

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**Application No 574 of 2022**

**IN THE MATTER OF**

**Dr. A Rajagopal Kamath: Applicant**

**Vs**

**State of Kerala & others: Respondents**

**REPORT OF THE JOINT COMMITTEE CONSTITUTED BY  
HONOURABLE NATIONAL GREEN TRIBUNAL**

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# **REPORT OF THE JOINT COMMITTEE CONSTITUTED BY HONOURABLE NATIONAL GREEN TRIBUNAL IN THE MATTER OF OA 574 OF 2022**

## **1.0 Background**

The original application incepted by the email complaint/ grievances of immoderate smell of petroleum products from Kochi Refinery by Dr. Rajagopal Kamath, a resident residing at Eroor, Kochi, Kerala to the Honourable National Green Tribunal (NGT). Honourable NGT, Principal Bench, New Delhi, on its own motion *Suo Motu* took cognizance of the email petition sent by the applicant Dr. A Rajagopal Kamath and considered as Original Application (OA) No. 574 of 2022. The applicant submitted that he lives at a distance of 4 kms from the refinery but smell of Benzene enters his house in the morning and evening and persists there for hours together which poses serious health problems to residents including toddlers and the aged. Honourable Tribunal in its order dated 7th September, 2022 directed:

*Prima facie, the averments made in the application raise questions relating to environment arising out of the implementation of the enactments specified in Schedule I to the National Green Tribunal Act, 2010. In view of the averments made in the application, we consider it appropriate that a Joint Committee be constituted to verify the factual position. Accordingly, we constitute a Joint Committee comprising of representative of CPCB, State PCB and Collector, Kochi and direct the same to meet, undertake visit to the site, look into the grievances of the applicant, associate the applicant and representative of the concerned project proponents, verify the factual position and submit its report within one month by e-mail at [judicialngt@gov.in](mailto:judicialngt@gov.in) preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF. The State PCB will be the nodal agency for coordination and compliance.*

In compliance with the Honourable NGT direction, Kerala State Pollution Control Board (KSPCB) constituted a joint committee comprising representatives of Central Pollution Control Board (CPCB), KSPCB and the District Collector, Kochi to investigate the matter by associating the applicant and the representatives of the industry. A nodal officer for this matter was identified and made the member convenor of this committee.

Joint committee was formulated with following members:

- Dr. Renu Raj, IAS, District Collector, Ernakulam
- Dr. Deepesh V, Scientist C, CPCB, Regional Directorate, Bangalore.
- Smt. P. Geetha, Senior Environmental Scientist., Central laboratory, KSPCB, Ernakulam (Nodal officer)

The honourable Tribunal specifically directed the following points in case the joint committee observes violations with respect of consent conditions/ environmental norms:

***In case the Joint Committee observes any violation of consent conditions/environmental norms, then it shall forward a copy of its report to:-***

***(i) the concerned Project Proponents to enable them to comply with the recommendations in the report of Joint Committee or file objections against its observations/recommendations and file their response before this Tribunal as desired within one month from the date of receipt of a copy of the report of the Joint Committee; and***

***(ii) the Statutory Authorities including State PCB and Collector, Kochi to enable them to take appropriate remedial action by giving notice to/hearing the project proponents and following due process of law in accordance with Statutory provisions mandating them to take remedial action for prevention, control and abatement of environmental pollution/degradation and for protection and improvement of environment and submit their action taken reports within one month from the date of receipt of a copy of the report of the Joint Committee.***

The honuorable Tribunal order dated 07-09-2022 is annexed as **Annexure-I**.

## **2.0 Joint Committee meeting and deliberations**

The matter pertains to the alleged odor nuisance reported by an email petition by Dr. A. Rajagopal Kammath, resident of H. No. 7/628-A, Chakrapani Lane, Opposite SBI Eroor Branch, Eroor South, Tripunithura, to the Honourable NGT and this email was considered ***Suo Motu*** as original application by the Tribunal. The grievance in the application regarding immoderate smell of petroleum products emitted from refinery at Kochi which

persists in the applicant's house situated 5 Km from the Kochi Refinery (M/s. Bharat Petroleum Company Ltd., Ambalamugal, Kochi) in the morning and evening hours.

Smt. P. Geetha, Senior Environmental Scientist, Central laboratory, KSPCB, Ernakulam (Nodal Officer) convened the first online meeting of the joint committee on 13-10-2022. The applicant Dr. A Rajagopal Kamath was also intimated to brief his contentions before the committee to gain insight into the actual issues of odour nuisance alleged by the applicant.

Though the applicant was instructed to present his grievances before the joint committee, he could not attend the meeting due to personal reasons. During the first committee meeting Shri. Dinesh K S, Environmental Engineer, KSPCB, District Office-2, Perumbavoor explained the details of the industries and the related industrial units in the meeting. He also added that some of the units of the refinery are under annual shut down for a month. The committee members suggested that if the preliminary monitoring is conducted during the shutdown of the refinery the results may shed some light on the fugitive emissions of petroleum products from industrial units other than refinery and the monitored values can be used to compare with the monitoring to be carried out after refinery resumes full operations.

As suggested by Dr. Renu Raj, IAS, District Collector, a physical meeting was arranged on 14<sup>th</sup> October, 2022 at the Central Laboratory, Ernakulam with the applicant/complainant Dr. Rajagopal as he could not brief before the joint committee in the meeting held on 13-10-2022. Dr. Deepesh joined the meeting through video call and discussed the grievances of the complainant in detail. The complainant shared his account of the grievances as given below.

Dr. Rajagopal narrated his ordeal of unhealthy ambient air quality experiencing at his residential area at Eroor and he feels that ambient air is filled with a mixture of hydrocarbons especially in the late evening and persists till early morning around 4 am. He clarified that the smell he is sensing is the characteristic burnt smell of petroleum products. He claimed that his house is situated around 4 km from the refinery and he resides in a double storeyed building. The area is a highly populated residential area and

there are multi storied flats near to his house. He is apprehensive of the serious health issues due to this unpleasant smell to him and the people of the entire area if it continues. During the winter season black dust particles were seen on the terrace/ surfaces and he complained of black particles in his sputum in the morning. He added that an enquiry was conducted by M/s. BPCL earlier on his complaint against them and verified the possible leakage of any hydrocarbon compounds like benzene but nothing found abnormal. He complained that the ambient air quality in his area has deteriorated and suspected that the gaseous pollutants are getting concentrated in Eroor area at night time due to reversal of wind direction towards west. Most of the industries are in the eastern side and during night, pollutants are being emitted towards the west. He also specifically complained about the flare stacks of the refinery and shared his observation that flame coming from the stack is abnormally huge. He also shared his observation that the flare stacks sometimes go flameless/ or burn with reduced flame accompanied with thick black smoke emissions and he shared a few photographs also. He also informed that the intensity of burned petroleum product smell has reduced for about two weeks. Applicant specifically emphasized his experience of the specific 'burnt' smell and he is apprehensive that the smell may be due to the flare stacks of M/s. BPCL, Ambalamugal, Kochi. He also informed that flare stacks often burn with huge flame in the night creating noise, light and odour issues.

During this interaction it was understood that the applicant is sharing his apprehension on the flare stacks of the refinery/ other industries in the area. Flare stacks are for combustion/ burning of off-specification products, undesirable intermediates generated during process disturbances/ unplanned events/ safety events and these undesirable materials are flushed out with an inert gas and combusted along with fuel in the flare stack. Situations like flameless black emissions from flare stacks are not usually encountered in refineries/ industries and if it is noticed, then it has to be assumed that the flare systems are not operated properly or the process disturbances are of much higher magnitude that can be managed by the existing flaring systems..

As per the first joint committee meeting, it was decided to have a preliminary visit to the applicant's house and to conduct monitoring for Volatile Organic Carbons (VOCs), fine particulates using Respirable Dust Sampler (RDS) for measuring PM 2.5 particles and

gaseous pollutants to assess the factual position of complaint raised in this matter. The joint committee meeting concluded that the next meeting can be conducted after site visit and monitoring/ sampling at the applicant's residence in the presence of committee members and concerned officials from the KSPCB, District Office. The detailed minutes of the first joint committee meeting is annexed as **Annexure-II**.

### **3.0 On site monitoring and analysis**

In this matter the applicant specifically alleges that the odour nuisance experienced by him is from the Kochi Refinery (M/s. BPCL, Kochi) though there are many other petroleum installations and industries in the vicinity. Hence, the primary objective of this joint committee is to trace down the source of the alleged odour pollution experienced at the applicant's dwelling place. It was decided to do a site visit and on-site monitoring to get a glimpse of the ground realities. In order to assess the odour issues from petroleum related volatile compound like Benzene, the ambient air sample has to be sampled for the presence of Volatile Organic Compounds (VOCs). As narrated by the applicant, the 'burnt' smell can also be due to incomplete combustion of the hydrocarbons during flaring and the hydrocarbons and soot from the flare stack can form minute aerosol droplets when moisture in the air condenses during night time. These minute aerosol droplets usually form a part of the particulate matter (PM 2.5). Thus it was decided to monitor PM 2.5 also and to do further investigations on the PM 2.5 sample using Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) spectroscopy and by Gas Chromatography-Mass Spectrometry (GC-MS) screening for qualitative identification of potential pollutant markers specific to petroleum installations.

First on-site monitoring was carried out by the KSPCB environmental surveillance team on 21-10-2022 and a sample for VOC was drawn using a low volume air sampler. The second on-site monitoring was done on 03-11-2022 in the presence of the joint committee members from KSPCB and CPCB and monitoring conducted for PM 2.5 and VOC during night. However, nothing unusual was found to corroborate the alleged odour nuisance from the petroleum installations. Applicant also informed that he has not experienced any odour issues as alleged in his petition during the two occasions of on-site monitoring conducted on 21-10-2022 and 03-11-2022.

Two instances of VOC monitoring and analysis have not indicated the presence of volatile petroleum products/ hydrocarbons. The respirable particulate matter (PM 2.5) concentration on 03-11-2022 night is 32 µg/ m<sup>3</sup>. As per the ATR-FTIR analysis report of the exposed PM 2.5 sample filter media spectra yielded no match for the potential hydrocarbons/ solvents/ polymers except for the PM 2.5 filter media (Polytetrafluoroethylene-PTFE). Further in the GC-MS screening of the extract generated from the exposed filter media, no specific chemical signatures/ markers specific to petroleum installation/ refinery obtained in the qualitative screening of potential chemical indicators.

#### **4.0 Observations and conclusions**

From the google maps, the aerial distances from the location of the applicant's house to various installations/ industries/ potential sources of pollution are approximately:

- 0.09 Km from Eroor main road
- 1.3 Km from BPCL- Irumpanam installation
- 1.9 Km from IOCL Cochin Terminal
- 2.5 Km from HPCL terminal/ LPG bottling plant, Irumpanam
- 2.5 Km from FACT Ambalamedu
- 2.8 Km from Kochi refinery Phase-1
- 3.0 Km from common TSDF managed by M/s.KEIL
- 3.8 Km from Brahmapuram Solid waste treatment facility
- 3.8 Km from Cochin SEZ, Kakkanad
- 4.2 Km from BPCL, PDPP Project,
- 4.6 Km from HOCL,
- 5.0 Km from Kochi Air Products,
- 5.1 Km from BPCL LPG bottling plant,
- 5.5 Km from BPCL-MSBP Project




Therefore, there are many petroleum installations/ industries/ waste management facilities towards the west of the applicant's house. Based on the narrative of the applicant, the matter could be the odour issues from random events of excessive flaring/ incomplete combustion product from the flares/ excessive emission from industries due to random process disturbances. However, the site visit and on-site monitoring could not yield

anything to corroborate the claim that the odour pollution is from the refinery due to petroleum products.

To get more insight into this issue, proper monitoring should be carried out when such odour issues recur in the future and the surveillance team of the KSPCB should be equipped to carry out monitoring on short notices. The surveillance team shall conduct monitoring when the odour nuisance is reported in the future by the applicant.

Flare stacks of the industries are erected as per the guidelines of OISD (Oil Industry Safety Directorate) which is a technical directorate under the Ministry of Petroleum and Natural Gas that formulates and coordinates the implementation of a series of self-regulatory measures in petroleum/ natural gas installations and other allied industries. Flare stacks are designed to flare/ burn undesired products resulting from process disturbances, purged out petroleum products during startups/ shutdown/ maintenance routine. The operational records of the flares shall be maintained by the industries and these records may shed light on the operation of flares and unusual flaring scenarios. There are other public complaints regarding the operation of flares from M/s. BPCL, Kochi and the concerned district office has been instructed to obtain the details of flares and its operational data.

Date: 17-12-2022

		
Smt. P Geetha Sr. Environmental Scientist, KSPCB (Nodal Officer)	Dr. V Deepesh Scientist-C, CPCB, RD, Bengaluru	Dr. Renu Raj, IAS, District Collector Ernakulam



**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH**

(By Video Conferencing)  
Original Application No. 574/2022

Dr. A. Rajagopal Kamath

...Applicant

Versus

State of Kerala

...Respondent

Date of hearing: 07.09.2022

**CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER  
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant: None.

**Application is registered based on a letter petition received by Email.**

**ORDER**

1. Dr. A. Rajagopal Kamath resident of H. No. 7/628-A, Chakrapani Lane, Opposite SBI Eroor Branch, Eroor Sourth, Tripunithura, Kerala has sent the present letter petition by email, which is treated and registered as original application. The grievance in the application is regarding immoderate smell of petroleum products emitted from refinery at Kochi. The applicant has submitted that he lives at a distance of 4 kms from the refinery but smell of Benzene enters his house in the morning and evening and persists there for hours together which poses serious health problems to residents including toddlers and the aged.

2. This Tribunal is empowered to take cognizance of the cases involving questions relating to environment arising out of the implementation of enactments specified in First Schedule of the National Green Tribunal Act, 2010 *suo moto* as held by Hon'ble Supreme Court in **Municipal Corporation of Greater Mumbai V/s. Ankita Sinha and others 2021 SSC Online SC 897.** This Tribunal can also take cognizance of such cases on the basis of

letter petitions in accordance with settled principles of law governing Public Interest Litigation.

3. *Prima facie*, the averments made in the application raise questions relating to environment arising out of the implementation of the enactments specified in Schedule I to the National Green Tribunal Act, 2010. In view of the averments made in the application, we consider it appropriate that a Joint Committee be constituted to verify the factual position. Accordingly, we constitute a Joint Committee comprising of representative of CPCB, State PCB and Collector, Kochi and direct the same to meet, undertake visit to the site, look into the grievances of the applicant, associate the applicant and representative of the concerned project proponents, verify the factual position and submit its report within one month by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF. The State PCB will be the nodal agency for coordination and compliance.

4. In case the Joint Committee observes any violation of consent conditions/environmental norms, then it shall forward a copy of its report to:-

- (i) the concerned Project Proponents to enable them to comply with the recommendations in the report of Joint Committee or file objections against its observations/recommendations and file their response before this Tribunal as desired within one month from the date of receipt of a copy of the report of the Joint Committee; and
- (ii) the Statutory Authorities including State PCB and Collector, Kochi to enable them to take appropriate remedial action by giving notice to/hearing the project proponents and following due process of law in accordance with Statutory provisions mandating them to take remedial action for prevention, control and abatement of environmental pollution/degradation and for protection and

improvement of environment and submit their action taken reports within one month from the date of receipt of a copy of the report of the Joint Committee.

The reports be submitted by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF.

5. List for further consideration on 20.12.2022.
6. A copy of this order, along with a copy of the application and documents attached with the same, be forwarded to the CPCB, State PCB and Collector, Kochi by e-mail for compliance.

Arun Kumar Tyagi, JM

Dr. Afroz Ahmad, EM

September 07, 2022  
AG

Meeting title	<i>Meeting of the Joint Committee constituted as per the directions of Honourable National Green Tribunal (NGT), Principal Bench, Delhi's order dated 07-09-2022 in the matter of OA No. 574/2022.</i>
Sequence	Meeting # 01
Date	13th October, 2022
Time	15.00 to 15.30 hrs. IST
Platform/ Venue	Online meeting via 'Google Meet'
Meeting link (online)	<a href="https://meet.google.com/dmy-csze-zyz">https://meet.google.com/dmy-csze-zyz</a>
Meeting facilitator	Nodal Officer, KSPCB, Central Laboratory, Ernakulam.

The online meeting commenced at 3.00 pm IST. The following committee members and officials attended the virtual meeting.

- Dr. Renu Raj, IAS, District Collector, Ernakulam
- Dr. Deepesh V, Scientist C, CPCB, Regional Directorate, Bangalore.
- Shri Dinesh K S, Environmental Engineer, KSPCB, DO-2, Perumbavoor, Ernakulam.
- Smt. P. Geetha, Senior Environmental Scientist., Central laboratory, KSPCB, Ernakulam  
(Nodal officer)

Smt. P. Geetha, Senior Environmental Scientist, Central laboratory, KSPCB, Ernakulam (Nodal Officer) cordially welcomed all the committee members and officials. The nodal officer explained the background of the NGT matter OA 574/2022 and informed that the meeting was convened to gain some insight into the complaint/ grievances of immoderate smell of petroleum products from Kochi Refinery from the original applicant Dr. Rajagopal Kamath. Honourable NGT on its own motion *Suo Motu* took cognizance of the email petition sent by the applicant Dr. Rajagopal Kamath and considered as Original Application (OA) No. 574 of 2022. Honourable NGT constituted a joint committee comprising representatives of CPCB, KSPCB and the District Collector, Ernakulam to investigate the matter by associating the applicant and the representatives of the industry. If the committee observes any violations with respect of consent conditions/



environmental norms, the committee report shall be forwarded to the project proponents to file objections and to the statutory authorities to initiate remedial actions as per the due process of law according to the statutory provisions.

Though the applicant was instructed to present his grievances before the joint committee, he could not attend the meeting due to personal reasons. The District Collector opined that as the complainant could not participate in the meeting a physical meeting may be arranged at the Central Laboratory, KSPCB, Ernakulam with the other committee members next day.

Dr. Deepesh informed that the distance of the complainant's house is almost 2.8 km from the BPCL refinery. Other petroleum installations/ industries are also situated around the complainant's house. Hence, an onsite inspection and VOC monitoring is essential to get the preliminary insight into the issues raised. Shri. Dinesh K S, Environmental Engineer, KSPCB, DO-2, Perumbavoor explained the details of the industries and the related units in the meeting. He also added that some of the units of the refinery are under annual shut down for a month. The nodal officer and Dr. Deepesh suggested that if the preliminary monitoring is conducted during the shutdown of the refinery the results may shed some light on the fugitive emissions of petroleum products from industrial units other than refinery and the monitored values can be used to compare with the monitoring to be carried out after refinery resumes full operations.

As suggested by Dr. Renu Raj, IAS, District Collector, Ernakulam a physical meeting was arranged on 14th October, 2022 at the Central Laboratory, Ernakulam with the complainant Dr. Rajagopal Kamath as he could not brief before the joint committee in the meeting held on 13-10-2022. Dr. Deepesh joined the meeting through video call and discussed the grievances of the complainant in detail. The complainant shared his account of the grievances as given below.

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he is sensing is the characteristic burnt smell of petroleum products. He claimed that his house is situated around 4 km from the refinery and he resides in a double storeyed building. The area is a highly populated residential area and there are multi storied flats near to his house. He is apprehensive of the serious health issues due to this unpleasant smell to him and the people of the entire area if it continues. During the winter season black dust particles were seen on the terrace/ surfaces and he complained of black particles in his sputum in the morning. He added that an enquiry was conducted by BPCL earlier on his complaint against them and verified the leakage of any hydrocarbon compounds like benzene but nothing found abnormal. He complained that the ambient air quality in his area has deteriorated and suspected that the gaseous pollutants are getting concentrated in Eroor area at night time due to reversal of wind direction towards west. Most of the industries are in the eastern side and during night, pollutants are being emitted towards the west. He also specifically complained about the flare stack from the refinery and shared his observation that flame coming from the stack is abnormally big. He also shared his observation that the flare stacks sometimes go flameless/ reduced flame accompanied with thick black smoke emissions and he shared a few photographs also. He also informed that the intensity of burned petroleum product smell has reduced for about two weeks. During this interaction Dr. Deepesh opined that the flare stacks are for combustion/ burning of off-specification products, undesirable intermediates generated during process disturbances/ unplanned events/ safety events and these undesirable materials are combusted along with a fuel in the flare stack, hence, situations like flameless black emissions from flare stacks are not usually encountered in refineries and if it is noticed, then it has to be assumed that the flare systems are not operated properly.

In the meeting, it was decided to have a preliminary visit to the applicant's house and to conduct monitoring for Volatile Organic Carbons (VOCs), fine particulates using Respirable Dust Sampler (RDS) for 24 hours for measuring PM 2.5 particles and gaseous pollutants like sulphur dioxide, nitrogen dioxide, ammonia etc. to assess the factual position of complaint raised in this matter.



The joint committee meeting concluded that the next meeting can be conducted after site visit and monitoring/ sampling at the applicant's residence in the presence of committee members and concerned officials from the KSPCB, District Office.

The nodal officer thanked all the members, officials and the applicant. Meeting concluded at 3.30 pm IST.



**Smt. P Geetha**  
**Sr. Environmental Scientist, KSPCB**  
**(Nodal Officer)**



**Dr. V Deepesh**  
**Scientist-C, CPCB, RD,**  
**Bengaluru**



**Dr. Renu Raj, IAS,**  
**District Collector**  
**Ernakulam**