas in the Lok Sabha (2018-2019) which is found to be **annexed** as **2** with the application dated 01.03.2021 towards filing of additional documents before the Hon'ble Tribunal which specifically read as follows,

*“According to the **twenty sixth Standing committee** on Petroleum and Natural Gas in the Lok Sabha (2018-2019), Action Taken by the Government on the recommendations contained in the Twenty Fourth 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. In this report it is stated that a communication was sent to all the Chief Secretaries of States/UT 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 installation. (Page No: 30 of 46)”.*

10. I may humbly submit that the gathered information from the said **Twenty sixth Standing committee report**, the Recommendation 11 and reply of the Government are read as follows,

CREATION OF BUFFER ZONES AROUND INSTALLATIONS

“The Committee note that one of the recommendations 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 in case of a major accident. In this regard, the Committee were informed that no feedback has been received from the state governments. The Committee understand 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”.

REPLY OF THE GOVERNMENT

“In order to regulate the land use around Oil installations, a communication was sent to all the Chief Secretaries of States/UT in the matter on 02.04.2013 wherein it was requested to issue appropriate instructions to the concerned authorities to make



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M. A. BAIJU
 Chief Environmental Engineer

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 metres around periphery of the Oil installation. The communication was followed by a reminder on 20.01.2016. Reports were received only from 4 States/UTs. As response was very poor, another communication has been sent to States/UT on 30.08.2018”.

11. It is also respectfully submitted that the CPCB also forwarded copy of a complaint from Sri. Vipin nath on 23.02.2021, the petitioner which was actually forwarded from MoEF&CC representing the same issues along with above mentioned reports. These are explicit reports based on the safety precautions which were the main contention of all the complainants mentioned above. Almost all the inspections or complaint enquiries revealed that the public residing near around are primarily afraid of the safety underperformance of this industrial unit and also pollution issues. On verification of the original application it is expected that there will be specific comments from responsible officials of respondents **6 (PESO, the agency with an overall objective of ensuring safety and security of public and property from the fire and explosion and is a statutory authority entrusted with the administration of Explosives Act 1884, Petroleum Act 1934, Inflammable Substances Act 1952 and its Rules), 7 (OISD, a technical directorate under the Ministry of Petroleum and natural gas that formulates and coordinates the implementation of a series of self regulatory measures aimed at enhancing the safety in the Oil and Gas Industry in India) and 8 (Directorate of Factories and Boilers, agency designed to ensure the welfare, health and safety of the factory workers and of the ordinary people) who have to mandatorily oversee the safety aspects and this respondent and officials of the SPCB will be able to ensure the pollution issues, counter check all the pollution control facilities provided by the industry and will be going in deep on the monitoring facilities provided in compliance with EC conditions by the unit viz. CAAQMS, Online effluent monitoring facilities etc. It is also hereby admit that overall monitoring/ surprise checks will be completed soon and address the violations if any.**

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

Dated this the 29th day of May 2021.

Deponent

Chief Environmental Engineer

M. A. BAIJU
Chief Environmental Engineer



BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

SOUTHERN BENCH, CHENNAI

ORIGINAL APPLICATION NO. 17 OF 2021 (SZ)

Vipin Nath, A V & Sinu C Jacob : Applicant(s)

Verses

M/s. Bharat Petroleum Corporation

Limited and Others. : Respondent(s)

and

ORIGINAL APPLICATION NO. 265 OF 2017

&

M A 216 OF 2017

N.G. Soman : Applicant

Verses

The State of Kerala,

Kerala State Pollution Control Board : Respondent(s)

VOLUME 2

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Dated this the 29th May 2021

Rema Smrithi, Advocate
STANDING COUNSEL FOR THE RESPONDENT

F. No. J-11011/341/2011- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : aditya.narayan@nic.in

Telefax : 011: 2436 0549

Dated: 22nd November, 2012

To,
 Shri A. Unnikrishnan, Dy.GM (Project Technical)
 M/s Bharat Petroleum Corporation Limited
 Kochi Refinery, Post Bag No.2, Ambalamugal-682 302
 District Ernakulam, Kerala

E-mail:unnikrishnana@bharatpetroleum.in;motilalmeena@bharatpetroleum.in; Fax No. 0484-2821301:

Subject: Expansion of Kochi Refinery (from 9.5 MMTPA to 15.5 MMTPA) at Sy. No. 206, Village Puthencruz, Taluka Kunnathanadu, Ambalamugal, District Ernakulam, Kerala by M/s Bharat Petroleum Corporation Limited – Environmental clearance reg.

Ref. : Your letter no.26/PT/EIA-CS/12 dated 14th March, 2012.

Sir,
 This has reference to your letter dated 14th March, 2012 alongwith project documents including Form 1, Prefeasibility Report, Draft Terms of References, EIA/EMP report, Public Hearing report and subsequent communications vide letter dated 23rd May, 2012, 4th July, 2012 and 6th June, 2012 on the above mentioned subject.

2.0 The Ministry of Environment & Forests has examined your application. It is noted that the proposal is for expansion of Kochi Refinery from 9.5 MMTPA to 15.5 MMTPA at Sy. No. 206, Village Puthencruz, Taluka Kunnathanadu, Ambalamugal, District Ernakulam, Kerala by M/s Bharat Petroleum Corporation Limited. The capacity expansion by 6.0 MMTPA will be facilitated by installing a new state of art Crude Distillation Unit of 10.5 MMTPA so as to replace the existing old 4.5 MMTPA CDU-1 which is not energy efficient. During expansion, total capacity of the refinery will be enhanced to 15.5 MMTPA by addition of Crude Distillation. Associated process units like Delayed Coker Unit (DCU), Petrochemical Fluidised Catalytic Cracker Unit (PFCC), Vacuum Gas Oil Hydro Treater (VGO HDT), Diesel Hydro Treater (DHDT), Sulphur Recovery Unit (SRU), Hydrogen Generation Unit (HGU), Sour Water Stripper etc. Details of utilities to be installed are GT (2 x33 MW), HRSG (2x 110 TPH), STG (2 x27 MW), boilers (3x 230 TPH) etc. As a part of the IREP expansion, LPG wagon loading facility and additional tanks are proposed in the marketing terminal at Irumpanam. Fuel generated from the proposed expansion will meet Euro-IV/ V standards. Power requirement of 105 MW will be partly met from the captive generation and about 40 MVA of power would be drawn from the State Electricity Board grid as a back up facility. No national parks/wildlife sanctuary/ reserve forests are located within 10 Km from the project site. River Chitrapuzha is flowing at a distance of 1.0 Km from the project site. Total plot area of Cochin refinery is 1149 acres. Proposed expansion will be within existing premises and no additional land will be required. Total cost of the project is Rs.13,000 Crores. Major process units proposed under the selected configuration are as follows:

S.N.	Units	Capacity, MMTPA
1	Crude Distillation Unit	10.5
2	Delayed Coker Unit	3.84
3	VGO-HT	3.0

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4	DHDT	4.30
5	NHT/ISOM	0.25
6	PFCC	2.2
7	Hydrogen Unit (This unit comprising hydrogen, Syngas, Nitrogen and Oxygen being proposed to be set up on Built Own and Operate concept)	0.09
8	Sulphur Recovery Unit	2x340 Tons/day

Following products will be manufactured:

S.N.	Description	Quantity, TMTPA
1	LPG	1114
2	Propylene	502
3	Naphtha	1288
4	Euro-IV Gasoline (Domestic)	1525
5	ATF	600
6	Kerosene	240
7	Euro-IV Diesel	5369
8	Euro-V Diesel	1982
9	Bitumen	500
10	Sulphur	233
11	Coke	1246

3.0 Adequate stack height will be provided to heaters, furnaces, VGO, HSD and utility boilers for wider dispersion of pollutants. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating will be 99.9%. Tertiary stage separator/ESP will be provided in FCC to control particulate emissions. Heaters /furnaces will be provided with low NOx burners to reduce the emissions of Nitrogen Oxides (NOx). Low sulphur fuel will be used. Flare gas recovery system will be installed. Adequate height of flares will be provided. Fresh water requirement from River Periyar after expansion will be 3083.3 m³/hr. Industrial effluent generation will be 1400 m³/hr and treated in the effluent treatment plant (ETP) comprising primary, secondary and tertiary treatment facilities. Treated effluent will be recycled/reused within the factory premises and remaining treated effluent (410 m³/hr) will be discharged into River Chitrapuzha. Domestic sewage shall be treated in sewage treatment plant (STP). Chemical/inorganic sludge will be sent to treatment storage disposal facility (TSD) for hazardous waste. Filter back flush stream from Vacuum Gas Oil Hydrotreater (VGO HT) will be processed in DCU. Spent catalyst will be sent to authorized recyclers/re-processors.

4.0 All the Petroleum Refinery Plants are listed at S.N. 4(a) under Category 'A' and appraised at the Central level.

5.0 Public hearing/consultation was conducted by the State Pollution Control Board on 14th February, 2012.

6.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 27th and 34th meetings held during 21st – 22nd September, 2011 and 13th -14th April 2012 respectively as well as 1st reconstituted EAC (Industry) meeting held during 24th -25th September, 2012.

7.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance of the following specific and general conditions:

A. SPECIFIC CONDITIONS :

- i. Compliance to all the 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

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 at Bangalore.

- ii. M/s BPCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008.
- iii. Adequate stack height shall be provided to heaters, furnaces, VGO, HSD and utility boilers as per CPCB/ Kerala State Pollution Control Board (KSPCB) guidelines to disperse gases emissions into the atmosphere. Low NOx burners shall be provided to Heaters/furnaces with on-line analyzers. Low sulphur fuel shall be used.
- iv. Continuous on-line stack monitoring for SO₂, NOx and CO of all the stacks shall be carried out.
- v. The process emissions [SO₂, NOx, HC (Methane & Non-methane)], VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency of the pollution control device has been achieved.
- vi. Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.
- vii. SO₂ emissions after expansion from the plant shall not exceed 1582 kg/hr and further efforts shall be made for reduction of SO₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H₂S emissions. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating shall not be less than 99.9%.
- viii. As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.
- ix. Flare gas recovery system shall be installed.
- x. Ambient air quality monitoring stations, [PM₁₀, PM_{2.5}, SO₂, NOx, H₂S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Kerala State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs.
- xi. Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16th November, 2009 and trend analysis w.r.t past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.
- xii. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Besides, acoustic enclosure /silencer shall be installed wherever noise levels exceed the limit.
- xiii. Total water requirement from River Periyar after expansion shall not exceed 3083.3 m³/hr and prior permission shall be obtained from the competent authority. Industrial effluent generation will be 1400

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m³/hr and treated in the effluent treatment plant. Treated effluent shall be recycled/reused within the factory premises and remaining treated effluent shall be discharged into Chitrapuzha River after conforming to the standards prescribed for the effluent discharge and obtaining permission from the KSPCB, which shall not exceed 410 M³/hr. Domestic sewage shall be treated in sewage treatment plant (STP).

- xiv. All the effluents after treatment shall be routed to a properly lined guard pond for equalization and final control. In the guard pond, automatic monitoring system for flow rate, pH and TOC shall be provided.
- xv. Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
- xvi. A study shall be conducted to identify the source of odour and remedial measures to control the odour problem shall be taken. Study report shall be submitted to the Ministry's Regional office at Bangalore within 6 months from the date of issue of this letter.
- xvii. Improvement in the sludge handling area is required and scheme for final disposal of sludge shall be prepared and submitted to the Ministry's Regional Office at Bangalore.
- xviii. Oily sludge shall be disposed off into Coker. Annual Oily sludge generation and disposal data shall be submitted to the Ministry's Regional Office and CPCB.
- xix. The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.
- xx. The membership of common TSDF should be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bangalore. Chemical/inorganic sludge shall be sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors.
- xxi. Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.
- xxii. The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).
- xxiii. To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.
- xxiv. Green belt shall be developed at least in 33 % of the plant area 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.
- xxv. Company shall prepare project specific environmental manual and a copy shall be made available at the project site for the compliance.
- xxvi. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxvii. All the issues raised and commitment made during the public hearing/consultation meeting held on 14th February, 2010 shall be satisfactorily implemented.

- xxviii. Company shall adopt Corporate Environment Policy as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 and implemented
- xxix. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.
- ii. No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- iii. The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.
- iv. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
- v. A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- vi. Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government alongwith the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.
- vii. The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
- viii. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- ix. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, PM_{2.5}, SO₂, NO_x, HC (Methane & Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

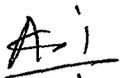
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- x. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry / CPCB / SPCB shall monitor the stipulated conditions.
- xi. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.
- xii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.
- xiii. Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

8.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

9.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

10.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


(A.N. Singh)
Dy. Director (S)

Copy to :-

1. Principal Secretary, Department of Environment & Forest, Govt. of Kerala, Secretariat Annex Building, Room – 604, C Block, 6th Floor, Government Secretariat, Thiruvananthapuram.
2. Chairman, Kerala State Pollution Control Board, Pattom P.O., Thiruvananthapuram
3. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 110032.
4. The Chief Conservator of Forests, Regional Office (Southern Zone, Bangalore) Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
6. Guard File/Record File.


(A.N. Singh)
Dy. Director (S)

→ GM (Project - Units) - PS Ramachandran

cc: ED (Kochi Ref) / GM (Project (C))

cc: Div (Ref.)

cc: C.M.D.

Ch. Al Meena
26/05/2014

7

Annexure - 2



सत्यमेव जयते

Government of India
Ministry of Environment and Forests

F. No. J-11011/341/2011- IA II (I)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi - 110 003
E-mail : tchand2003@yahoo.co.uk
Telefax : 011: 2436 3963

To

Dated: 23rd May 2014

The General Manager (Project),
M/s Bharat Petroleum Corporation Limited,
Kochi Refinery, Post Bag No.2, Ambalamugal-682 302
District Ernakulam, Kerala
E-mail: singhab@bharatpetroleum.in motilalmeena@bharatpetroleum.in; Fax No. 0484-2821301

Subject: Expansion of Kochi Refinery (from 9.5 MMTPA to 15.5 MMTPA) of M/s Bharat Petroleum Corporation Limited at Sy. No. 206, Village Puthencruz, Taluka Kunnathanadu, Ambalamugal, District Ernakulam, Kerala -Amendment in Environmental Clearance- reg.

Sir,

This is with reference to this Ministry's accord of Environmental Clearance accorded vide letter of even no. dated 22.11.2012 and your letter no. 26/PT/EC-CS/13 dated 26th July, 2013 and subsequent letter dated 20.11.2013 seeking for modifications in the configuration of the Integrated Refinery Expansion Project (IREP) facilities. It is noted that BPCL on the basis of interaction with process licensors and preparation of the detailed feasibility report for the Integrated Refinery Expansion Project (IREP) at Kochi Refinery, has optimised the configuration of the units and utilities.

2. The following changes are proposed in the configuration of the plant:

S.N.	Description	As per existing EC	Changes/Modification Proposed
1	Gas Turbine	2x33 MW	3 x 34.5
2	HRSR	2x110 TPH	3x110 TPH
3	Boiler	3x 230 TPH	2 x 250 TPH
4	STG	2 x 27	Nil
5	GT- Built Own Operate mode	-	20 MW
6	Hydrogen Generation Unit	90KTPA	Hydrogen -131.2 KTPA Syngas- 21,600 Nm ³ /hr. Nitrogen- 10,050 Nm ³ /hr. Oxygen-160 Nm ³ /hr.
7	Naptha Hydrotreater/Isomerization Unit	0.25 MMTPA	0.37 MMTPA

Modification in Irumpanam Installation:

S.N.	Description	As per existing EC	Changes/Modifications proposed
1	Irumpanam	HSD Storage -4 x45000 KL	HSD -4 x 30000 KL

	Installation	MS2x25000 KL Total 230000 KL	Naphtha-2x 20000 KL ATF-1x5000 KL
2	Pipeline from Refinery to Irumpanam	No	1 no. 24" Naphtha Line & 1 No. 18" HSD line length of pipeline around 2 Km
3	Irumpnam Installation –Wagon loading facility	LPG truck wagon loading facility	Instead of LPG wagon loading a new liquid product (POL siding (Single Spur automated BTPN loading siding) of 56 wagon rake for seven products (i.e. MS (E3 & E4), HSD (E3 & S4), SKO, ATF and LAN) is considered now.

3. It is reported that after amendment, SO₂ emission will be reduced from 1582 kg/hr to 1518 kg/hr and NO_x emissions will be reduced from 950 Kg/Hr to 730 Kg/Hr as compared to the existing EC conditions. Water requirement will be increased by 50 m³/hr, which will be met from treated/recycled effluent. No change in quantity of effluent generation and solid waste generation. Energy requirement will be increased by 5 MW. LNG will be used as fuel.

4. The proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 12th and 14th meetings held during 30th September, 2013 to 1st October, 2013 and 19th – 20th December, 2013 respectively and the Committee recommended the proposal for amendment in environmental clearance.

5. The Ministry accepts the recommendation of the Expert Appraisal Committee (Industry) for amendment in the existing environmental clearance subject to compliance of specific conditions and general conditions as per the aforesaid proposed modifications/changes in configuration and Installation.

6. In addition, as proposed, additional water requirement of 50 m³/hr. shall be met from treated/recycled effluent.

7. All other conditions shall remain unchanged.

8. In case of change in the scope of the project in future, the company shall obtain fresh environmental clearance.

This issues with the prior approval of the Competent Authority.


(Dr. T. Chandini)
Director

Copy to:

1. Principal Secretary, Department of Environment & Forest, Govt. of Kerala, Secretariat Annex Building, Room – 604, C Block, 6th Floor, Government Secretariat, Thiruvananthapuram.
2. Chairman, Kerala State Pollution Control Board, Pattom P.O., Thiruvananthapuram
3. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 110032.
4. The Chief Conservator of Forests, Regional Office (Southern Zone, Bangalore) Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
6. Guard File/Record File.

F. No. J-11011/26/2013- IA II (I)
Government of India
Ministry of Environment, Forests and Climate Change
(I.A. Division)

Indira Paryavaran Bhawan
 Aliganj, Jorbagh Road,
 New Delhi -110003

E-mail : Ik.bokolia@nic.in
 Telefax : 011: 24695313
 Date: 12th May, 2015

To,
 Shri George Paul (Dy. General Manager)
 M/s BPCL-Kochi Refinery.
 Post Bag No. 2 Ernakulam District
 Ambalamugal -682 302, Kerala

E-mail: georgepaul@bharatpetroleum.in ; Fax No.: 0484-2822006

Subject: Propylene Derivatives Petrochemical Project (PDPP) at Village Puthencruz/Thiruvankulam, Tehsil Kunnathanadu, District Ernakulam, Kerala by M/s BPCL-Kochi Refinery- Environmental Clearance reg.

Ref. : Your letter no. BPCL-KR-PC7 dated 9th January, 2012.

Sir,

This has reference to your letter dated 9th January, 2012 alongwith project documents including Form 1, Prefeasibility Report, Draft Terms of References, EIA/EMP report, Public Hearing report and your subsequent letter no. 26-PT-54 dated 19th March, 2015 on the above mentioned subject.

2.0 The Ministry of Environment, Forests and Climate Change has examined the application. It is noted that the proposal is for setting up of Propylene Derivatives Petrochemical Project (PDPP) at Village Puthencruz/Thiruvankulam, Tehsil Kunnathanadu, District Ernakulam, Kerala. Total cost of the project is Rs. 4588 Crore. Plant area is 132.4 Acres of which area earmarked for greenbelt is 40 acres. Polymer grade propylene (250 TMT) will be supplied by the BPCL-Kochi Refinery after implementation of the integrated refinery expansion project (IREP) at Kochi, Kerala. Chitrapuzha River (1.0 Km), Panar (1.6 Km) and KaitapuzhaKoyal (5.7 Km) are located within 10 Km distance. It is reported that no national park/wildlife sanctuary/reserve/protected forests are located within 10 km distance. Following products will be manufactured:

Products:	
Ester Grade Acrylic Acid	: 47,000 Metric Tonnes per Annum
Butyl Acrylate	: 180,000 Metric Tonnes per Annum
2 Ethyl Hexyl Acrylate	: 10,000 Metric Tonnes per Annum
Normal Butanol	: 38,000 Metric Tonnes per Annum
2 Ethyl Hexanol	: 47,000 Metric Tonnes per Annum

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Iso Butanol	:	7,000 Metric Tonnes per Annum
Plant Capacities:		
Acrylic Acid Unit	:	160,000 Metric Tonnes per Annum
Acrylate Unit	:	190,000 Metric Tonnes per Annum
Oxo Alcohols Unit	:	212,000 Metric Tonnes per Annum

3.0 Off gases and other waste gases generated from the process units will be routed to waste incineration unit for treatment. Low NOx burners will be provided. Online analyzers / Gas monitors will be provided to monitor emissions / leaks. Smokeless flare of adequate height will be provided for safe disposal of gases during emergencies. Total SO₂ emissions from PDPP will be 43.4 Kg/hr. Total SO₂ emissions after implementation of PDPP alongwith the existing Integrated Refinery Expansion Project (IREP) of Kochi Refinery will be 1561.4 Kg/hr. It is reported that total fresh water requirement from Periyar River will be 493 m³/hr. for which BPCL – Kochi Refinery has consent from the Govt. of Kerala for drawing water from Periyar River upto 3083.3 m³/hr. Effluent generation will be 35 m³/hr from process, 102.3 m³/hr from cooling tower blow down and 203 m³/hr from condensate. Low COD effluent from process will be treated in combine effluent treatment plant of IREP. High COD effluent will be routed to waste incinerator. Cooling tower blow down will be treated in RO. DM plant and treated effluent will be recycled /reused for cooling tower make up. Condensate will be reused in the IREP project of Refinery. Domestic sewage will be treated in sewage treatment plant (STP). Rain water from PDPP complex will be routed to an oil water separator and will be reused. Oxidation catalyst, Feed purification absorbent and Polymer residue will be sent to the Authorized recycler/re-processors.

4.0 All petro-chemical complexes are listed at S.N. 5(c) under category 'A' and appraised at Central level.

5.0 Public hearing/consultation was conducted by the State Pollution Control Board on 23rd December, 2014.

6.0 The proposal was considered by the Expert Appraisal Committee (Industry) in its meetings held during 5th-7th March, 2013, 28th to 30th April 2014 and 17th-19th February, 2015 respectively. Project Proponent and the EIA Consultant namely Engineers India Ltd., have presented EIA / EMP report as per the TOR. EAC has found the EIA / EMP Report and additional information to be satisfactory and in full consonance with the presented TORs. The Committee recommended the proposal for environmental clearance.

7.0 Based on the information submitted by the project proponent, the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14th September 2006, subject to the compliance of the following Specific and General Conditions:

A. SPECIFIC CONDITIONS :

- i. M/s BPCL shall comply with new standards/norms for Oil Refinery Industry and petrochemical industry notified under the Environment (Protection) Rules, 1986.
- ii. Continuous on-line stack monitoring for SO₂, NOx and CO of all the stacks shall be carried out. Low NOx burners shall be installed.

- iii. The emission standards prescribed by the MoEF under Environment (Protection) Act for petrochemical industry shall be strictly followed. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emissions shall be monitored regularly.
- iv. Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.
- v. Total SO₂ emissions after implementation of PDPP including IREP shall not exceed 1561.4 Kg/hr.
- vi. Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above the permissible limits, effective measures shall be taken immediately.
- vii. Ambient air quality monitoring stations, [PM₁₀, PM_{2.5}, SO₂, NO_x, H₂S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Kerala State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs.
- viii. Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16th November, 2009 and trend analysis w.r.t past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.
- ix. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Besides, acoustic enclosure /silencer shall be installed wherever noise levels exceed the limit.
- x. Total fresh water requirement from Kochi Refinery for PDPP shall not exceed 493 m³/hr and prior permission shall be obtained from the concerned agency. No ground water shall be used.
- xi. Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused in the existing cooling tower. As proposed, high COD effluent shall be incinerated. Water quality of treated effluent shall be monitored regularly. Online water monitoring system shall be installed for important parameters.
- xii. Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
- xiii. Incinerator designed shall be as per CPCB guidelines.

- xiv. The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.
- xv. Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.
- xvi. The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).
- xvii. To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.
- xviii. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xix. All the issues raised and commitment made during the public hearing/consultation meeting held on 23rd December, 2014 shall be satisfactorily implemented. Accordingly, provision of budget to be kept.
- xx. At least 2 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.
- xxi. 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.
- xxii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.
- ii. No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

- iii. The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.
- iv. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
- v. A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- vi. Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government alongwith the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.
- vii. The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
- viii. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- ix. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, PM_{2.5}, SO₂, NO_x, HC (Methane & Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- x. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry / CPCB / SPCB shall monitor the stipulated conditions.
- xi. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.

xii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.

xiii. Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

8.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

9.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

10.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

11.0 Environment Clearance is issued to M/s BPCL-Kochi Refinery for Propylene Derivatives Petrochemical Project (PDPP) at Village Puthencruz/Thiruvankulam, Tehsil Kunnathanadu, District Ernakulam, Kerala.


(Lalit Bokolia)
Additional Director

Copy to :-

1. Principal Secretary, Department of Environment & Forest, Govt. of Kerala, Secretariat Annex Building, Room - 604, C Block, 6th Floor, Government Secretariat, Thiruvananthapuram.
2. Chairman, Kerala State Pollution Control Board, Pattom P.O., Thiruvananthapuram
3. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 110032.
4. The Chief Conservator of Forests, Regional Office (Southern Zone, Bangalore) Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034.
5. Monitoring Cell, Ministry of Environment, Forests and Climate Change, Indira Paryavaran Bhawan, Jor Bagh, New Delhi-110003.
6. Guard File/Record File.


(Lalit Bokolia)
Additional Director



F. No. Tech/38/PC(Ker)/RDS/ 2020-21/Vol 2 / 918
To

December 03, 2020

The Member Secretary
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi-110032

(Kind attention: DH, IPC I, CPCB)

Sub: Grievances registered at Prime Minister Office-Public Grievance (PMOPG) against BPCL Petro chemical Project, Ambalamugal, Cochin, Kerala.
Ref: Grievance registrations PMOPG/E/2020/0724861, PMOPG/E/2020/0727542 & PMOPG/E/2020/0837775.

Sir,

Please refer to the grievance registered in the PMOPG against BPCL Petro chemical Project, Ambalamugal, Cochin, Kerala. The complaints registered by Shri Vipin Nath A V (PMOPG/E/2020/0727542 & PMOPG/E/2020/0727542) and Smt. Mathu Raveendran (PMOPG/E/2020/0837775) regarding the pollution and other issues have been referred to this office for further necessary actions. In this regard a virtual meeting was conducted with concerned officials of the Kerala Board along with representatives of BPCL and the complainants on 29-09-2020. In the virtual meeting, it was decided to conduct a site inspection & hearing on a mutually convenient date. Accordingly, CPCB official carried out site inspection & hearing in the presence of KSPCB officials on 23-10-2020. The preliminary inspection report prepared in this connection is submitted for further necessary actions and information.

Yours faithfully

शुभ : सुश्री
31/12/2020

(S. Suresh)

Regional Director

9480672128/ cpcbsuresh@gmail.com

Copy to:

1. The Regional Office, KSPCB, Ernakulam.
2. The District Office 2 (DO-2), KSPCB, Perumbavoor.
3. Shri. Vipin Nath A V, Complainant.
4. Smt. Mathu Raveendran, Complainant.
5. DH, IPC I, CPCB, H.O., Delhi

क्षेत्रीय निदेशालय (दक्षिण) : निसर्ग भवन, ए-ब्लॉक, प्रथम एवं द्वितीय तल, तिममय्या रोड, 7-डी मैन, शिवनगर, बेंगलूरु - ५६० ०७९.

Regional Directorate (South) : " Nisarga Bhawan ", A-Block, 1st & 2nd Floors, Thimmaiah Road, 7th D - Main, Shivanagar, Bengaluru - 560 079.

दूरभाष / Telephone : 080-23233739, 23233827, 23233996, 23233600, 23232559, 23226002, 23222539, Fax : 080-23234059

ई-मेल / E-mail : cpcbszo@yahoo.com, zobangalore.cpcb@nic.in

प्रधान कार्यालय : परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली- ११० ०३२.

Head Office : Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.

दूरभाष / Telephone : 011-43102030, Fax : 22305793, 22307078, 22307079, 22301932, 22304948

ई-मेल / E-mail : cpcb@nic.in वेबसाइट / Website : www.cpcb.nic.in



REGIONAL DIRECTORATE (RD) BENGALURU

**INSPECTION REPORT ON PUBLIC COMPLAINT REGISTERED
IN PRIME MINISTER OFFICE-PUBLIC GRIEVANCE (PMOPG)
AGAINST M/s. BPCL PETRO CHEMICAL PROJECT,
AMBALAMUGAL, COCHIN, KERALA.**

Background

Three public complaint / grievances were registered in the Prime Minister Office-Public Grievance (PMOPG) against M/s. Bharath Petrochemical Limited (BPCL) Petro chemical Project, Ambalamugal, Cochin, Kerala. The complaints registered by Shri Vipin Nath A V (PMOPG/E/2020/0727542 & PMOPG/E/2020/0727542) and Smt. Mathu Raveendran (PMOPG/E/2020/0837775) regarding the pollution and other issues were forwarded to this office for follow up and for further necessary actions. In this regard, a letter was sent to the Kerala State Pollution Control Board (KSPCB) on 25-09-2020 for factual report and to conduct a virtual meeting with the complainants, KSPCB officials, CPCB representative and concerned BPCL officials. Accordingly, the regional office, KSPCB, Ernakulam, convened a virtual meeting on 29-09-2020, 11.30 AM with following participants:

- Shri M A Baiju, Chief Environmental Engineer (CEE), RO, KSPCB, Ernakulam.
- Shri K S Dinesh, Environmental Engineer, Ernakulam District Office-2, KSPCB.
- Dr. V Deepesh, Scientist C, CPCB, Regional Directorate, Bengaluru.
- Shri Sainath C, BPCL, Kochi.
- Shri. Ramachandran M K. BPCL, Kochi.
- Shri. Vipin Nath A V, Complainant.
- Shri. Sinu Jacob, Local resident.
- Smt. Mathu Raveendran, Complainant.

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. 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 to complaints, BPCL representatives denied the allegations made by the complainants, stating that the plants are still under commissioning and are not operational. The company representative stated that the project site may be inspected by the authorities for verifying the facts. However, the BPCL representative agreed that due to commissioning activities some sound and noise issues do exist. Company 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 company representative stated that the land acquisition of 120 acres has already completed for the project and further acquisition cannot be done. It was also stated that the complainant's house is 27 m away from the boundary wall. The company made 23 m wide canal and 4 m wide road between the project boundary and the complainant's residence. Detailed note on the outcome of virtual meeting held on 29-09-2020 is annexed as ANNEXURE 1.

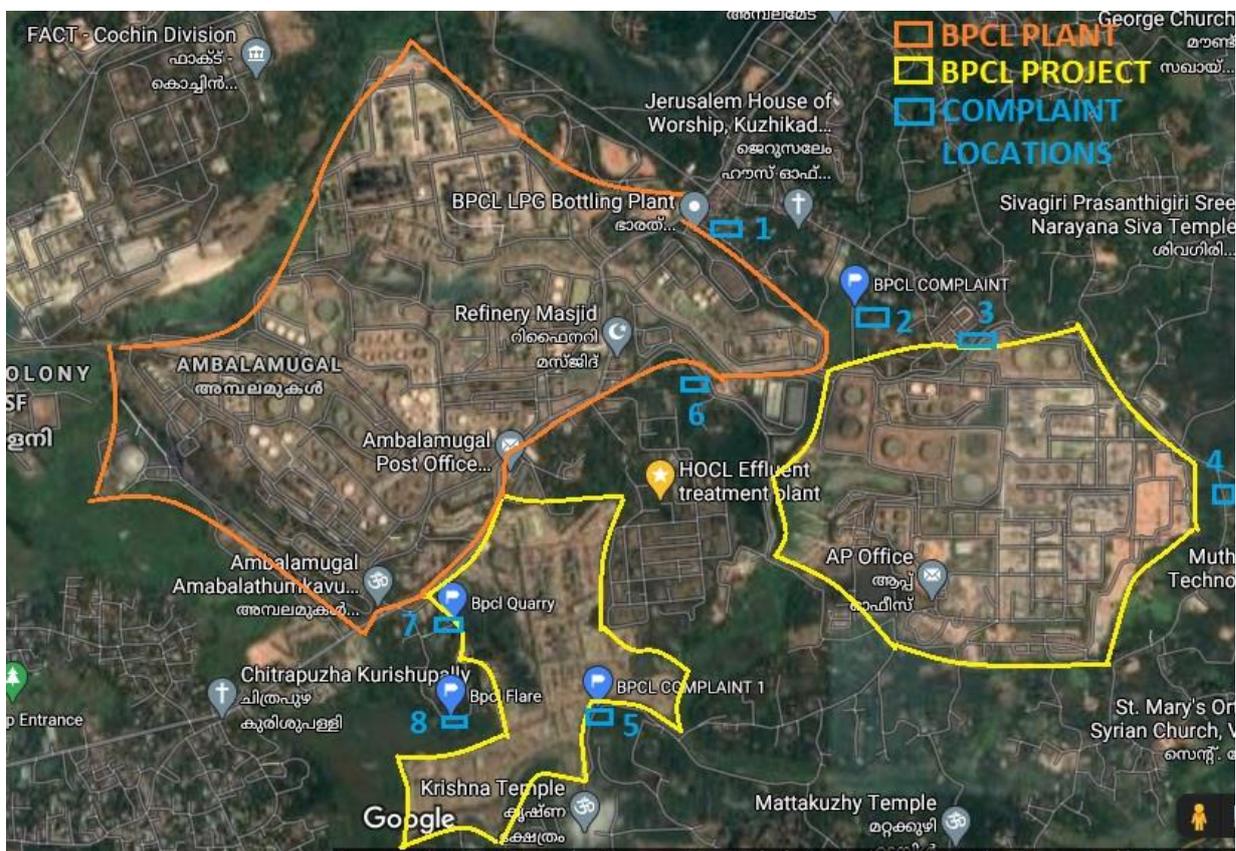
It was decided in the virtual meeting to conduct a joint site inspection and hearing by CPCB and KSPCB in the presence of complainants. The BPCL authorities welcomed inspections and requested to limit the number of people in the wake of COVID spread. KSPCB coordinated with the complainants and BPCL authorities and site inspection was mutually decided on 23-10-2020.

Industry inspection:

On the day of inspection, it was informed by the KSPCB officials that due to COVID issues, BPCL imposed certain restrictions and inspection of BPCL-IREP project site could not be carried out. Further dates for inspections were not communicated till date.

Site inspection and hearing:

Inspection/ hearing was conducted by CPCB official in the presence of KSPCB officials on 23-10-2020 and met several local residents aggrieved by the issues related to BPCL. The inspection team met a group of local residents at following location/ places around the BPCL project site.



BPCL plant, project site and complainant hearing locations

Location 1: The location is in the Aasramam road, Kuzhikkad, near to LPG bottling plant of BPC. The local residents, complained on the noise pollution and frequent gas leakages from bottling plant and the adjacent project site (Air Products division). They also raised serious apprehension on the minimum safety distance required for LPG

bottling plant and alleged that the plant boundary wall is just 10m away from the public road. Past gas leakage issues were highlighted by the public and complained on air and noise pollution from the plant. It was also highlighted that a Govt. school in this area was shifted to another location due to gas leakage accident in the past. Proper green belt was not observed in this region during the site visit. During inspection, there was a constant sound of gas cylinders being dropped from a height from the bottling plant.

Location 2: The inspection team visited a location in Kuzhikkad, which is around 125m away from Air Products division boundary. One of the resident in this location has already approached Honourable National Green Tribunal regarding issues with IREP project of BPCL. Green belt was not observed in the Air Product/ project campus.

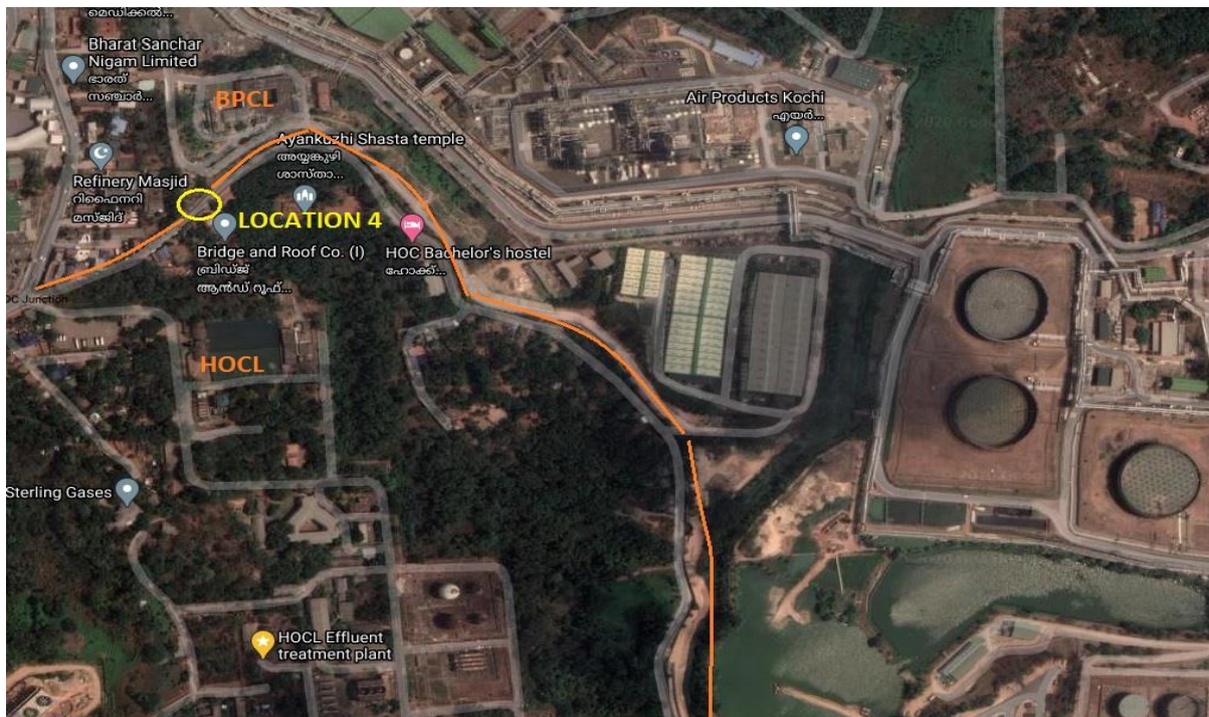


Location 1, 2 & 3

Location 3: The team visited the site along the BPCL boundary wall leading to Air Product's main gate from the Kuzhikkad-Puthenkurishu road. Here the local resident's houses are separated just by a road from the boundary wall and inside the

BPCL campus huge pipelines are laid within few meters all along the boundary. From the satellite image, it was found that this area contains several storage tanks. The ground reality suggest that these storage tanks are within 50 to 60m from the residence across the road and it has to be verified whether the layout of the project is as per the Oil Industry Safety Directorate (OISD) standards (OISD-STD-118) or as per other relevant safety guidelines of OISD or Petroleum and Explosives Safety Organisation (PESO), Nagpur. No green belt observed all along the boundary wall and it seems there is no sufficient buffer area/ set back maintained in this location as the pipelines are installed all along the boundary wall.

Location 4: The team was also intercepted by a group of locals residing in Ayyankuzhi, an area sandwiched between BPCL and HOCL (M/s. Hindustan Organic Chemicals Limited) and alleged that their plight of living between two petrochemical units are not addressed by either of the companies. There are no green belts and buffer zones in the BPCL side in this locality.



Location 4

Location 5: The team then visited the residence of complainant Shri Vipin Nath & Smt. Mathu Raveendran at Kakkad Kara, the southern side of the PDDP project complex.

The complaints house is across the road and drain flowing along the boundary of PDDP-BPCL project site. The house is 45-50m away from the boundary wall and there are no green belts in the area. Moreover, a high tension power line runs inside the project site close to the boundary. It is in this context; the local residents are raising apprehension on how green belt could be developed under high tension power lines.



Location 5, 6, 7 & 8

Location 6: The team visited a place called Neermel, adjacent to the sulphur plant of IREP project. The road and residences are on elevated area and the sulphur plant is approximately 125m away from the public road. Public gathered here complained about the dust and noise pollution from the project site. Patches of natural vegetation and trees were observed in the boundary of the project site and it was informed that the land was recently acquired by BPCL and it is not a green belt as prescribed in the EC conditions.

Location 7 & 8: Finally, the team visited some area in the western side of the PDDP project site and the BPCL water storage quarries. The locals claimed that the area has been enclosed by BPCL project site from three sides and in the event of emergencies, proper evacuations are not possible. In this area also, proper green belts are not evidenced and the flare stack in the project site is around 100-125m from the nearest residence.

Observations:

Noise, air & water pollution: 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. Several video clippings recorded by the nearby residents were presented during the hearing. However, the actual project commissioning activities could not be assessed, as project site inspection could not be carried out due to restrictions imposed by BPCL on the day of inspection. It is observed that a water channel is flowing through the project site and flows along the southern boundary wall near location 5. Locals alleged frequent fish kills in this water channel and an outlet from project site was observed near location 5.

Green belt around the plant: It is evident from the inspection around the project site, proper green belt is not maintained around the project site. It is also observed that there are several restrictions like high-tension power lines, inadequate space inside the project location, etc. From the satellite images, it is quite evident that, there are grossly insufficient space for green belt development especially in locations 3, 5 & 8 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. It was informed by the KSPCB officials that industry representatives informed them that there are restrictions on account of petroleum installation safety guidelines to develop proper green belt. It is clarified that, being a petroleum/ petrochemical industry, BPCL project has to strictly comply the safety directive standards imposed by OISD/ PESO/ other safety related authorities and also has to comply strictly with pollution mitigation/ environmental specific conditions like green belt development. If the above safety restriction is quoted for not developing a green belt, then it has to be presumed that there may be issues with proper project layout, proper placement of installations, inadequate weightage to environmental concerns over safety and inadequate project land for complying both safety & environmental concerns. 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 developed as green belt in many locations. In the contrary, the EIA report has put forth a commitment of 200m green belt in the boundary of the project. 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.

Buffer zone and safe distance criteria: 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 location 3, the process 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. However, the stipulated safety distance criteria for the petroleum/ petrochemical installations are coming under the purview of PESO/ OISD standards. 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.

Land acquisition: 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 and acquired agriculture/ paddy lands. 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 in the project site. Locals claims that the unscientific land acquisition with vested interest cramped the project site without proper buffer area and green belt. Some of the areas in location 5 & 8, 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 laws & guidelines. Now, the acquired land of 120 acres seems to be inadequate for developing green belt around the project site. The matter may be examined by an appropriate committee headed by the District Magistrate.

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.

Date of inspection: 23-10-2020



3/12/2020

Dr. Deepesh V

Scientist 'C'

Summary of virtual meeting with respect to the grievances registered at Prime Minister Office- Public Grievance (PMOPG) against BPCL Petro chemical Project, Ambalamugal, Cochin, Kerala.

With respect to the communications received from CPCB H.O. regarding grievances registered in PMOPG portal (E/2020/0724861, E/2020/0727542 & E/2020/0837775), a letter was sent on 25-09-2020 to the Chairman, KSPCB to arrange an online meeting with the KSPCB officials, BPCL representatives and the complainants. Accordingly, the regional office of KSPCB at Kochi, convened a virtual meeting on 29-09-2020, 11.30 AM. Following participants attended the meeting.

- Shri M A Baiju, Chief Environmental Engineer (CEE), Regional Office, KSPCB, Kochi.
- Shri K S Dinesh, Environmental Engineer, Ernakulam District Office-2, KSPCB.
- Dr. V Deepesh, Scientist C, CPCB, Regional Directorate, Bengaluru.
- Shri Sainath C, BPCL, Kochi.
- Shri. Ramachandran M K. BPCL, Kochi.
- Shri. Vipin Nath A V, Complainant.
- Shri. Sinu Jacob, Local resident.
- Smt. Mathu Raveendran, Complainant.

The CEE of the regional office detailed the purpose of the virtual meeting and welcomed all the participants. The complainants were asked to explain their grievances and Shri. Vipin Nath A V, explained the issues starting from the land acquisition happened in 2013-14. He pointed out the dust pollution from the project site and stated that intensity of dust nuisance increased after commissioning. He explained on the water pollution in the canal and frequent fish kills. There is an apprehension on the quality of well water in the vicinity as this canal flows close to the residential area. He also stated that the reply from PMOPG says that the project is operational after complying relevant norms and guidelines. The complainants highlighted the lack of proper green belt in the project site and shown photographs and videos in support of their claims. It is also claimed that the company representatives have not addressed their grievances properly.

Another affected person Shri. Sinu Jacob stated that their residences are hardly 50m away from the industry and they are aggrieved by the noise, smell, odour nuisance and water pollution. He also pointed out the high tension power line in the area earmarked for green belt and asked how green belt would come up in such area. He stressed that the green belt development is included in the current project and the company cannot back track from developing a green belt as per the norms. He demanded that the company shall take up the affected peoples land as they cannot live peacefully in the area due to the pollution and nuisance from the project site. The CEE of the regional office of KSPCB explained the IREP (Integrated Refinery Expansion Project), related PDPP (Propylene Derivative Petrochemical Project) and the propylene plant and upcoming Polyol project of BPCL and other joint venture companies involved in the project. He also mentioned the related NGT case OA 265/2017 (SZ) and the related direction of tribunal to monitor compliance once the project is fully operational.

In reply, BPCL representatives denied the allegations made by the complainants, stating that the plants are still under commissioning and are not operational. The company representative stated that the project site may be inspected by the authorities for verifying the facts. However, the representative agreed that due to commissioning activities some sound and noise issues will be there. They also pointed out that the recommendations made by the chairman of KSPCB has been complied with. The noise from steam blowing is taken care with muzzlers and special enclosures and flaring of steam also is reduced. The allegation of explosion like sound from the unit on 6th August, 2020 was denied by the BPCL representatives on the ground that the plant is not commissioned yet. It was also clarified that 40 acres of land is earmarked for green belt and around 8000 tree saplings were planted. The company representatives also ruled out the possibility of pollution and fish kill as the plants are yet to be commissioned. In reply to the complainant's demand to acquire their land, the company representative stated that the land acquisition of 120 Acres has already completed and further acquisition cannot be done. It was also stated that the complainant's house is 27m away from the boundary wall. The company made 23m wide canal and 4 m wide road between the project boundary and the complainant's residence.

Shri. M K Vishwanathan, father of the complainant Shri Vipin Nath stated that the canal/ thodu made by the company does not have any natural flow and the entire volume of water is from the industry pipeline outlet. He also reiterated the promises made by the company to acquire their land and the assurance of job to the qualified persons from the affected families.

It was decided to conduct a joint site inspection and hearing by CPCB and KSPCB in the presence of complainants. The CEE of the regional office informed that a joint site inspection shall be done on a mutually convenient date. The BPCL authorities also welcomed such inspections and requested to limit the number of people in the wake of COVID spread. Therefore, a site inspection is planned and will be coordinated by KSPCB with due care on the COVID protocol and social distancing norms. The date of site inspection will be decided on mutually convenient date.

Bengaluru

29-09-2020

Date	Place	Parameters	Value In ($\mu\text{g}/\text{M}^3$)	National Ambient Air Quality Standards($\mu\text{g}/\text{M}^3$)
28.09.2020	South -West Side Of The Petitioner Sri.N.G. Soman (East Side Of The Company) (Residential)	SO ₂	BDL	80
		NO _x	BDL	80
		NH ₃	0.82	400
		H ₂ S	BDL	-
		PM ₁₀	16	100
		PM _{2.5}	14	60
		Benzene	BDL	-
		Toluene	BDL	-
		Ethyl Benzene	BDL	-
		Xylene	BDL	-
		Total Hydrocarbon	BDL	-
17.03.2021	South -West Side Of The Petitioner Sri.N.G. Soman (East Side Of The Company) (Residential)	SO ₂	BDL	80
		NO _x	3.5	80
		NH ₃	1	400
		H ₂ S	BDL	-
		PM ₁₀	82	100
		PM _{2.5}	23	60
		Benzene	BDL	-
		Toluene	BDL	-
		Ethyl Benzene	BDL	-
		Xylene	BDL	-
		Total Hydrocarbon	BDL	-

17.03.2021	BPCL CISF Colony (West Direction Of BPCL Plant)	SO ₂	BDL	80
		NO _x	10.35	80
		NH ₃	4.72	400
		H ₂ S	BDL	-
		PM ₁₀	46	100
		PM _{2.5}	8	60
		Benzene	BDL	-
		Toluene	BDL	-
		Ethyl Benzene	BDL	-
		Xylene	BDL	-
		Total Hydrocarbon	BDL	-
28.09.2020	BPCL Watch Tower North -Eastern Boundary Of DHDS - SRU Plant.(Industrial)	SO ₂	3.9	80
		NO _x	7.7	80
		NH ₃	2.7	400
		H ₂ S	BDL	-
		PM ₁₀	13	100
		PM _{2.5}	13	60
		Benzene	BDL	-
		Toluene	BDL	-
		Ethyl Benzene	BDL	-
		Xylene	BDL	-
		Total Hydrocarbon	BDL	-
28.09.2020	South -West Side Of The Residence Near The Petitioner (East	SO ₂	BDL	80
		NO _x	BDL	80

	Side Of The Company) (Residential)	NH ₃	0.43	400
		H ₂ S	BDL	-
		PM ₁₀	35	100
		PM _{2.5}	14	60
		Benzene	BDL	-
		Toluene	BDL	-
		Ethyl Benzene	BDL	-
		Xylene	BDL	-
		Total Hydrocarbon	BDL	-
28.09.2020	North- East Side Of The Company(Residence Of Omanakuttan, Puthenpurayil House, Neermel)(Residential)	SO ₂	BDL	80
		NO _x	BDL	80
		NH ₃	BDL	400
		H ₂ S	BDL	-
		PM ₁₀	19	100
		PM _{2.5}	9	60
		Benzene	BDL	-
		Toluene	BDL	-
		Ethyl Benzene	BDL	-
		Xylene	BDL	-
		Total Hydrocarbon	BDL	-
28.09.2020	North-West Boundary Of The Prodair Plant Nearn Residential Area	SO ₂	BDL	80
		NO _x	BDL	80
		NH ₃	0.05	400
		H ₂ S	BDL	-

	PM ₁₀	26	100
	PM _{2.5}	16	60
	Benzene	BDL	-
	Toluene	BDL	-
	Ethyl Benzene	BDL	-
	Xylene	BDL	-
	Total Hydrocarbon	BDL	-



KUZHICKAD RESIDENTS ASSOCIATION

Reg. No. 253/10 Regd Office: Kunnappally Building, Ashramam Road
Ambalamedu P.O., Kochi-682 303, Kerala

President
K.J. MANI
97472 70512

Secretary
RAVI T.K.
94466 11970

Treasurer
VENUGOPAL V.R.
70252 06516

To,

Shri Baiju M A
Chief Environment Engineer (CEE)
KSPCB
Ernakulam

Date: 02.03.2021

Sir,

Ref: Proceedings dated 08.02.2016 in HRMP No. 11018 Of Kerala State Humans Rights Commission.

1. Complaint to KSPCB dtd. 06-02-2020 EKM, 04-06-2018 EKM, 10-01-2017 EKM, 18-04-2016 TVM, 18-04-2016 PVR, 08-06-2015 PVR, 02-06-2015 PVR, 10-02-2012 EKM
2. Complaint to District Collector EKM dtd. 23-11-2020, 16-07-2019, 10-04-2019, 06-02-2017, 29-09-2019.
3. Report dtd . 30-09-2020 from Kunnathunad Tahasidar
06-03-2018 from Principal Secretary
02-02-2017 from Chirman KSPCD TVM
04-11-2016 from Kunnathunad Tahasidar
20-02-2015 from KSPCB EKM to District Collector EKM
4. Report from Ambalamedu Police Station dtd. 20-06-2017 to Kerala Government

Sub: Request to consider the objection in the matter of renewal of consent to operate submitted by Territory Manager (LPG), BPCL, LPG Bottling Plant, renewal of consent to establish submitted by Executive Director, BPCL, Integrated Refinery Expansion Project and renewal of consent to operate submitted by Executive Director, BPCL, BPCKRL.

1. We, the following residents of Kuzhikkadu, Puthencruz village, Kunnathunadu Taluk, Ernakulam District, Kerala State submit the following for your kind consideration and favourable action.
2. We are owners of small plots of land in Survey Nos.120 to 129 of Puthencruz village. All of us have constructed residential buildings in the plots and are residing with family therein for the last several decades. On the southern side of the above stated land situates the land owned by BPCL Kochi Refinery. Previously the plants, factories and Flare Stacks of the Refinery were situated far away from the boundary. This was in accordance with the legal requirement that a buffer zone and green belt shall be provided in view hazardous nature of the activity that was going on and to minimize the effect of the air and sound pollution that is caused.

Cont..1/-

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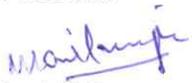
3. But of late various construction activities are going on very near to the boundary. A LPG bottling plant was established very close to the boundary wall. A Hydrogen plant (AIR PRODUCT) is also established near the boundary. Work is in progress to establish another plant nearby.
4. The sound and air pollution caused by the above activities is causing utmost nuisance to the nearby residents. Life has become miserable to us. The heat and dust emanated from the flare stack which works through the day and night makes it impossible for us to lead a normal life. The sulphur particles get deposits everywhere. The pungent smell that emanates from the plant lingers throughout. Many of us and our family members are afflicted by various pollution related ailments. In addition, the safety aspects are not at all taken into consideration while establishing bottling plant very near to the thickly populated area. In case of any untoward incident life of several innocent persons would be at peril.
5. Though we submitted various representations before authorities highlighting the above aspects, no positive response is forthcoming. Now in order to implement the expansion program of the company, vast extent of land is being acquired. Though all of us expressed our willingness, because of the adverse conditions, that our land could be acquired, the company did not take any such steps. It may be noted that we are not opposing the development plant of the Company.
6. Pointing out the above aspects we submitted a complaint before the Kerala State Human Rights Commission. During the pendency of the above proceedings, a joint inspection was conducted by a committee as directed by the commission. A report was submitted by the committee recommending that while considering the renewal/consent to operate sufficient buffer zone and green belt along the boundary shall be insisted. The proceedings before the Commission was closed directing the report of the Joint-Inspection should be considered at the time of consideration of renewal of consent to operate submitted by the Territory Manager (LPG), BPCL, LPG Bottling Plant, renewal of consent to establish submitted by Executive Director, BPCL, Integrated Refinery Expansion Project and renewal of consent to operate submitted by Executive Director, BPCKRL we may be given an opportunity to submit our grievance. We may also be given an opportunity of personal hearing. It is further requested that before hearing us renewal/licence to operate may not be granted.

Hence we request you good office to intervene in the matter, for ensuring lawfully required buffer zones, green belt at least 500 meters around the company and relocate the local people (near by residents) affected by all sorts of pollution and constant threat of accidents by taking up the matter with the managements of these companies and the central & state government authorities.

Thanking you,

Yours faithfully

President


Mani K J

Secretary


Ravi T K

From,

Mrs. Girija Rajendran & Mrs. Sasikala Nandakumar

Neermel, Varikoli Post, Puthencruz, Ernakulam Dist, 682308

Mob: +91 8086300411

To,

The Regional Office

K S P C B

Ernakulam

Subject : Pollution issues at Neermel Chalikkara from BPCL Sulphar Plant

Respected Sir,

With due respect, we would like to draw your attention towards the pollution from BPCL Sulphar plant located at Chalikkara Neermel area, Vadavucode Puthencruz Panchayath. It is a matter of deep concern / importance that the said plant is working very close to Neermel residential area. Polluting these places are becoming main cause of making it unfavorable for human being to live in an environment of piece. The fume is consist of various danger gases causing heavy breathing problem for people inhaling the air.

The said plant is working full-fledged by 24hours with no Green belt and Buffer zone. People & children's affected shortness of breath, asthma, cough, body itching and sores. As the plant is located very closely the residents who are staying nearby are not able to sleep at night due to heavy sound, smoke and odors emitted from this Sulphar plant. So we, residents facing the above said

issues from this company since very long period of time. Escalated/ informed the matter with BPCL authorities several time, but no favorable response/ action received yet.

On 03 Dec 2020, Central Pollution Control Board carried out site inspection at Neermel area. The preliminary inspection report has been prepared and submitted to DH, IPC I, CPCB for further necessary actions. CPCB observations towards Neermel area is mentioned below:-

“The team visited a place called Neermel, adjacent to the sulphur plant of IREP project. The road and residences are on elevated area and the sulphur plant is approximately 125m away from the public road. Public gathered here complained about the dust and noise pollution from the project site. Patches of natural vegetation and trees were observed in the boundary of the project site and it was informed that the land was recently acquired by BPCL and it is not a green belt as prescribed in the EC conditions”

Sir, we request you to understand our problem by putting yourself on our place and take an immediate / fast action against such unauthorized plant in our area. This is a collective complaint by all of us the victims who are residing in around of this area. Please do necessary action to acquire the land and save us immediately Hope you have a quick and favorable action in this regard soon.

Yours Truly

Girija Rajendran

02 03 2021

Saikala Nandakumar

Neermel, Chalikkara

Dated 21/02/2021

From

promod luckose, president
Ambalamugal South West Residents Association
Ambalamugal

To

Hon. Chairman
Kerala State Pollution Control Board
Thiruvananthapuram

Respected Sir

Subject: Regarding air, water and noise pollution such as caused by BPCL / BPCL IREP / BPCL PDPP

Reference:

1. Extreme noise, smoke and vibration from PDPP on 17/02/2021
2. Reply to our complaint received through PCB / DO2 / EKM / GEN / CF-05/2013, dated 11/01/201
3. In our complaint to the Chief Minister, as per the directions of the District Collector, the Tehsildar Investigation Report (attached copy)
4. Guidelines for Industries (attached copy) obtained from MOEF under RTI Act
5. The Classification of Industries we received under the Right to Information Act states that it is a red category company (attached copies of relevant pages).
6. Investigation Report F No. Tech / 38 / PC (Ker) / RDS / 20-21 / Vol 2/918, December 03, 2020. (copy attached here with)
7. Strict instructions on environment clearance received by BPCL (Copy attached)
8. CPCB Guidelines for Green Belt (attached copies of relevant pages)
9. Reply Received by us regarding the Notified Industrial Area from Industries Department of Kerala under the Right to Information Act

We would like to inform you that there was terrible noise, smoke and vibration caused on 17/02/2021 and thank you very much for taking action to stop it.

We had lodged complaints with the Environment Engineer and the Chief Environmental Engineer on the subject but the action taken and the response taken were not satisfactory.

It is with regret to inform you that the issues mentioned in the complaint are still the same except for the horrible noise and vibration emanating from the PDPP on 17/02/2021.

Most of the different types of bad odors, the atmosphere is smoky, the noise is unbearable and the water pollution continues for many days.

BPCL and BPCL-PDPP, and the plants exist surrounding our the residential area that consists of 34 families

There are no buffer zones or green belts to be observed around the plant.

Permits are obtained by misleading you and other departments that this is an industrial area. It is clear from the reply of the Industries Department that this is not a notified industrial area.

In our complaint to the Chief Minister on the issue, the Hon Tehsildar has inquired into the matter on the instructions of the District Collector and has submitted it to the Government for further action. Submitting copy

It should be borne in mind that the BPCL raises a number of untrue arguments before government departments and officials

While envisioning a project, the criteria that the green belt must be complied with and that the land for the same should be the part of the project, and the argument that the company can only acquire land if it there are new project. Or they claims that the government does not allow.

The current crisis is due to the non-availability of space for the unavoidable buffer zone and environmental protection zone at the time of planning for the new project for development.

Although BPCL claims to have a five-ampient air quality monitoring system to detect pollution, the company claims that it did not know that any of these systems worked in the wake of a series of disasters, or that it did not take timely and urgent action, but instead argued that it was not on its their part. Later, based on the complaints of the locals, it is common to find out from the government level that the source is BPCL.

The fact is that we do not even have a way of saving our lives in the event of an accident since three sides are covered by the company

The approval of the Petroleum and Safety Organization (PESO), which BPCL claims, is, as stated in this report, only in relation to their plot plan and equipment structure. Things are taken care of here to prevent explosions and accidents under normal working conditions. Besides, PESO has nothing to do with the environmental issues and pollution that we complain about.

Therefore, there is no mention in the Environmental Clearance of the need for these approvals, nor is it an antidote to non-compliance with strict EC regulations.

It is also clear that despite such restrictions, the ongoing gas leaks and accidents proves that these monitors are only on paper. Therefore, the legal requirement of buffer zone and environmental protection zone is indispensable.

A 50m bufferzone around the plant and Green Belt plant is required around the plant at least 500 m.

The PDPP plants and petcok storage are located on the banks of the Chitrapuzha and its tributaries, a source of fresh water for people lives from Chottanikkara to Pallikkara.

Fresh water source, which is connected to the Periyar Valley Irrigation Canal, now flows through inside of PDPP Plant area. This is contrary to the guidelines of the Union Ministry of Environment and Forests. Such a company must comply with a clean water source at least 1 km.

Continuous fish deaths has also occurred in recent times. The water from these streams is the

source of our wells

We humbly request that the BPCL activities which are a threat to our and our children's right to live, be honestly reconsidered and directed to operate only in accordance with the guidelines and otherwise the work permit be revoked.

pramod lukose, President
Ambalamugal South West Residents Association
promodmookkanottil@gmail.com | +91 94470 40356

**PULIYAMBILLIMUGAL RESIDENTS ASSOCIATION**

(PULARI) Reg.no: EKM/TC/444/2013

Puliyambillimugal, Kuzhikkad, Ambalamedu P.O 682303
Ph: 0484 - 2721476, 9446081476, E-mail: praassociation@yahoo.co.in

Ref :

The Hon'ble Minister of Petroleum and Natural Gas, India
New Delhi

Respected Sir,

Sub: Submission of memorandum with respect to the pollution by BPCL KR - its side effects to the suburbans (Puliyambillimugal area), request for taking our properties for the development of BPCL KR and rehabilitation thereof.

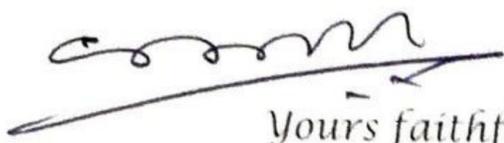
Ref: Attached minutes of several meeting and Court Orders.

Sir, we the residents of Puliyabillimugal is submitting a memorandum with respect to the Air, Water and noise pollution creating by BPCL KR - its side effects to the suburbans (Puliyambillimugal area), request for taking our properties for the development of BPCL KR and rehabilitation thereof for your kind consideration and necessary orders please.

We are also attaching copies of previous minutes of the meetings held with BPCL, Pollution Board etc. and court order in such same cases for your ready reference and immediate orders please.

Hope your kind heart will go through our pathetic conditions and suggest a solution to our problems, and to solve the issues you may issue necessary orders to the company also in this regard.

While thanking we remain,


Yours faithfully,
for Puliyambillymugal Residents Association

9446081476
KIK SASEENDRAN
NAIR

Kik Saseendran Nair

PRESIDENT
9747944811SECRETARY
9446081476 ,8547121476TREASURER
9961928288

MEMORANDUM SUBMITTED BEFORE THE HON'BLE MINISTER FOR
PETROLEUM, INDIA - NEW DELHI BY PULIYAMBILLIMUGAL
RESIDENTS ASSOCIATION, PULIYAMBILLIMUGAL, KUZHIKKAD,
AMBALAMEDU PO, ERNAKULAM, KERALA - 682303.

Sir,

Sub: Pollution by Kochi Bharath Petroleum Corporation Ltd. and the
side effects thereof reg. and taking of our properties for the
development of BPCLKR and rehabilitation thereof.

We the family members of the Puliyambillimugal Residents
Association humbly submit the following for your sympathetic
consideration and pray for necessary orders please.

We are quite anxious about the health of ourselves and our children,
due to the development works undergoing at BPCL KR and the
pollution generated thereby in the air, water and sound. Living in
our own houses in this area has placed a question mark on us and are
trying hard for survival.

Puliyambillimugal Residents Association is an association of 75
(Seventyfive) families who are permanently residing near the
proposed Hydrogen Plant Project which is under construction and
nearing to completion. This is a pacca residential area which is near
to Kochi Refineries IREP Project and situated in Ward No.15,
Puliyambillimugal, of Vadavucode Puthencruz Grama Panchayath,
Kunnathunad Taluk, Ernakulam District, Kerala State.



Initially we state that we are not against the developments of BPCL Kochi Refinery; and this memorandum is also not against to the Refinery, but for the Survival of ours.

We are financially backward and due to the pollution of the Refinery our life become more difficult and pathetic. Since we are residing very near to the Refinery, the development projects undertaken by Refinery gave us more difficulty to survive. Now the undergoing projects such as Hydrogen Plant etc. is also gives us more difficulty and due to the pollution generated by such plants it become quite difficult to live here. Due to heavy pollution in Air, Water and Sound, human living in this area is quite pathetic one.

We the PRA families are living close to the DFDs, LPG Bottling plant and the Hydrogen plant which is under construction. One may quite understand that these projects and the manufacturing products/goods are quite hazardous one. We have placed a request in front of the KRL that our property may also be taken for keeping it as a green belt and let us have a colony that may be settled by KRL little far from the said plants. We are crying for this for the last few years. All our efforts become vain and our heartfelt crying are in the deaf ears. The company had not taken interest to make any green belt that to be observed and follow by them. There is green belt around the fire stack. Hence the smoke, carbon and sulphur ejecting by the fire stack is spreading over this area which is polluting this vicinity. Due to this many of the residents including new born babies and children become Asthma, Cancer and other patients. The company is fabricating huge storage tanks inside the company premises which is very near to the



Anganvady where 30 children are studying and so many families are residing. These storage tanks are also quite dangerous for the human life and our hard earned properties and assets. The Concrete mixing plant and Labour camps are also very near to our residential area and these are also polluting the air and water regularly. It emits dust and smoke and also makes heavy noises in day and night. Due to all these, human life in this area, become very difficult and pathetic one.

Company says that they had taken all safety measures. But the huge storage tanks filled with petroleum products and other products are quite dangerous one and the safety measures taken by refinery are not enough for the survival of human life and the property. The fire and explosion caused in March 8, 1984 inside the company and to the storage tanks is an example for this, which caused heavy loss to the company as well as to the nearby residents living within 7 kilometers circumferences and the company was compelled to compensate them for the losses sustained by them for their life and property.

It is quite difficult for everybody to leave behind them their property and houses where they born and bought. The fears in our mind and for the survival of our kids, we are compelled to take a decision that we are ready to hand over our properties to Refinery if refinery is willing to take it for its development purposes. Otherwise ourselves and our children will become patients of infectious diseases.



Copy of earlier meeting minutes, court judgments and other orders are attached herewith for ready reference and records.

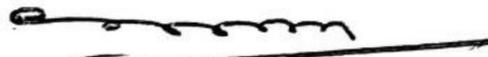
Humbly Submitted by Puliyambillimugal Residents Association

for Puliyambillimugal Residents Association,



PRESIDENT

(P.C. AYYAPPANKUTTY)


SECRETARY

(K.K. SASEENDRAN NAIR)



TREASURER

(N.K. AYYAPPAN)



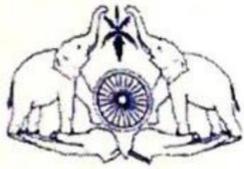
എൽസി പൗലോസ്

വാർഡ് മെമ്പർ

വികസന സ്റ്റാന്റിംഗ് കമ്മറ്റി

വടവുകോട്-പുത്തൻകുരിശ് ഗ്രാമപഞ്ചായത്ത്

ഫോൺ : 0484-2730033



തീയതി.....

Reference: VGPP/WARD1/2021, Date: 25th March 2021

**The Expert Technical Committee
MoEF/ CPCB/PESO/District Collector/ KSPCB
C/o The Chief Environment Engineer
Kerala State Pollution Control Board
Regional Office, Gandhinagar
Ernakulam**

Respected Sir,

Subject: Concerns on the pollution and environmental issues at my ward 16 of Vadvucode Puthencruze Grama Panchayath, Puthercruz village, Kunnathunadu Thaluk, Ernakulam District

Reference : Special Technical Committee formed on en query related to pollution and violation of environmental guidelines by BPCL Kochi Refinery

My name is Elsy Poulouse and I am representing Ward 16 of Vadvucode Puthencruze Grama Panchayath as the Ward Member .

Glad to learn that as per the instruction from Central Pollution Control Board, KS PCB has got constituted an expert technical committee to do the study and to take necessary action on environmental issues creating by BPCL Kochi Refinery.

We are the residents of ward 16 and suffering with the major health and environmental issues due to the pollution and due to the violation of environment guidelines by BPCL Kochi Refinery, BPCL IREP and BPCL PDPP Projects

My ward has got divided into four pockets as Adoorkara, Kodinjoor kara, Ayyankuzhi and Ettikkara respectively. This is due to the to unscientific land acquisitions carried out by M/s BPCL Kochi Refinery.

These pockets are surrounded by Red Category Industries BPCL, BPCL IREP, HOCL, and BPCL PDPP.

People living in these pockets are suffering with lot of health issues due to the air, water, light and sound pollution. Even though it is strictly mentioned in their ECs which they have obtained from MoEF & CC, we feel the following violations are valid

Even though they claim these area as Industrial area, but feel these are residential area and houses are very close to their plants.

ഗ്രാമപഞ്ചായത്ത്

പരിഷ്കരണസംഘം

പി.കെ.എസ്. സി.എസ്. കമ്മറ്റി

വടവുകര-പുത്തൻകുതിൽ ഗ്രാമപഞ്ചായത്ത്

ഫോൺ : 0484-2730033



മുഖ്യമന്ത്രി-പട്ടം
മന്ത്രിമാർ-പട്ടം
പി.കെ.എസ്. കമ്മറ്റി- പട്ടം
ഫോൺ : 9544447861

തീരുമാനം.....

2 They have altered natural river branch which was running through boarder of our Grama Panchayath and shifted the same to Thiruvaniyoor Grama Panchayath, which is fresh water resource of our residents at Adoorkara for agriculture and source of recharging their drinking water wells.

3 Currently the canal, fresh waster resource is running inside DIIDS and PD Petrochemical Projects and it causes water frequent water contamination and fish deaths.

4 BPCL Plants and Storage etc are very close to fresh water resource Chithrapuzha River it causes contamination of this major fresh water river.

5 There are not sufficient buffer zone and green belts between their plants and habitats.

6 Many of people are facing health problems

7 Many gas leakages and foul-smell spreads are found reported frequently, many time people has got hospitalized due to the same too.

8 Many of these locations doesn't even have emergency exits in case of any emergency happens. It will be very difficult to evacuate on any major emergencies as it was happened in 1984.

9 Also there are not sufficient parking area for their tanker lorries/LPG bullets, many of them are found parking on the road side, it is causing frequent road accidents here, took many lives too.

10 Here follows the geographical challenges

Adoorkara: Three sides are surrounded by BPCL and BPCL PDPP

Kodinjoor: Surrounded by BPCL, HOCL and BPCL PDPP

Ayyankuzhi: Surrounded by BPCL, Prodair and HOCL

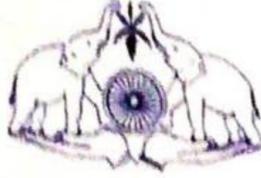
Ettikkara: Tow sides are close to BPCL and HOCL

We humbly request to the Honorable Committee to ensure these Major Red Category Companies are complying the guidelines, follows the conditions and special conditions in their Environment Clearances obtained.

We would like bring to your kind notice our concerns and anxieties on the tragical situation that has fallen us. There are many aged, kids and new-born babies are living here.

We live our lives under constant threat of the major disaster with respiratory diseases, cancer air and water pollution from company and traffic inconvenience to hamper our daily lives we live a life not befitting human standards.

എൽസി പൗൾസോ
ലാൽപേഴ്സൺ
വികസന സ്റ്റാന്റിംഗ് കമ്മറ്റി
വടവുകോട്-പുത്തൻകുരിശ് ഗ്രാമപഞ്ചായത്ത്
ഫോൺ : 0484-2730033



കുഴുവേലിപ്പുറത്ത്
അമ്പലമുക്ക് പി.
പിൻ- 682300
ഫോൺ : 95444626

തീയതി.....

It is quite unfortunate that our representation on these matters to the Polluting Companies, Govt of Kerala and the Ministry of Govt of India were overlooked.

The points we raised at the public hearing were ignored even while issuing EC.

Our only request is that the honourable committee to ensure the companies are keeping the environmental guidelines, safe distance, green belts and pollution control measures.

Thus save our lives and those of our children.

Thank you

Yours sincerely

Elsy Poulsoe Ward Member,
Ward 16, Vadavucode Puthencruze Grama Panchayath.
Phone: 954 446 2641

എൽസി പൗൾസോ
ലാൽപേഴ്സൺ
വികസന സ്റ്റാന്റിംഗ് കമ്മറ്റി
വടവുകോട് - പുത്തൻകുരിശ്
ഗ്രാമപഞ്ചായത്ത്

SI.NO	Place	Parameters	UNIT	VALUE	KSPCB LIMIT
1	Outlet A	pH		6.56	6.0-8.5
		BOD	mg/l	15	15
		COD	mg/l	76	125
		SS	mg/l	BDL	20
		Phosphates	mg/l	0.087	3
		Ammoniacal Nitrogen	mg/l	4.535	15
		Phenolic Compounds	mg/l	3.2612	0.35
		Oil And Grease	mg/l	BDL	5
2	Chithrapuzha Outlet	pH		6.89	6.0-8.5
		BOD	mg/l	12	15
		COD	mg/l	36	125
		SS	mg/l	BDL	20
		Phosphates	mg/l	0.0552	3
		Ammoniacal Nitrogen	mg/l	0.6105	15
		Phenolic Compounds	mg/l	8.103	0.35
		Oil And Grease	mg/l	BDL	5
3	Fish Kill incident Spot (Ethikkara Thodu) (03.01.2021)	pH		6.12	
		DO	mg/l	2.5	
		COD	mg/l	48	
		Sulphides	mg/l	BDL	
		Kjeldhal Nitrogen	mg/l	0.26	
		Ammoniacal Nitrogen	mg/l	0.05	
		Phenolic Compounds	mg/l	11.46	

Sl No	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 Thrippunithura-Karimughal road)	30.12.2020	Surveillance Team of RO	10.17 PM	<u>78.1</u>	45(night)
2	Adookkara Area,near PDPP	Letter from DO 17.02.2021	District Office-2	Day	<u>60-65</u>	55 (Day)
3	Adookkara, near PDPP	03.03.2021	Surveillance Team of RO	Night	<u>57</u> <u>51.4</u> <u>54.3</u>	45(night)
4	Adookkara,near PDPP	21.03.2021	Surveillance Team of RO	Night	<u>55.5</u>	45(night)
5	Adookkara Area,near PDPP	07.04.2021	Surveillance Team of RO	10.05 PM	<u>59.5</u>	45(night)
6	Kakkad Area near PDPP	10.04.2021	Surveillance Team of RO	10.15 PM	<u>55.2</u>	45(night)
7	Residence of Omanakkuttan, Near SRU of IREP	16.04.2021	Surveillance Team of RO	10.02 PM	<u>54.5</u>	45(night)
8	Residence of Viju, Near PDPP	17.04.2021	Surveillance Team of RO	10.01 PM	<u>64.9</u>	45(night)
9	Residence of Viju, Near PDPP	04.05.2021	Surveillance Team of RO	10.00 PM	<u>65.3</u>	45(night)



भारत सरकार

Government of India

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

Ministry of Environment, Forest & Climate Change

एकीकृत क्षेत्रीय कार्यालय, बंगलुरु - 560 034

Integrated Regional Office, Bangalore - 560 034

4th Floor, E & F- Wings, Kendriya Sadan,
17th Main Road, II Block
Koramangala.Tel. No. 080-25635901, E.mail: rosz.bng-mefcc@gov.inDated: 1st December, 2020

EP/12.1/1/2015-16/KER 918

To

Mr. Suresh John,
Chief General Manager (Engg, Projects and Contract Management),
M/s BPCL-Kochi Refinery,
Post Bag No -2, Ambalamugal,
Ernakulam District,
Kerala - 682 302.

Subject: Propylene Derivatives Petrochemical Project (PDPP) at village Puthencruz / Thiruvankulam, Kunnathanadu Taluk, Erankulam District, Kerala by M/s BPCL-Kochi Refinery, Kerala - reg.

Ref. No: J-11011/26/2013-IA-II(I) dated 12th May, 2015.

Sir,

The above-mentioned project was inspected by this office on 3rd November, 2020 along with Shri. Dinesh. K. S., Environmental Engineer and Smt. Rameena, V.V., Assistant Environmental Engineer, Kerala State Pollution Control Board, District Office -2, Ernakulam, Kerala for verification of EC conditions.

2. During the visit, it was observed that M/s BPCL, Kochi has obtained EC from Ministry vide EC No J-11011/26/2013 -IA II(I) dated 15th May, 2015 for manufacturing specialty petrochemical like Acrylic Acid, Oxo Alcohols and Acrylates. During the visit, it was observed that all major facilities have been completed and pre-commissioning activities and development of green belt are in progress. PA has informed that the operation is expected in a phased manner from December, 2020 to March 2021 and awaiting support of Foreign National experts from Original Equipment Manufacturers (OEMs) and Technology licensors for start-up of the facility.

3. As per the EC conditions, Green belt to be developed at least in 40 Acres of land in and around the plant premises. **During the visit, it is observed that PA has developed some greenery around the project area and according to the PA, green belt developed so far in about 25 acres with 13,166 plants like Mango, Mahagony, Neem etc.,** Further, you have assured that will develop greenbelt gradually after completion of landscape development works.

You are directed to take necessary action to comply with the above observation within 3 months and submit a report along with supporting documents/photographs for further necessary action in this regard.

These issues with approval of Competent Authority.

Yours faithfully,

(Dr. S. Prabhu)
Scientist - C

Copy to: The Chief Environmental Engineer, Kerala State Pollution Control Board, Gandhi Nagar, Ernakulam, Kerala- 682 020 - for information.

o/c

Government of India
Ministry of Environment, Forest and Climate Change
(Integrated Regional Office)
Bangalore-34

MONITORINGREPORT

PART I

EP/12.1/1/2015-16/KER

- | | |
|--|--|
| 1. Name of the Projects | Propylene Derivatives Petrochemical Project (PDPP) at village Puthencruz/Thiruvankulam, Kunnathanadu Taluk, Erankulam District, Kerala by M/s BPCL-Kochi Refinery, Kerala. |
| 2. Clearance letters No.& date | No. J-11011/26/2013-IA-II(I) dated 12 th May, 2015 |
| 3. Location: District & State/U ^T | Puthencruz/Thiruvankulam Village, Kunnathanadu Taluk, Erankulam District, Kerala. |
| 4. Address for Correspondence: | Mr. Suresh John,
Chief General Manager (Engg. Projects and Contract Management),
M/s BPCL-Kochi Refinery,
Post Bag No -2, Ambalamugal,
Ernakulam District,
Kerala - 682 302. |
| 5. Date of site visit for this report | 3 rd November, 2020 |
| 6. Date of previous visit(s) if any | 18.04.2018 |

Brief report:

The above-mentioned project was inspected on 3rd November, 2020 along with Shri. Dinesh. K. S., Environmental Engineer and Smt. Rameena, V.V., Assistant Environmental Engineer, Kerala State Pollution Control Board, District Office -2, Ernakulam, Kerala for verification of EC conditions and point wise clarification of complaint. Mr. Suresh John, Chief General Manager (Engg. Projects and Contract Management), Mr. Sreeram, A.N., Chief General Manager (Project Technical & Petchem), Mr. Ravi, K., General Manager (Reliability), Mr. Praveen Kumar, General Manager (Projects - E&I), Mr. Mahendiran, A., General Manager (Petchem Commissioning), Mr. Balangadharan, K., General Manager (Contract Mgmt & Administration), Mr. Sainath, C., Deputy General Manager (Environment), Mr. Bonu Lakshmana Rao, Deputy General Manager (Environment), Mr. Neelanjan Datta, Senior Manager (Petchem), Mr. Cijy, V., Senior Manager (Petchem), Mr. Anand, G., Manager (Environment) and other staff of the project were also present during the inspection.

About the Project:

BPCL is operating a Refinery at Kochi from 1963. BPCL-Kochi Refinery has enhanced the refining capacity from 9.5 MMTPA to 15.5 MMTPA through Integrated Refinery Expansion Project (IREP). Associated Process units like Delayed Coke Unit,

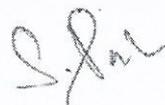


Petro Fluidised Catalytic Cracking Unit, Vacuum Gas oil Hydrotreater, Diesel Hydrotreater, Sulfer Recovery Unit (SRU), Hydrogen Generation Unit (HGU), Sour water Stripper ect are included in the IREP project. As part of expansion, it is setting up a specialty petrochemicals plant, based upon propylene that would be available from the ongoing capacity expansion project of the Refinery.

- i. **Environmental Clearance:**The proposed specialty petrochemical are Acrylic Acid, Oxo Alcohols and Acrylates. PA has obtained EC from Ministry vide EC No J-11011/26/2013 -IA II(I) dated 15th May, 2015. During the visit, it was observed that all major facilities have been completed and pre-commissioning activities are in progress. The green belt development is in progress.
- ii. **Consent for Establishment and Operation:**PA has obtained Consent for Establishment from Kerala State Pollution Control Board vide No PCB/HO/EKM-2/ICE/02/2018 dated 17th May, 2018 and Consent for operation from Kerala State Pollution Control Board vide No PCB/HO/EKM-2/ICO/09/2019 dated 20th August, 2019 which is valid up to 28th February 2022.
- iii. **Water usage and Treatment:**Water requirement per day is around 493 m³/hr for the project purpose. Fresh water will be sourced from Periyar River. During the operation, wastewater generation expected per day will be around 35 m³/hr from process, 102.3 m³/hr from cooling tower blow down and 203 m³/hr from condensate. PA has informed that PDPP plant effluent will be treated in Refinery ETP and treated water will be reused within refinery / recycled to same plant hence there won't be any discharge [Zero effluent discharge concept].
- iv. **Ambient Air:**During the visit, it is noted that adequate stack have been provided for the disposal of emission from the incinerators for waste gases and waste liquids as per stipulated statutory norms and these incinerators are yet to be commissioned.
- v. **Noise Pollution Control Measures:** Regarding the control of noise pollution, PA informed that silencers are provided control noise associated with the steam blowing activities and pipeline cleaning activities. Noise monitoring of facility and premises outside the facility was conducted by KSPCB officials based on other complaints and was confirmed to be within the stipulated norms.

The following additional precautions have been taken in the plant

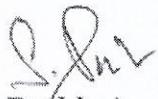
- Fixing of silencers and Mufflers to reduce the sound levels.
 - The blowing activities were stopped by late evening on all days.
 - The commissioning activities of the compressor are being completed expeditiously with the help of OEM from Germany.
 - Sound levels at the boundary wall is being continuously monitored and ensured well within permitted limits.
- vi. **Green Belt Development:**As per the EC conditions, Green belt to be developed at least in 40 Acres of land in and around the plant premises. **During the visit, it is observed that PA has developed some greenery around the project area and according to the PA, green belt developed so far in about 25 acres with 13,166 plants like Mango, Mahogany, Neem etc., Further, it**



was assured that they will develop greenbelt gradually after completion of landscape development works.

During the visit it is observed that all major facilities have been completed and pre-commissioning activities are in progress. PA has informed that the operation is expected in a phased manner from December, 2020 to March 2021 and awaiting support of Foreign National experts from Original Equipment Manufacturers (OEMs) and Technology licensors for start-up of the facility.

This project is yet to commission the operation. Therefore, brief EC compliance report is prepared. In general, PA has taken steps for compliance of EC conditions and the status of compliance to the conditions stipulated in the environmental clearance is **Satisfactory except Green Belt Development.**


(Dr. S. Prabhu)
Scientist - C

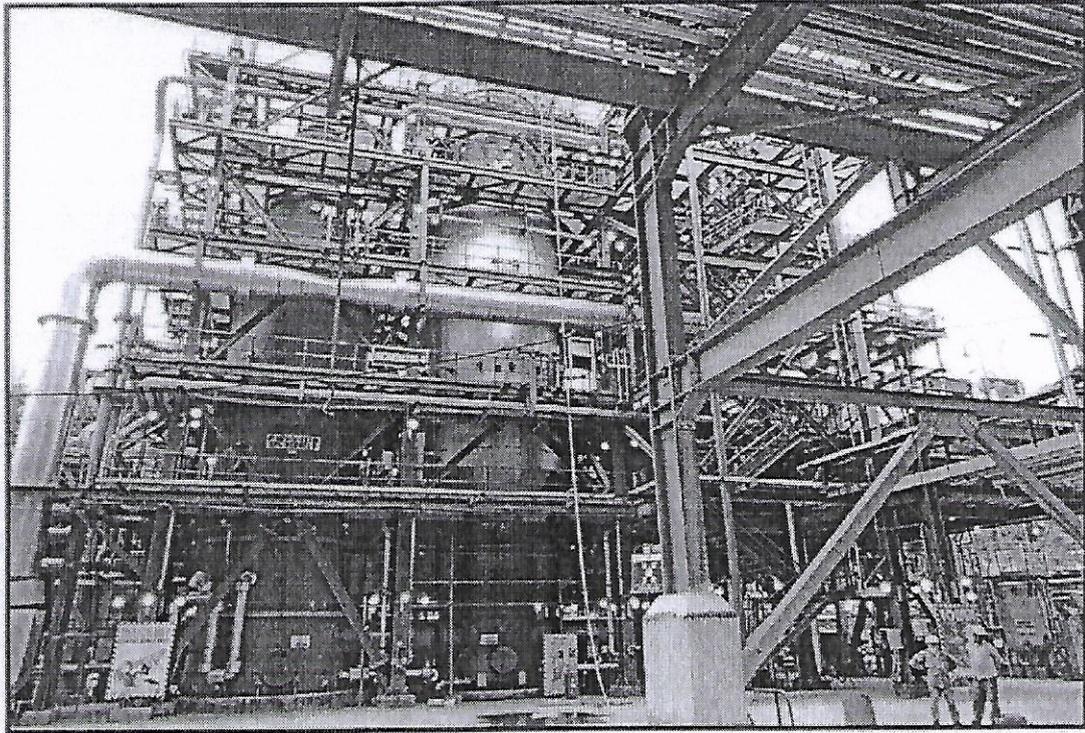


Fig.1. Incinerator II at PPDP plant.

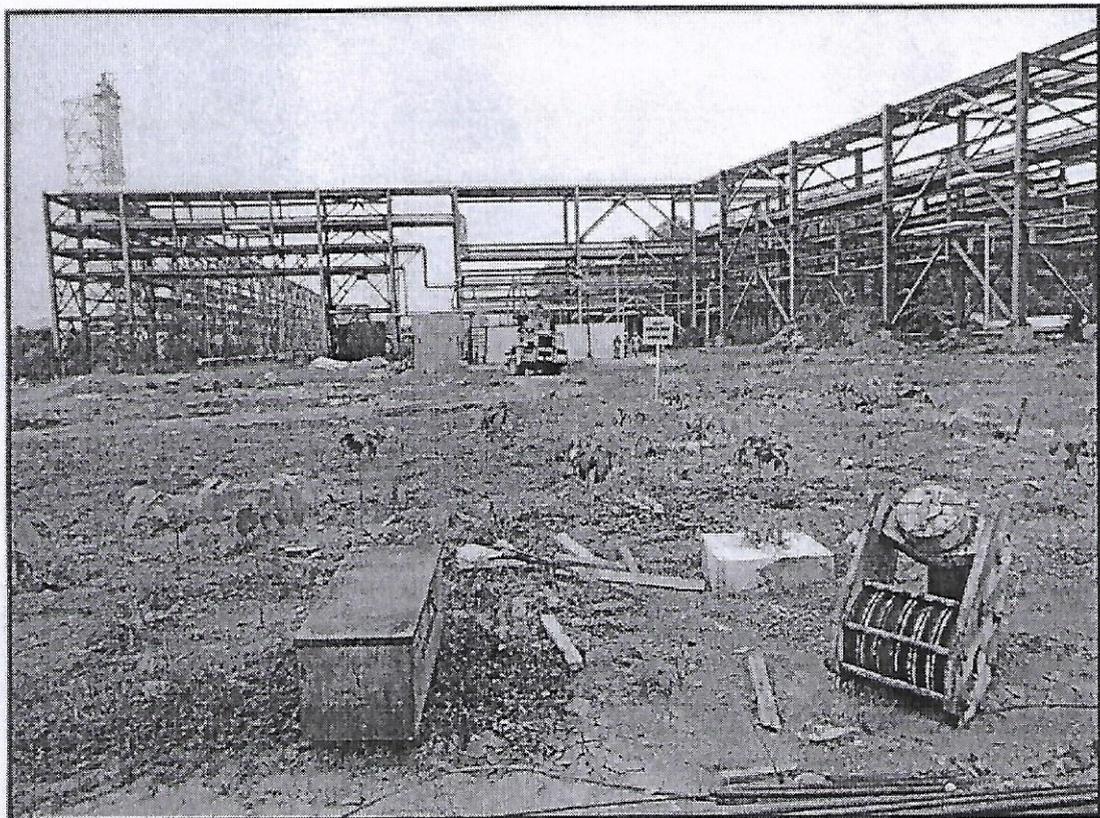


Fig. 2. Initial stage of Green Belt Developments at Project area.

S. J. Lee

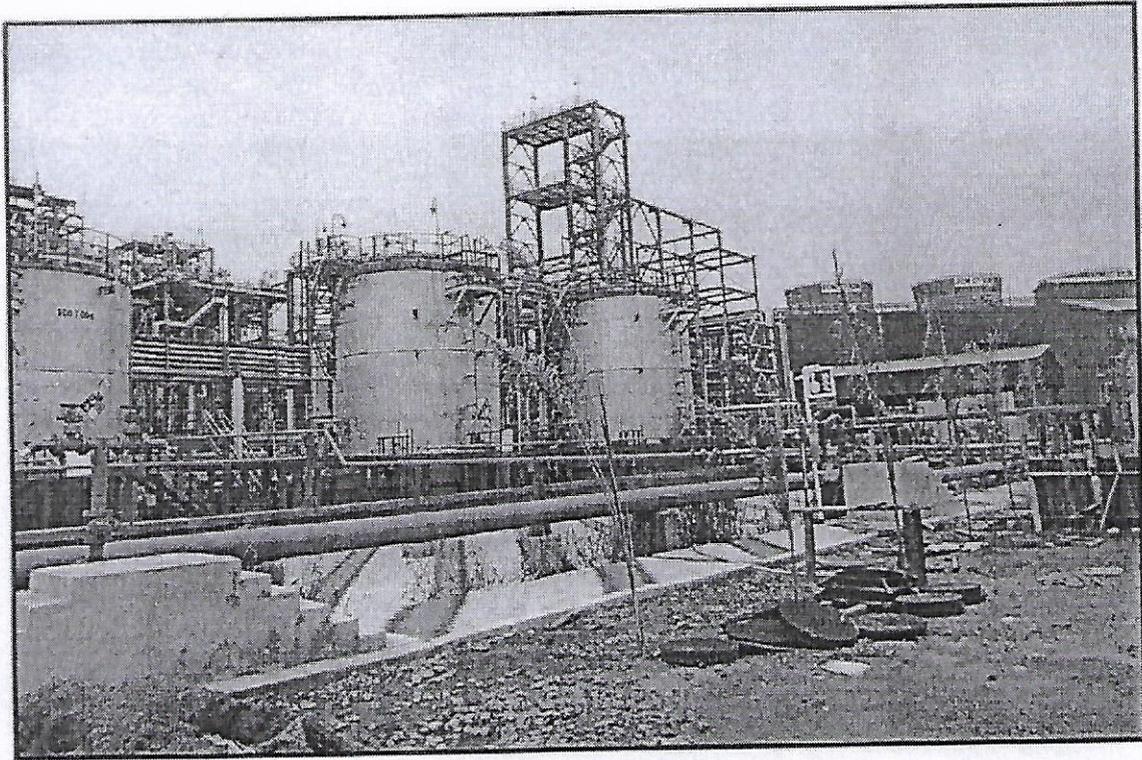


Fig. 3. PPDP plant area.

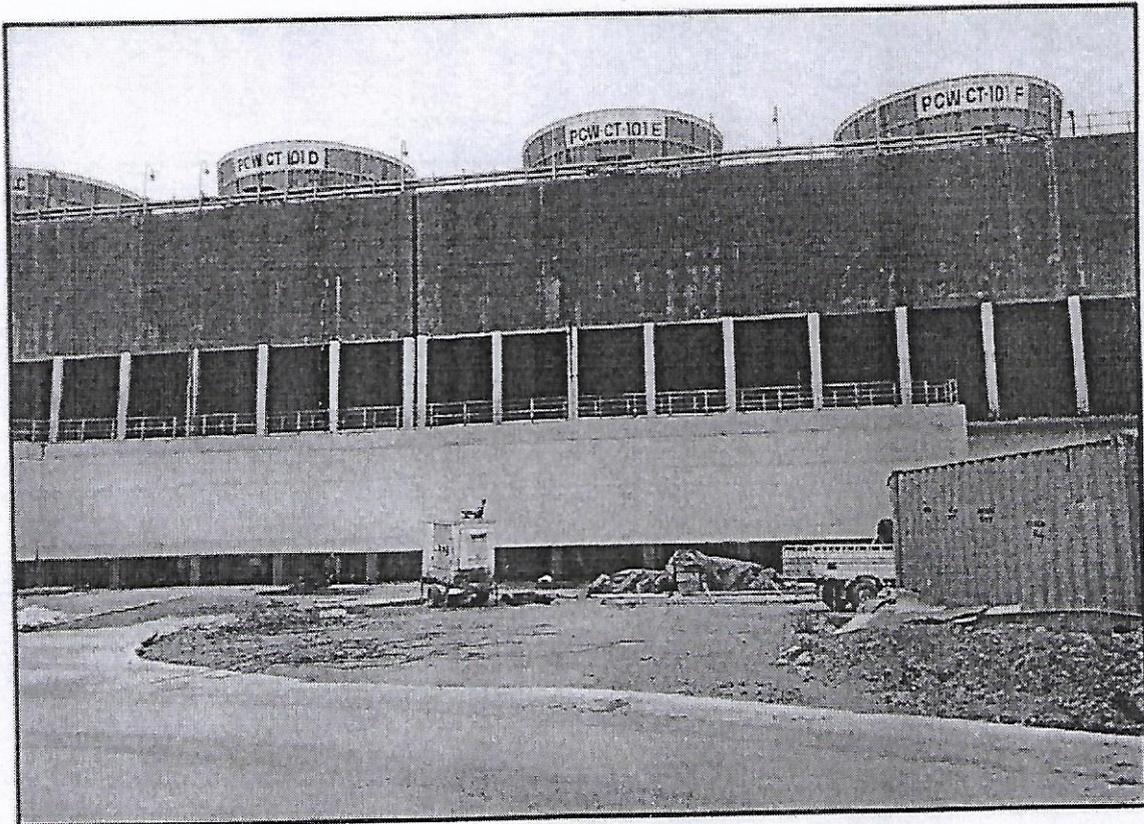


Fig.4. Cooling towers at PPDP plant.

L. J. Lal

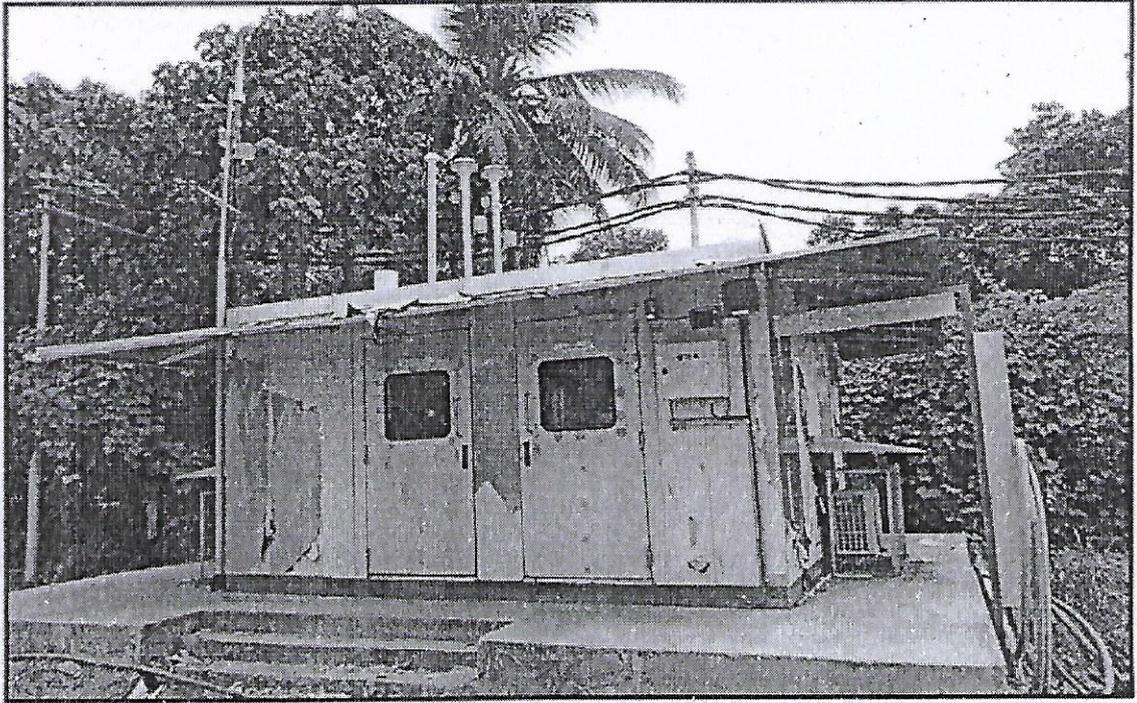


Fig. 5. Ambient Air Stations at PPDP plant.

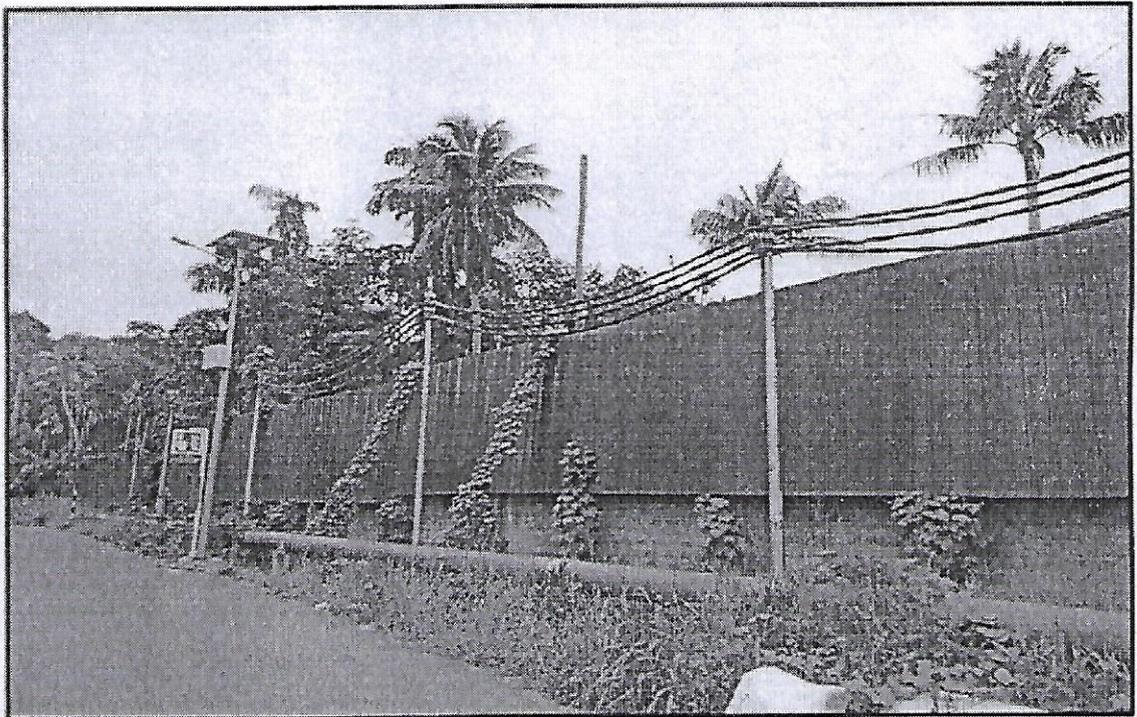


Fig.6. Barricade near cooling tower at PPDP plant.

L. Pan

Inspection report of BPCL - Propylene Derivatives Petrochemical Project,
Ambalamugal, Cochin, Kerala

1. Preamble:

Mrs. Mathu Raveendran, Mamala post, Ernakulam, Kerala vide dated 8th October, 2020 and 24th October, 2020 sent a complaint regarding the non compliances of Environmental Clearance conditions by BPCL - Propylene Derivatives Petrochemicals project (PDPP), Kochi.

The complainant has stated that she is residing at about 20-30 feet from BPCL -Petrochemical project Cochin refinery and alleged that BPCL has established Petrochemical project in land acquired for development of green belt.

As per the direction of Competent Authority site visit to the project was conducted on 3rd November, 2020 along with Shri. Dinesh, K. S., Environmental Engineer and Smt. Rameena, V.V., Assistant Environmental Engineer, Kerala State Pollution Control Board, District Office -2, Ernakulam, Kerala for verification of EC conditions and point wise clarification of complaint. Mr. Suresh John, Chief General Manager (Engg, Projects and Contract Management), Mr. Sreeram, A. N., Chief General Manager (Project Technical & Petchem), Mr. Ravi, K., General Manager (Reliability), Mr. Praveen Kumar, General Manager (Projects - E&I), Mr. Mahendiran, A., General Manager (Petchem Commissioning), Mr. Balagangadharan, K., General Manager (Contract Mgmt & Administration), Mr. Sainath, C., Deputy General Manager (Environment), Mr. Bonu Lakshmana Rao, Deputy General Manager (Environment), Mr. Neelanjan Datta, Senior Manager (Petchem), Mr. Cijy, V., Senior Manager (Petchem), Mr. Anand, G., Manager (Environment) and other staff of the project were also present during the inspection.

2. Environmental clearance (EC):

BPCL is operating a Refinery at Kochi from 1963. As part of expansion it is setting up a specialty petrochemicals plant, based upon propylene that would be available from the ongoing capacity expansion project of the Refinery. The proposed specialty petrochemical are Acrylic Acid, Oxo Alcohols and Acrylates. PA has obtained EC from Ministry vide EC No J-11011/26/2013 -IA II(I) dated 15th May, 2015.

3. Project status:

During the visit it is observed that all major facilities have been completed and pre-commissioning activities are in progress. The green belt development is in progress. PA has informed that the operation is expected in a phased manner from December, 2020 to March 2021 and awaiting support of foreign national experts from Original



Equipment Manufacturers (OEMs) and Technology licensors for startup of the facility.

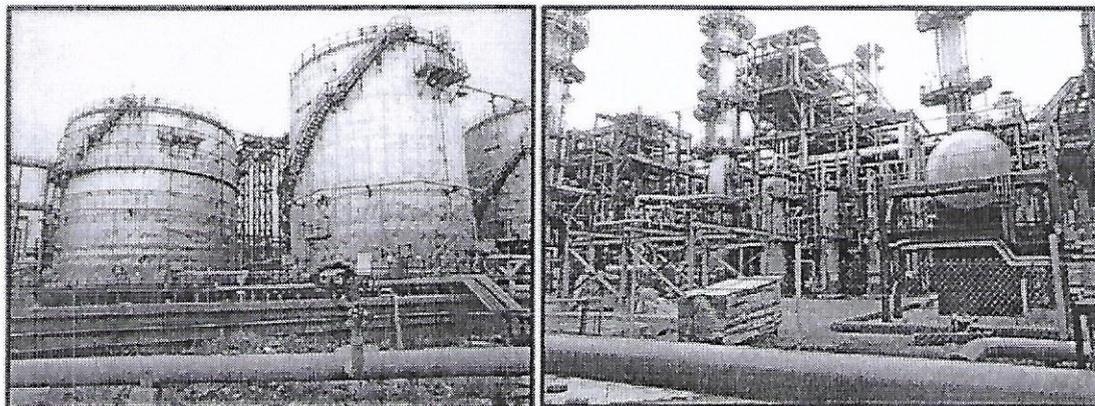


Fig.1. BPCL- PDPP plant area

4. Issues raised by the Complainant, response of by BPCL –PPDP and site observation:

4.1. *Petrochemical project Cochin refinery and alleged that BPCL has established Petrochemical project in land acquired for development of green belt.*

PA has informed that the land acquired for the Propylene Derivatives Petrochemical Project (PDPP) during the year 2013-14, was inclusive of all areas meant for the facilities including the green cover. At no instance has BPCL informed any resident that additional land would be taken for green-belt or any other purposes. The Plant has been constructed as per OISD / PESO guidelines and all distance criteria have been maintained. Also approvals have been obtained from statutory authorities followed by plant inspections at stipulated intervals.

4.2. *Death of fishes in Natural water body:*

As observed that a stretch of the Thodu/canal (natural water body) flowing inside BPCL premises. The canal passes through IOCL prior to the entry in to BPCL. No discharge is let into this canal by the BPCL. It is reported that there was accidental discharge by IOCL which might have caused death of fishes.

S. Paul

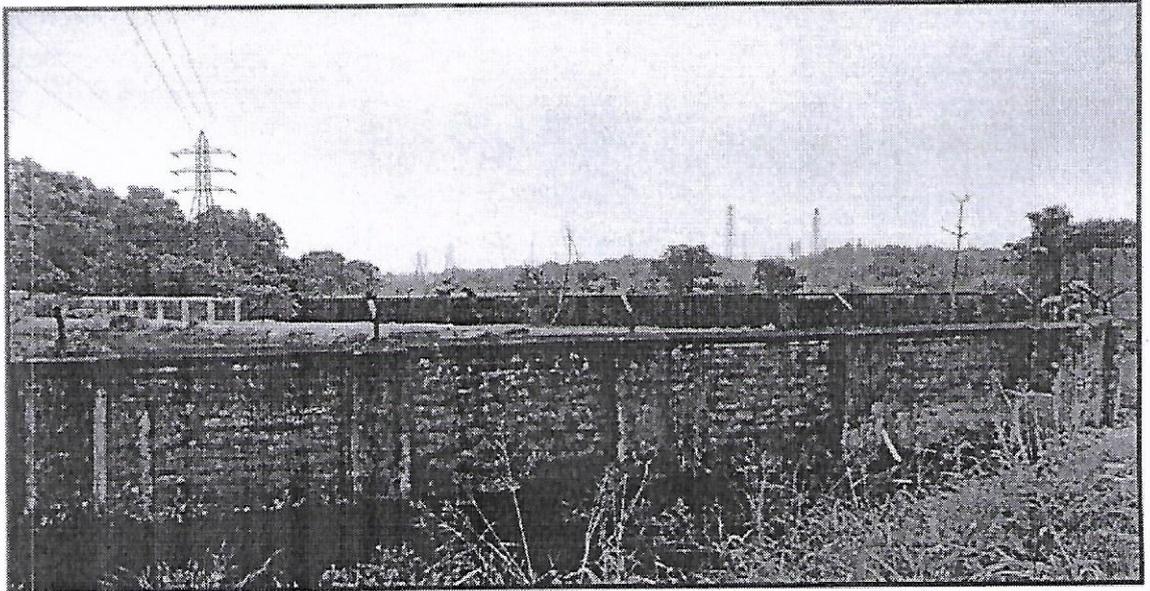


Fig.2. Effluent from IOCL near PDPP plant.

4.3. Black smoke emanating from stack of the plant:

During the visit, PA has informed that the incinerators for waste gases and waste liquids have stacks as per stipulated statutory norms and these incinerators and stacks are also yet to be commissioned.

Further, the other stacks in the refinery have been provided adequate stack height for heaters and furnaces along with online analyzers for four parameters via –So₂, Nox, CO & PM. The stack emission monitoring is being carried out regularly. The latest reports revealed that all the parameters are within the limit. Apart from these, the PA has installed online emission monitoring and connected to CPCB / SPCB server.

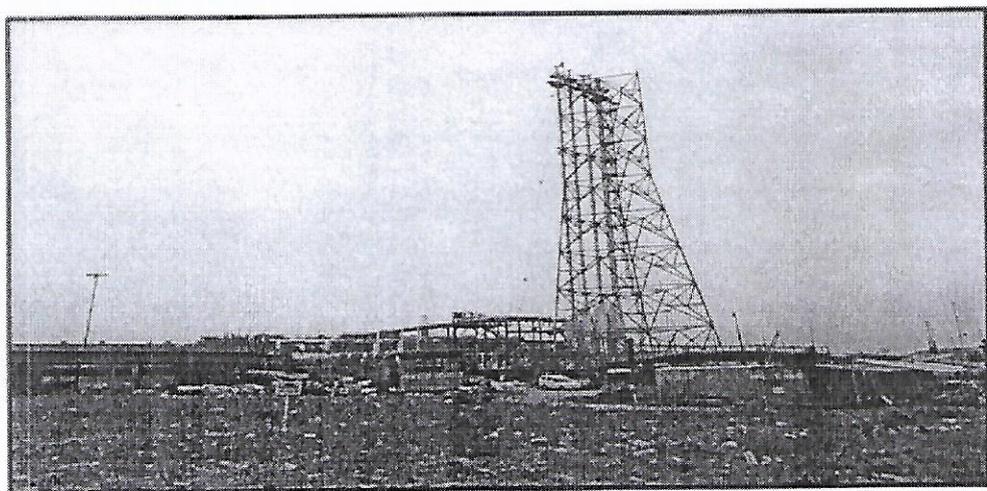


Fig.3. Stack of BPCL – PDPP plant.

S. Patel

4.4. The Noise Pollution:

Regarding the control of noise pollution, PA informed that silences are provided control noise associated with the steam blowing activities and pipeline cleaning activities. Noise monitoring of facility and premises outside the facility was conducted by KSPCB officials based on other complaints and was confirmed to be within the stipulated norms.

The following additional precautions have been taken in the plant

- i. Fixing of silencers and Mufflers to reduce the sound levels
- ii. The blowing activities were stopped by late evening on all days
- iii. The commissioning activities of the compressor are being completed expeditiously with the help of OEM from Germany,
- iv. Sound levels at the boundary wall is being continuously monitored and ensured well within permitted limits.

4.5. Requirement of green belt as per EC conditions.

As per the EC conditions, Green belt to be developed at least in 40 Acres of land in and around the plant premises. During the visit, it is observed that PA has developed some greenery around the project area and according to the PA are of green belt is about 25 acres with 13,166 plants like Mango, Mahagony, Neem etc., Further, it was assured that they will develop greenbelt gradually after completion of landscape development works.

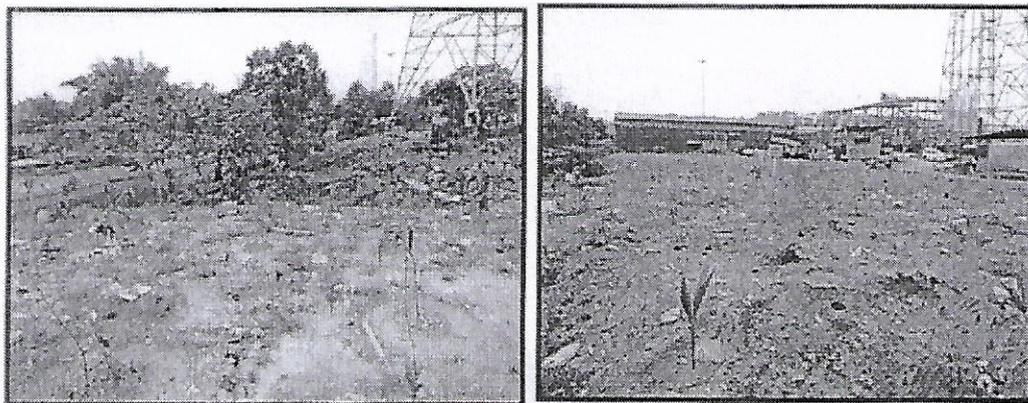


Fig.4. Green Belt at PDPP area.

4.6. Distance criteria:

PA informed that all necessary approvals are obtained from statutory bodies before construction was started and followed relevant statutory guidelines like OISD,

S. Pal

Petroleum rules etc for distance criteria around the premises. Following are the OISD norms followed:

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

4.7. KSEB 110 KV High tension line passing through the boundary.

The distance criteria as required under OISD /other statutory regulations are compiled in this aspect.

4.8. Harmful effects due to Petrochemicals.

PA has informed that Petrochemical complex is not producing or handling most of the compounds indicated as harmful in the complaint. PA has assured that the following major products being handled are Acrylic Acid, Butyl Acrylate, 2 Ethyl Hexyl Acrylate, Normal Butanol, Iso-Butanol and 2-Ethyl Hexanol. Further, the toxicity of petrochemical substances is only partly applicable to PDPP project. However, PA has taken following safety measures to prevent any such release from happening even at fugitive emission level.

- i. Special valve gland packing materials are used to reduce any fugitive emission
- ii. Seal less pumps are used in all VOC service fluids to reduce emission by design.
- iii. VOC monitoring meters are being installed at various high risk locations for continuous monitoring of any harmful substances even at ppm level.

- iv. Gas detectors are placed in and around plant premises, storage and loading areas.
- v. Ambient Air Quality Monitoring station is installed in the complex and display will be provided for public access of readings on a continuous basis.
- vi. Stack monitoring and ambient air monitoring stations are connected to KSPCB server.
- vii. All high COD effluent water streams and Gaseous waste streams are incinerated using most advanced Thermal oxidizer technology and Submerged & Conventional incineration technology.

Further, PA has informed that they will implement a fool proof Leak Detection and Repair Program (LDAR), in line with relevant Central Pollution Control Board (CPCB) guidelines and OISD guidelines (OISD-GDN-224) for VOC Monitoring as stipulated in EC clearance condition. This will be implemented after startup and stabilization of the complex.

4.9. Land acquisition.

Complaint has stated that the BPCL has assured to acquire the adjacent land for development of green belt however not yet acquired yet.

Not relevant to environmental issues

4.10. Reference to VIZAG GAS Leak Incident & Comparison of risks.

PA has informed that the BPCL the reference to Vizag gas leak (Hindustan Polymer,) is irrelevant and stated that the technology, materials handled, products and process are entirely different then the Hindustan Polymer, Vizag. The 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.

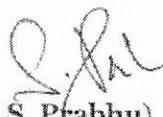
5. Conclusion:

- As regards the green belt, PA has developed in about 25 acres and assured that they will develop greenbelt gradually after completion of landscape development works.
- As regards the death of fishes in Natural water body, PA informed that the canal passes through IOCL prior to the entry in to BPCL. No discharge is let into this canal by the BPCL. It is reported that there was accidental discharge



by IOCL which might have caused death of fishes. Matter need to be taken up with IOCL.

- As regards, air and Noise pollution, the PA has taken required abatement measures and carrying out regular monitoring apart from online monitoring. The latest monitoring report reveals that that all the parameters are within the limit.
- As regards the Distance criteria, PA informed that all necessary approvals are obtained from statutory bodies before construction was started and followed relevant statutory guidelines like OISD, Petroleum rules etc for distance criteria around the premises.
- 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 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.


(Dr. S. Prabhu)
Scientist - C

PROCEEDINGS

(Present: Pradeepkumar AB, Chairman)



Sub: M/s. BPCL Kochi Refinery – Constitution of Inspection Committee -
Sanctioned - Orders issued.

KERALA STATE POLLUTION CONTROL BOARD

PCB/HO/HWM/416/90

Thiruvananthapuram, Dated: 14/12/2020

- Read: 1. Grievances PMOPG/E/2020/0724861, PMOPG/E/2020/0727542 & PMOPG/E/2020/0837775 filed by Vipin Nath and Mathu Raveendran respectively.
2. Letter No. F.No. Tech38/PC(Ker)/RDS/2020-21/Vol 2/918 dated 03/12/2020.

ORDER

Complaints have been received from various forums including the Prime Minister Office- Public Grievance (PMOPG) against M/s. BPCL- Petrochemical Project, Ambalamughal, Cochin. A virtual meeting was conducted by the Central Pollution Control Board with the concerned officials of Kerala State Pollution Control Board and representatives of BPCL as well as the complainants on 29/09/2020. Further a site inspection was conducted by the CPCB official in the presence of Kerala State Pollution Control Board officials, on 23/10/2020.

The recommendations made after the inspection conducted on 23/10/2020, is as follows.

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 projects 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.

4140
23/12/2020

AE3

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.

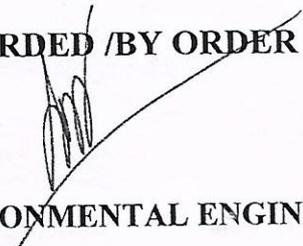
The Central Pollution Control Board has instructed the vide reference 2 above to initiate further necessary action based on the inspection report. Accordingly a technical committee for conducting joint inspection to verify the ground realities of the allegations against the BPCL Projects, is hereby constituted with the following members.

1. MoEF and CC representative
2. CPCB representative
3. District Collector, Ernakulam
4. PESO representative
5. Chief Environmental Engineer, KSPCB
Regional Office, Ernakulam.
6. Environmental Engineer – Convenor ,
KSPCB, DO-II, Ernakulam.

The technical committee shall conduct joint inspection and submit the report for further action.

Sd/-
CHAIRMAN

FORWARDED /BY ORDER


CHIEF ENVIRONMENTAL ENGINEER

To

All Committee Members

1. The Chairman
AD & Div. Head,
IPC-VII, Central Pollution Control Board
Parivesh Bhavan, East Arjun Nagar,
Delhi-110032
2. Secretary
Ministry of Environment Forest & Climate Change
Indira Paryavaran Bhawan,
Jor Bagh Road
New Delhi-110003
3. Deputy Chief Controller of Explosives
Petroleum and explosives safety organization
C2-111rd Floor, CGO Complex ,
Kakkanad, Ernakulam
- 4.

Copy to:

- ✓ 1. The Chief Environmental Engineer
Regional Office, Ernakulam
2. Environmental Engineer – Convenor
DO –II, Ernakulam
3. Accounts Officer
Head Office
4. Environmental Engineer -4
5. Environmental Engineer -1

**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 them are seriously affected due to this severe continuous lighting in the odd hours and 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 the severity 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 criteria, 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 were noticed near to industrial boundary from the industrial as well as residential limits especially during odd hours. Also, to ensure that there are no exceedance 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 (**Loksabha 2017-2018**) 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 Visakhapatnam 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 guidelines by CPCB shall be having 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 CPCB 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 treated effluent is being discharged. This is recommended since there were incidents of fish deaths near to this plant and the recent 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.

Chief Environmental Engineer
KSPCB, Regional Office, Ernakulam
(Member, Technical Committee)

Findings/ Observations of Member CPCB

Allegations/ Issues	Observations
<p>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.</p>	<ul style="list-style-type: none"> • KSPCB may comment on the inspection carried out during the commission activities. • With respect to noise pollution, the industry has maintained that the ambient noise standards with respect to industrial area is applicable and is within the permissible limit. A GoK notification dated 23-07-2016 was submitted to prove that the area of 51214.21 Aresis notified as an industrial area under the provisions of Kerala industrial single window clearance board and industrial township area development act of 1999. • However, it is presumed that the residents dwelling around the BPCL project site may not be included in this industrial area and the ambient noise standard for residential zone shall be applicable to those areas. • EC has been issued to the project to minimize/negate all factors which may affect the environment during the implementation and operational stages of the project. In that sense, the unit's explanation that the temporary disturbances are due to project commissioning activities are not in line the commitment to environment.

<p>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.</p>	<ul style="list-style-type: none"> • The present efforts of the unit to develop a green belt is still in the nascent stages and it may take 2-3 year to develop as a green belt. • The present layout of the green belt has several constrains and the committed 200 m wide green belt is not possible around the periphery. • The map submitted to show the green belt development is misleading as it shows the entire vacant site as green patch irrespective of the buildings, internal/ peripheral roads, open scrap yards,clearance zones under the high tension power lines, etc. • From the layout sketch submitted, it is obvious that the vacant areas in the project layout were clearly marked as “for future facilities”. Now these areas are now projected for green belt development.
<p>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.</p>	<ul style="list-style-type: none"> • The opinion of the subject expert may be taken in this regard. • From the interaction with industry representatives it was learnt that M B Lal recommendations were complied by the unit. However, there are few recommendations which are yet to be implemented especially the 250-300m buffer zone around high hazard installations as given in section 10.20 of chapter 10 of the above committee report. • The M B Lal Committee report in the aftermath of fire accident at IOCL installation in Jaipur is a stark reminder of laxity in safety aspects in high hazard installations. A status report on the compliance of PDPP project withall the M B Lal committee recommendation may be sought.

<p>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.</p>	<ul style="list-style-type: none"> • The area earmarked for green belt development is not sufficient to develop green belt as per the commitment made in EIA report. • No buffer zones are earmarked in the layout sketch and as per the M B Lal committee recommendations, specific buffer zone has to maintained around high hazard installations. • It is apprehended that, requirement for green belt and buffer zone were overlooked at the planning stages. The layout sketch has not earmarked any area for green belt development though it is a part of the project. This indicates the low priority given for the requirement of green belt to mitigate the effects of pollution.
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Date of hearing/ inspection: 23-24th March, 2021

Dr. Deepesh V

Scientist 'C'

Diversion of the natural stream for PDPP project

It is learnt from the document submitted by BPCL that the President of the Thiruvaniyoor Gramapanchayath in a letter dated 02-02-2016 instructed BPCL to construct a diversion canal of certain specification to divert the natural stream in the project site towards the southern side of the project property based on the minutes of meeting held between Panchayath authorities and BPCL officials on 19-12-2015 & 01-02-2015.

In this connection a resolution was passed by the Thiruvaniyoor Gramapanchayath on the diversion of the stream (Thodu) passing through the project property on 07-06-2020.

The above resolution is in response to a letter from the Local Self Government Department (RC 4/178/2017 dated 14-02-2020) seeking the decision of the Thiruvaniyoor Gramapanchayath on the diversion of Thodu for BPCL project.

The decisions of the water resources department and studies on local hydrology are not provided in this matter.

However, following point need to be clarified:

- For the diversion of thodu, any formal letter/ request has been filed by BPCL? If yes to whom it was submitted.
- Water is a subject matter in the State List of the constitutions and the State is the custodian of all the water bodies. In that sense, any of the State departments like Water Resources Dept. has been involved in this matter?
- Does Local Self Body have the power to divert any stream/ thodu in the State?
- Diversion of natural stream/ thodu have far reaching consequences on the local hydrology of the area. Does, any studies conducted on the hydrology of the area before making a decision on diversion of Thodu?
- During the hearing, the families close to South-western boundary of the project site complained about the persistent water logging in the area and the adverse effect on the coconut trees in those area. Are these the indications of disturbances in local hydrology due to the diversion of thodu and reclamation of low lying paddy fields?
- It is learnt from the minutes of the meetings that only Panchayath authorities and BPCL officials deliberated on the diversion of the thodu and none of the authorities who have a say in this matter were involved.
- It seems to be an activity done as per the requirement of BPCL without any foresight based on the scientific/ technical aspect of diverting a natural stream or reclaiming low lying paddy fields for the project.



भारत सरकार
Government of India

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forest & Climate Change
एकीकृत क्षेत्रीय कार्यालय, बंगलुरु - 560 034
Integrated Regional Office, Bangalore - 560 034



4th Floor, E & F- Wings, Kendriya Sadan,
17th Main Road, II Block
Koramangala.
Tel. No. 080-25635901, E.mail: rosz.bng-mefcc@gov.in

Dated: 15th April, 2021

Fl. No. EP/12.1/1/2015-2016/KER - 50

To

The Environmental Engineer
Ernakulam District Office - 2
Kerala State Pollution Control Board
1st Floor, Manna Residency
M C Road, Perumbavoor
Ernakulam District
Kerala- 683 542.

**Subject: Inputs to Technical Committee - Complaint against M/. BPCL Kochi Refinery,
Kerala - reg.**

Ref.: PCB/EKM/DOII/IAO-217/07 dated 31st March, 2021.

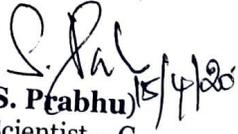
Sir,

This has reference to your letter dated 31st March, 2021 requesting for remarks/
recommendation/points for the Technical Committee on M/s BPCL Kochi Refinery, Kerala.

2. It is noted that PA has obtained Environmental Clearance from Ministry for Integrated Refinery
Expansion project (IREP) in 2012 and Propylene Derivatives Petrochemical Project (PDPP) in 2014.
Based on the field observation, inputs from PA and verification of documents, the remarks of this office
are enclosed for your reference.

This issues with approval of Competent Authority.

Yours faithfully,


(Dr. S. Prabhu)
Scientist - C

Copy to:

1. The Monitoring Division, Ministry of Environment, Forest and Climate Change, Indra
Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110 003 - for information.

Annexure -1

Sl. No.	Name of the project, Environmental Clearance (EC) No and EC Conditions	Compliance reported by PA	Remarks
1	<p><u>M/s BPCL – PDPP</u></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 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>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 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 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 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 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. • Measures have been adopted and the contractors are mobilized for the 	<p>Partly complied.</p> <p>During the visit, following were observed:</p> <ol style="list-style-type: none"> 1. Saplings are recently planted. 2. PA has planted some shrubs like Ixora, Calotropis, Punica, Plumeria & Nerium species. The shrubs and lawns cannot be treated as tree / green belt area. 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., 4. Scraps/ waste materials and other construction materials are stored in the Green belt area. <p>Recommendation:</p> <ol style="list-style-type: none"> i. Submit action plan with time schedule to achieve the required green belt as the shrubs and lawns cannot be treated as tree / green belt area. ii. Remove all scrap and construction material dumped / lying in the Green belt area. iii. Consider only indigenous / native species for future green belt development as per the CPCB guidelines for selection of plant species.

		<p>maintenance of the green belt. Green belt development survey sketch – BPCL KR-PDPP - attached as Annexure -1. Details of Tree species planted in BPCL KR-PDPP Annexure-2.</p>	
2.	<p><u>Integrated Refinery Expansion project</u></p> <p>EC. No. J-11011/341/2011-IA.II(I) dt. 22nd November, 2012.</p> <p>Specific Conditions:</p> <p>No. xxiv. Green belt shall be developed at least in 33% of the plant area 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 green belt with suitable plant species shall be developed around unit selection of plant species shall be as per 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 inhabitation. 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>It was noted that the EC dt 22.02.2012 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> <p>The IREP project is proposed within the Existing refinery complex. The total area of the refinery as per the EC is 1149 acres and the 33 % amount to 379 acres.</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</p>
3.	<p>M/s. BPCL – Expansion-cum- Modernization of Refinery Unit.</p> <p>EC. No. J-11011/369/2005-IA II(I) dated 2nd February, 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</p>	<p>The IREP project is proposed within the Existing refinery complex. The total area of the refinery as per the EC is 1149 acres and the 33 % amount to 379 acres.</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</p>

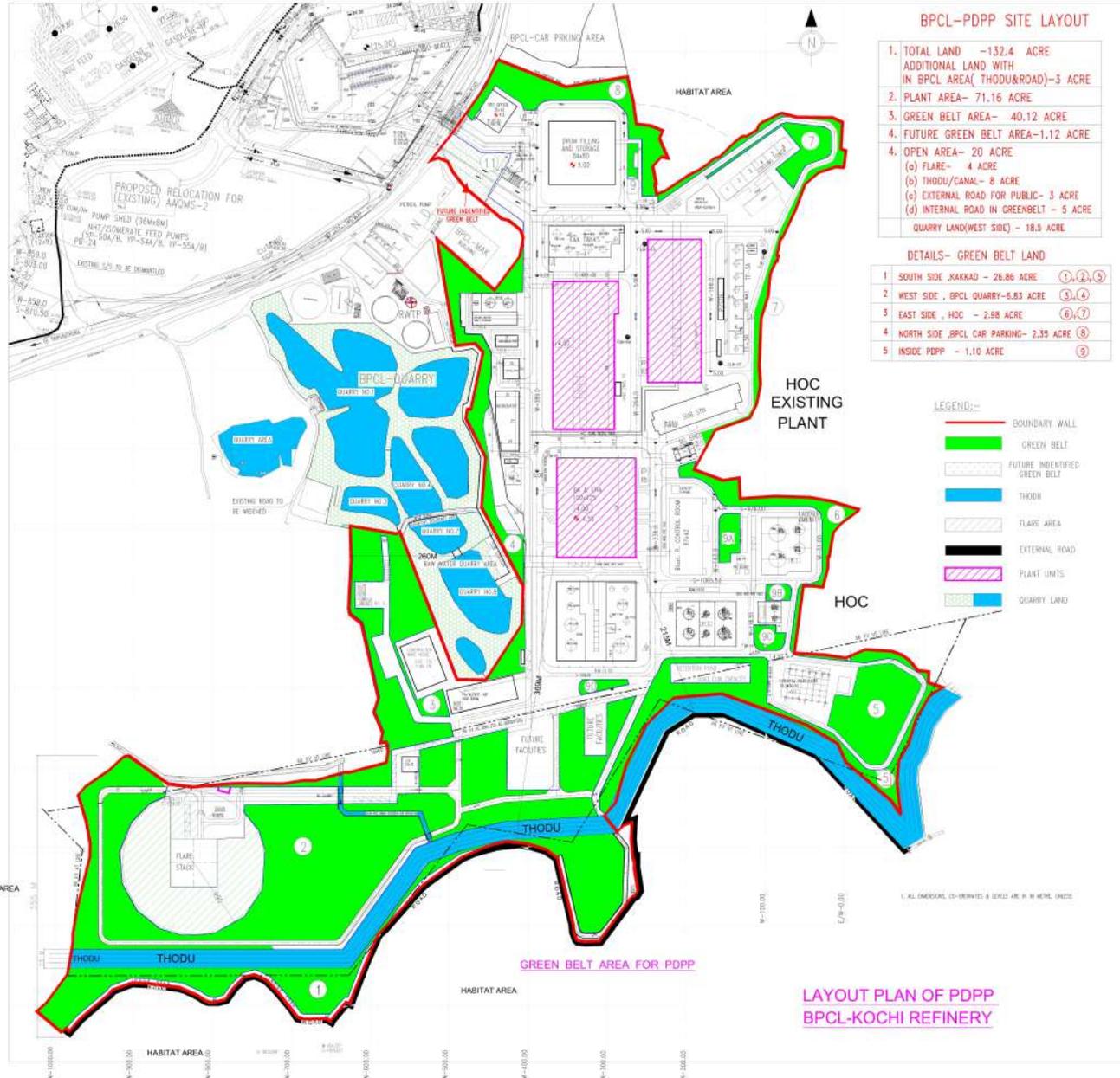
S. J. L.

		<p>(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>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>
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>It was noted during the recent inspection that the land acquired from FACT has been diverted for project development and not for green belt development.</p> <p>Now, according to PA, following area are developed/ earmarked for the green belt:</p> <ol style="list-style-type: none"> i. 153 acres developed as per 2018 survey report. ii. about 40 acres developed in IREP. iii. 52 acres of land is being procured (33.6 already procurement completed) iv. another 170 acres are leased from Kinfra in the year 2019 for Refinery green belt. <p>It can be seen that 193 acres (153 + 40) has already been</p>

			<p>developed and 222 acres (170 + 52) to be developed.</p> <p>Recommendation:</p> <ol style="list-style-type: none"> i. Submit action plan with time schedule to achieve the required green belt. ii. Submit undertaking that Kinfra land will be utilized for Green belt development purpose only and will not be diverted for any other purpose. iii. Consider only indigenous / native species for future green belt development and follow the CPCB guidelines for selection of plant species. iv. Develop thick green belt as per the EC as it was sparse at certain locations. v. Develop 500 m wide green belt as per the EC condition.
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S. Pal

LIST OF MATERIALS		
ITEM	QTY.	DESCRIPTION



BPCL-PDPP SITE LAYOUT

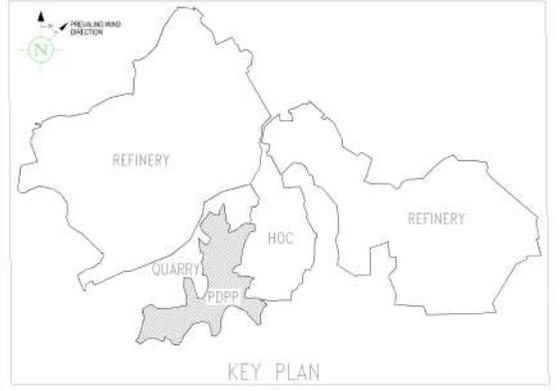
1. TOTAL LAND -132.4 ACRE
ADDITIONAL LAND WITH
IN BPCL AREA(THODU&ROAD)-3 ACRE
2. PLANT AREA- 71.16 ACRE
3. GREEN BELT AREA- 40.12 ACRE
4. FUTURE GREEN BELT AREA-1.12 ACRE
4. OPEN AREA- 20 ACRE
 - (a) FLARE- 4 ACRE
 - (b) THODU/CANAL- 8 ACRE
 - (c) EXTERNAL ROAD FOR PUBLIC- 3 ACRE
 - (d) INTERNAL ROAD IN GREENBELT - 5 ACRE
- QUARRY LAND(WEST SIDE) - 18.5 ACRE

DETAILS- GREEN BELT LAND

- 1 SOUTH SIDE ,KAKKAD - 26.86 ACRE (1,2,3)
- 2 WEST SIDE , BPCL QUARRY-6.83 ACRE (3,4)
- 3 EAST SIDE , HOC - 2.98 ACRE (6,7)
- 4 NORTH SIDE ,BPCL CAR PARKING- 2.35 ACRE (8)
- 5 INSIDE PDPP - 1.10 ACRE (9)

- LEGEND:-**
- BOUNDARY WALL
 - GREEN BELT
 - FUTURE IDENTIFIED GREEN BELT
 - THODU
 - FLARE AREA
 - EXTERNAL ROAD
 - PLANT LIMITS
 - QUARRY LAND

**LAYOUT PLAN OF PDPP
BPCL-KOCHI REFINERY**



NO.	DATE	REVISIONS	DRN.	CHG.	APRD.
भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड BHARAT PETROLEUM CORPORATION LIMITED कोच्चि रिफ़ाइनरी KOCHI REFINERY					
LAYOUT PLAN OF PDPP BPCL-KOCHI REFINERY					

Findings/ Observations of Member PESO

The following is the remarks of the Petroleum and Explosives Safety Organisation(PESO) on the complaints concerning to this organisation

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