

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

Execution Application No. 05/2018 (THC)

IN

Original Application No. 40/2014

Charudatt Koli

Applicant(s)

Versus

M/s Sea Lord Containers Ltd.

Respondent(s)

Date of hearing: 15.07.2019

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Applicant(s): Mr. Nikhil Nayyar, Senior Advocate, Mr. Sangramsingh R. Bhonsle, Ms. Aditee Dangrawat, Mr. Siddharth A. Mehta and Ms. Samridhi S. Jain, Advocates

For Respondent (s): Mr. Rajat Navet, Advocate for R-9
Mr. Rajkumar, Advocate for CPCB
Ms. Liz Mathew, Mr. Navneetr and Ms. Sonali Jain, Advocates for R 1&2
Mr. Krishnan Venugopal, Senior Advocate, Mr. Sanjay Kapur and Mr. Bharath Gangadharan, Advocates for R-10
Mr. Mukesh Verma, Advocate for MPCB

ORDER

1. The issue for consideration is the remedial steps to be taken for control of air pollution in the outskirts of Mumbai, in and around villages Ambapada and Mahul. The major contributor to the air pollution are said to be the logistic services, storing oil, gas and chemical items, as well as oil companies releasing emissions. The

emissions include Volatile Organic Compounds (VOCs) on account of loading, storage and unloading operations of hazardous chemicals at various stages.

2. The matter was dealt with in the judgment of this Tribunal dated 18.12.2015. It was found that there was deterioration of ambient air quality causing threat to health of the residents. Probable sources are activities of respondent No. 1, M/s Sea Lord Containers Limited, respondent no. 2, Aegis Logistics Limited, respondent no. 9, Bharat Petroleum Corporation Limited and respondent no. 10, Hindustan Petroleum Corporation Limited, besides other unidentified sources.
3. Accordingly, the Tribunal vide order dated 18.12.2015 directed the Maharashtra Pollution Control Board (MPCB) to prepare a comprehensive action plan for control of air pollution. Health Impact Assessment study was directed to be carried out, apart from VOC assessment study. The Tribunal issued other incidental directions for prevention and remedial action by the operators of various projects as well as regulatory authorities.
4. An execution application was filed before this Tribunal alleging non-compliance of the direction dated 18.12.2015.
5. The application was taken up for consideration on 05.02.2019 in the light of earlier proceedings. The Tribunal considered the report of the joint Committee dated 01.01.2019 finding as follows:-

“Presence of VOCs is found in the area with concentration values more than odour threshold concentrations. Therefore, focus on control measures on dominant 'sources of emissions of VOCs is required in this case. Benzene, Styrene Toluene, Xylenes, Diethylbenzene, Trimethylbenzene and Dichlorobenzenes emerged as dominant VOCs present in significant concentrations at one or the other place in the area among total 21 VOCs detected in the area. The odour threshold values given in "Odour Threshold for Chemicals with Established Health Standard, 2nd Edition [American Industrial Hygiene Association] are referred.

Concentration of Benzene has been found below the odour threshold value of 0.47 ppm in work zone as well as in ambient air but concentration values are found to be higher than the annual standard prescribed for ambient air i.e. 5 $\mu\text{g}/\text{m}^3$. Maximum value of Benzene in ambient air found to be 88.67 $\mu\text{g}/\text{m}^3$ [0.0277 ppm] and maximum value in work zone found to be 540 $\mu\text{g}/\text{m}^3$ [0.16 ppm]. It is worth to mention that Benzene is predominantly handled by BPCL refinery in the area.

Concentration of Styrene has been found above the odour threshold value of 0.0028 ppm in work zone as well as in ambient air. Maximum value of Styrene in ambient air found to be 775 $\mu\text{g}/\text{m}^3$ [0.182 ppm] and maximum value in workzone found to be 225 $\mu\text{g}/\text{m}^3$ [0.0528 ppm]. The Styrene monomer is only handled by Logistics companies namely M/s Sealord Ltd and M/s Aegis Logistics Pvt. Ltd.

Concentration of Toluene has been found much above the odour threshold value of 0.021 ppm in workzone as well as in ambient air. Maximum value of Toluene in ambient air found to be 639.50 $\mu\text{g}/\text{m}^3$ [0.169 ppm] and maximum value in work zone found to be 5000 $\mu\text{g}/\text{m}^3$ [1.32 ppm]. The Toluene handled by both the refineries namely HPCL, BPCL and logistics company M/s Aegis Logistics Pvt. Ltd. as well.

Concentration of Xylenes has been found above the odour threshold value of 0.012 ppm in work zone as well as in ambient air. Maximum value of Xylenes in ambient air found to be 365.4 $\mu\text{g}/\text{m}^3$ [0.0842 ppm] and maximum value in work zone found to be 1000 $\mu\text{g}/\text{m}^3$ [0.23 ppm]. The Xylene is handled by both the

refineries namely HPCL, BPCL and logistics company M/s Aegis Logistics Pvt. Ltd. as well.”

6. The joint Committee also gave suggestions on control of VOCs.
7. The Tribunal found that since there was damage to the air quality, the stand of the respondents Nos. 1, 2, 9 and 10 that their contribution to the air pollution was not established, could not be accepted. It was further observed:-

“We are of the view that once there is damage to the air quality adversely affecting the health of the inhabitants, no polluter can escape liability for the polluting activities. Even a suspect polluter can be held accountable precautionary principle as well as prohibitory remedial action can be required to be taken. Action may be closure of unit, requiring steps to check pollution and also requiring payment of compensation for damage to the environment. The principle of precaution, which is established norm for sustainable development, involves the anticipation of harm and taking measures to avoid it or to choose the least environmentally harmful activity.¹ Lack of full scientific certainty shall not be used as a reason for post-poning cost-effective measures to prevent environmental degradation.² Action may be closure of unit, requiring steps to check pollution and also requiring payment of compensation for damage to the environment”.

8. Accordingly, respondents Nos. 1, 2, 9 and 10 were directed to furnish their respective action plans to the CPCB to which CPCB was to file its response, *inter-alia* suggesting a clear road map with estimated investment and timeline for removal, capturing and reuse of VOCs.

¹ (1999) 2 SCC 718

² (2005) 13 SCC 186

9. In the light of order dated 05.02.2019, respondents 1, 2, 9 and 10 filed their action plans on which CPCB gave its response to the effect that the BPCL should give measurable targets and measures for dealing with the leakage of VOC through various sources. With regard to M/s Aegis Logistics and M/s Sea Lord Containers Pvt. Ltd., it was opined that timeline should be provided for various activities with regard to ETP, installation of Internal Floating Root Tank (IFRT) and implementation of Leak Detection and Repair Programme (LDAR).
10. The Tribunal considered the matter on 07.03.2019. Learned counsel for respondents Nos. 1, 2, 9 and 10 made a statement that their clients will meet the CPCB observations and furnish revised plans. The Tribunal directed that CPCB may give further directions as may be found necessary and oversee the compliance of the action plans and furnish action taken report. The Tribunal also directed that interim amount of Rs. 10 Crores may deposited by respondents Nos. 1, 2, 9 and 10 in equal proportions with the CPCB for restoration of the environment.
11. In continuation of the above, we have further heard learned counsel for the parties today and perused the relevant record.
12. Learned counsel for the applicants have drawn our attention to orders of Hon'ble Supreme Court dated 22.04.2018 in Civil Appeal No. 3813 of 2019 filed by BPCL, order dated 08.05.2019 in Civil Appeal Nos. 4463-4464 of 2019 filed by HPCL and order dated

12.07.2019 in Civil Appeal No. 4084 of 2019. In the first order, direction to deposit Rs. 2.5 Crores by BPCL was dispensed with but CPCB was to quantify the deposit required to meet the expenditure to take precautionary measures. Such deposit was to be made by the BPCL within two weeks of being called upon to do so by the CPCB. In the second order, apart from following the direction in the order dated 22.04.2019, HPCL was given liberty to establish the contention that HPCL was not manufacturing or storing any of the chemicals or compounds leading to air pollution and that due to movement of wind from south west to north east, pollution from operation of other entities was ending up at HPCL location. The CPCB was to look into the said contention. The Hon'ble Supreme Court did not express any opinion thereon. The third order gave liberty to the applicants to make submissions before this Tribunal

13. Our attention has been further drawn to the 'comprehensive action plan' filed by the CPCB on 27.06.2019 indicating that common potential source of VOCs was storage tanks, piping systems, waste water management systems, sludge handling and loading/unloading systems. Process operations and flare stacks are additional potential sources in refineries which are absent in logistics companies. Therefore, actions with respect to control measures for storage tanks, wastewater management, sludge handling, loading/unloading and flare emissions are devised with timeline. The CPCB report also states that the figures reported by the respondents, especially refineries had lot of variations and changes in reporting in the process of

preparation of action plan. It has been decided to focus on further reduction in minimum achievable reported emission from each contributing factor like storage, loading/unloading, ETP etc. Considering dynamic nature and low emission at a place with sizable cumulative emissions by sources like petrol pumps, vehicular movements, are also covered in additional actions required including land use control. Ease of comparison, evaluation and clarity in action & timeline has also been considered in preparation of comprehensive action plan.

14. The action plan for refineries and logistics companies refer to the data furnished by the said Units showing generation of VOCs as follows;

“Table: Quantity of VOC generated by the units before action plan

<i>Source of VOC</i>	<i>HPCL</i>	<i>BPCL</i>	<i>Aegis</i>	<i>Sea Lord</i>
<i>VOCs Emission from All Tanks (kg/ day)</i>	<i>163</i>	<i>222.6</i>	<i>526</i>	<i>Negligible**</i>
<i>VOCs Emission from ETP (kg/ day)</i>	<i>193</i>	<i>4900</i>	<i>Negligible</i>	<i>Negligible</i>
<i>VOCs Emission from joint/flanges/pumps in (kg/ day)</i>	<i>131</i>	<i>132</i>	<i>0.342</i>	<i>0.027</i>
<i>VOCs Emission from pumps (kg/ day)</i>	<i>9.2</i>	<i>Negligible</i>	<i>0.098</i>	<i>Negligible</i>
<i>VOCs Emission from sampling</i>	<i>0.05</i>	<i>0.049</i>	<i>Negligible</i>	<i>Negligible</i>

(kg/day)				
VOCs Emission Loss through Flare Gas (kg/day)	2.2	0.58	Negligible	Negligible
Total in Kg/day	498.45	5255.22	526.44	0.027
Grant Total in Kg/day	6280.13			


The same was proposed to be reduced by 73%, 81% and 83% by September 2019, December 2019 and March 2020 respectively.

15. The CPCB also noted that following action was required to be taken by the four units in question.

“3.1 Actions Required to be Taken in Addition to Potential Source Specific Actions

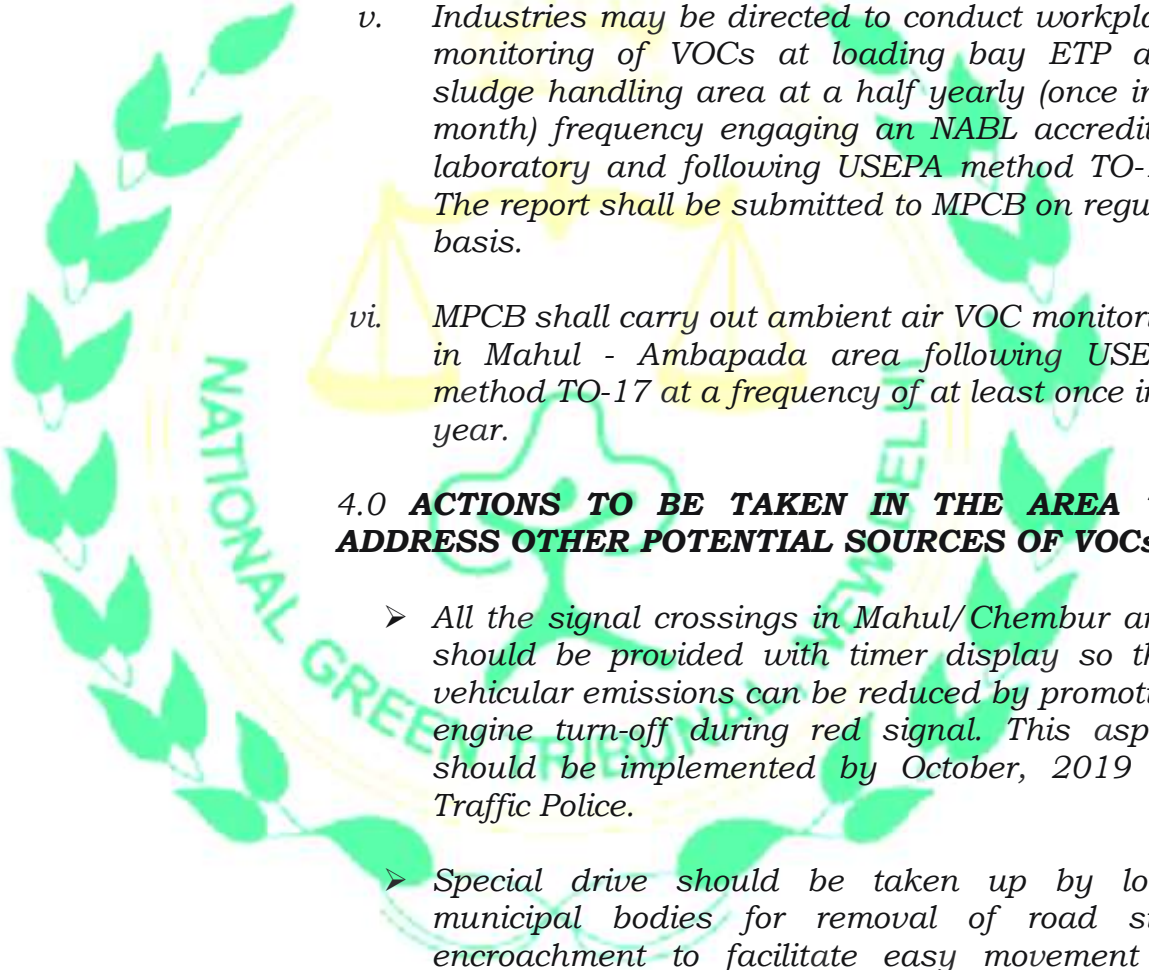
In addition to the submitted action plan, all establishments are also required to take following actions with maximum targeted completion by December 2020.

- i. Units shall maintain inventory documentary of all VOCs and data based evidences in support of all actions taken with respect to given in action plan. All documentary and data based evidences shall be made available to MPCB/CPCB or any other agency authorized on their behalf for evaluation and assessment from time to time, if need arises. The VOC generation and reduction data provided by the unit is not constant and industries are not able to provide consistently same data each time.*
- ii. Establishments shall ensure that tanks storing aromatics are provided with nitrogen blanketing with closed blow down system so that the emission may be directed to flare.*
- iii. All the tanks /truck/wagons in loading bays for transporting benzene shall be equipped with vapour recovery system.*

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- iv. *In addition to the Class A & Class B chemicals all the other storage tanks dedicated for storing hydrocarbons with condition of 10 kpa vapour pressure and at 34°C temperature should have IFRT with external fixed roof and double seal without exception.*
 - v. *All the units shall submit quarterly progress report in tabulated form to MPCB with clear mention of actions suggested and present status.*
 - vi. *Pressure relief and blow down systems should discharge either to a vapour collection and recovery system or to flare.*
 - vii. *Tanker filling operations are required to be switched from top filling to bottom filling in a phased-wise manner in future to reduce displacement losses.*
 - viii. *BPCL, Aegis and Sea Lord may also explore the possibilities to de-centralize tanker filling operations with increase in pipeline-based transfers.*
 - ix. *Development of green cover at open spaces may also serve as sink for emissions.*
 - x. *A time bound action plan shall be prepared for shifting product transportation through pipelines.*

3.2 Air Quality Monitoring

- i. *Units have to ensure installation and regular calibration & operation of VOC monitoring station in their premises by September 2019 with minimum one station in pre-dominant downwind direction based on annual wind pattern. The number of stations in refineries shall be in compliance with regulatory directives or EC conditions or consent conditions. BTEX shall be included in all stations. M/s Aegies Logistic Limited may be directed to install at least one BTEX monitoring system at downwind direction.*
- ii. *MPCB shall supervise and ensure proper calibration of analyzers and maintain data base for monthly compilation and dissemination of results through web posting to aware residents of Mahul - Ambapada area.*

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- iii. *State of the art facility should be developed by MPCB for sampling and analysis of VOCs in line with internationally accepted method like TO-17 of USEPA by June, 2020.*
- iv. *Beyond the compliance by the industries in terms of setting up and operation of air quality monitoring stations MPCB shall establish a separate monitoring network for Methane Non-Methane Hydrocarbon to assess the impact of proposed action in the area. The fund may be made available from NGT fund collected in this case.*
- v. *Industries may be directed to conduct workplace monitoring of VOCs at loading bay ETP and sludge handling area at a half yearly (once in 6 month) frequency engaging an NABL accredited laboratory and following USEPA method TO-17. The report shall be submitted to MPCB on regular basis.*
- vi. *MPCB shall carry out ambient air VOC monitoring in Mahul - Ambapada area following USEPA method TO-17 at a frequency of at least once in a year.*

4.0 ACTIONS TO BE TAKEN IN THE AREA TO ADDRESS OTHER POTENTIAL SOURCES OF VOCs

- *All the signal crossings in Mahul/Chembur area should be provided with timer display so that vehicular emissions can be reduced by promoting engine turn-off during red signal. This aspect should be implemented by October, 2019 by Traffic Police.*
- *Special drive should be taken up by local municipal bodies for removal of road side encroachment to facilitate easy movement of traffic.*
- *Concerned Municipal body and Development authority should review their policy and regulate development in the area so that issue based conflict can be avoided.*
- *All petrol pumps in the area should be provided with stage-II vapour recovery system (i.e. at dispensing end) by end of December, 2019.*

Respective petroleum companies shall be responsible for ensuring compliance in this regard.

- *MPCB shall ensure communication to respective agencies/stakeholder for necessary compliance of suggested actions in time bound manner.*

Notes: The data provided by the refineries and logistic firms have inconsistencies leading to confusion. The reductions and action plans require expert professional review. It is proposed to engage an expert institution to examine the issues and provide opinion on the data and reduction targets.”

16. Learned counsel for the applicant accordingly suggested that CPCB suggestions are required to be complied with. The data provided being incomplete, units should furnish complete data. Having regard to the acknowledged generation of VOCs by the said units, the impact on the environment and public health in the area and its estimated monetary value should be assessed and steps taken for restoration accordingly after verifying the database on VOCs and reduction targets by taking the services of expert professionals/ institutions. The values so assessed may be recovered from the units in question, in appropriate proportion.

17. Learned counsel for the Units have expressed willingness to carry out the suggestions in the report of the CPCB. Learned counsel for BPCL seeks longer timeline for which there is no justification. The problem has been continuing since long and final order of this Tribunal is in operation for the last four years. In spite of such a long time, damage is continuing. There is no justification to give further timeline longer than what has been suggested by CPCB.

18. We make it clear that CPCB must refer to the earlier reports and data base and consider the observations in the orders of the Hon'ble Supreme Court and assess the value of the damage to the environment and public health and the proportion in which the amount is required to be recovered from the identified contributors to the pollution. BPCL and HPCL may deposit the amount with CPCB in terms of orders of the Hon'ble Supreme Court. CPCB in consultation with MPCB may evolve source standards for chemical storage terminals in accordance with the direction in PARA 57(g) of the judgement of this Tribunal dated 18.12.2015, if not already done.

19. The parties including the applicant are liberty to furnish their respective viewpoint to the CPCB on or before 31.07.2019. On 14.08.2019, in the office of CPCB, the parties will be allowed to peruse the viewpoint of each other, including the documents already submitted from 11.00 AM to 1.00 PM.

20. The CPCB will be at liberty to take the help of such experts as may be considered necessary and may file its report by October 31, 2019 by e-mail at judicial-ngt@gov.in.

List for further consideration on 06.11.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

July 15, 2019
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