

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI
OA No. 180 of 2023 (SZ)**

IN THE MATTER OF :

Tribunal on its own motion SUO MOTU

... Applicant

Vs

The District Collector and Ors.

... Respondents

**STATUS REPORT FILED BY M/s. CHENNAI PETROLEUM
CORPORATION LIMITED , THE 7TH RESPONDENT (11.01.2024)**

THE 7TH RESPONDENT BEGS TO SUBMITS AS FOLLOWS :

1. It is submitted that the present Application has been Suo Motu initiated by this Hon'ble Tribunal with respect to the Oil Leak in the Buckingham Canal and Ennore Creek areas.
2. It is submitted that this Respondent had filed a status report on 14.12.2023, 18.12.2023 and 21.12.2023 and the same may be taken as a part and parcel of this present status report.
3. It is submitted that it is necessary to state a brief background on this Respondent CPCL and the manner of its operation, to support the statements made in this present report.
4. It is submitted that Chennai Petroleum Corporation Ltd (CPCL), a Mini Ratna (Category-1 Company) and a Government of India Enterprise and a group company of Indian Oil Corporation Limited, is engaged in the production of fuel products, lubricants and petrochemical feed stocks, meeting the demand of petroleum products in Southern region

For Chennai Petroleum Corporation Limited

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5. That the CPCL refinery at Manali, Chennai is having a capacity of 10.5 Million Metric Tons Per Annum (MMTPA). CPCL caters to 90% of Aviation Turbine Fuel (ATF), 60 % of Diesel demand, LPG cylinders more than 1 Lakh per Annum and bulk filling supply to Oil Marketing Companies (OMC) for bottling in Tamil Nadu. CPCL is also fulfilling its duty as Mother Industry and supplies petrochemicals feedstock to various downstream Petrochemical Industries at Manali, Chennai. Furthermore, CPCL is also manufacturing a broad spectrum of products catering to niche industries for the defense sector and wax for cottage industries like candle and match box making. Through these initiatives, CPCL is totally committed towards the upliftment of underprivileged supporting livelihood of more than 30,000 beneficiaries.

6. That CPCL stands tall among the public-sector refining companies in India, with one of the most indispensable refinery in the country, producing an array of value-added petroleum products. CPCL is the only Refinery in India supplying fuel to ISRO and DRDO. It has also pioneered key initiatives in several areas such as process optimization, technology absorption, energy conservation, waste water reclamation and environment management.

7. That CPCL has also pioneered key initiatives in several areas including environmental sustainability such as City Sewage Water Reclamation for industrial use, Desalination, production of renewable power from Wind Mill / Solar Plant, Creation of Green Belt with Local Species of Trees, etc.

8. That the City Sewage Water Reclamation of CPCL was commissioned in 1991 and is the first of its kind in Asia, wherein the Chennai City sewage is treated further through Reverse Osmosis Technology for using it for industrial purpose. CPCL has commissioned its second

Sewage Reclamation Plant and Desalination plant in 2007. CPCL is recycling the effluent water, reclaiming city sewage, Desalinating sea water to meet the industrial water requirement and is not using any fresh water for industrial purpose, which enables Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) to divert fresh water for meeting the water needs of the City.

- 9.** That the storm water systems in CPCL are adequately designed and the same has been further confirmed by M/s Engineers India Limited (EIL), a leading Public Sector Engineering consultant vide communication dated 16.12.2023 and M/s Worley India Pvt Ltd vide communication dated 18.12.2023.

- 10.** That CPCL recognizes the importance of Corporate Social Responsibility (CSR) as a vital function in contributing to sustainable development and nation-building. CPCL operates a Community Health Centre (CHC) at Manali and provides free outpatient services to the people living in and around Manali area in the areas of expertise viz., eye clinic, dental clinic, physiotherapy and Hematology analysis. CPCL, under its Comprehensive Eye care programme is treating people living in and around North Chennai. The Scheme started in 2006 is continuously providing eye care facilities. CPCL has provided infrastructure in Government Hospitals to the tune of about Rs. 80.00 Lakhs for purchase and installation of life saving equipment in Rajiv Gandhi Government General Hospital and Stanley Government Hospital.

For Chennai Petroleum Corporation Limited



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Unprecedented flooding inside CPCL/ Manali Industries in 2023

11. That the Storm water system in CPCL successfully handled the heavy rain **in 2015**. The cumulative rainfall in Chennai during the monsoon spell was the highest ever in the last 100 years. During the unprecedented torrential rainfall in the months of November and December 2015, CPCL's Refinery had to undergo the brunt of heavy downpour. Since the storm water system had been adequately designed, the situation was well managed.

12. That CPCL is in the business of processing of Crude Oil and manufacturing of Petroleum products, which is a 24/7 Process Industry. Due to Cyclone Michaung, incessant rain started in the night of 3rd Dec 2023 and continued for around 36 hours. Due to heavy rains, some units of refinery were taken on circulation, but refinery was kept running safely to ensure uninterrupted supply of petroleum products. Following the incessant rains, **excess water of around 45,000 cusec was released from Poondi and Puzhal reservoirs located near Chennai from 04.12.23**, which further increased water logging and flooding situation inside the refinery (around 1 meter). CPCL team even used boats, fire trucks, tractors to enter the refinery for safe operation. **There are around 25 petrochemical, fertilizer and other industries numbering around 500 to 600 in Manali and nearby areas which were also completely inundated due to flood water.**

13. It is submitted that the CPCL Management requested State Authorities from 04.12.23 onwards to regulate the water release from the reservoirs to avoid flooding of Manali Refinery as the water level inside the refinery was rising alarmingly.

For Chennai Petroleum Corporation Limited



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14. That CPCL rose to the occasion and kept the refinery operated in adverse conditions braving high water levels, acute limitations on commutation of men & material to ensure uninterrupted supply of fuel to the State. Out of the 3 Crude units, one Crude unit was operated with dedicated manpower while the other two crude units were taken on circulation. Required manpower was retained inside the Refinery for safe manning of the units.
15. That Petroleum products such as petrol, diesel & Aviation Turbine Fuel (ATF – Fuel for flights) were supplied through pipeline for further distribution to entire state of Tamil Nadu. **Shut down of operations of CPCL Manali Refinery would have led to acute shortage of petroleum products in the state and would have resulted in many activities coming to a standstill.** CPCL used boats, tractors, Fire Trucks, JCBs for the movement of men & material.
16. That despite CPCL's LPG bottling and Bulk filling Terminal was severely affected by flood water of around 1.5 m (5 ft) height, CPCL team went inside the plant through boats and safeguarded the installation. Further, CPCL restored LPG bulk filling in a record time from 07.12.23 onwards.
17. That all the Manali Industries shut down their units owing to flooding inside the units. All the roads of Manali Industries viz Manali High Road, MFL road, Thiruvottiyur road were flooded and closed for traffic and water logging.

Details of Industries taken for shut down are furnished below:

Name of the Industry	Period of Shut down
Kothari Petrochemicals Limited	04.12.23 – 12.12.23

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CETEX Petrochemicals Limited	04.12.23 – 12.12.23
Tamil Nadu Petro Products Limited	04.12.23 – 23.12.23
Manali Petrochemicals Limited	04.12.23 – 21.12.23
Indian Additives Limited	04.12.23 – 27.12.23
Madras Fertilizers Limited	04.12.23 – 29.12.23

The above demonstrates the commitment of CPCL in supplying petroleum products viz petrol, diesel, ATF etc,.

- 18.** That the excess surface run-off water from CPCL refinery is connected to Buckingham Canal for handling the water during heavy rains via Storm water drain. However, the refinery experienced unprecedented flooding of up to 3 to 4 feet, which occurred due to large water release from reservoirs. Due to back flow of water from Buckingham canal into the refinery and subsequent high-water levels in the refinery, there may be a possibility of co-mingling of flood water with some insignificant surface oil from the refinery, while getting released through the Canal.

History of flooding in Manali Industries Area

- 19.** That during incessant rain in 2015, Vardah (2016), Nivar (2020) etc Manali Industrial area got severely affected due to inadequate drainage system to Buckingham canal / Kosasthalaiyar river. CPCL had undertaken remarkable efforts during those challenging periods to mitigate the situation which had won laurels from the Society and neighboring community at large.

- 20.** That Manali Industrial Association requested IIT, Madras in 2021 to study the flooding situation. **IIT, Madras**, had made a site visit and furnished an observation report and the gist of the report is furnished below :

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a) *Buckingham Canal*

- i. *Stormwater drain outfalls from Kothari, MGR nagar, Periyar Nagar, & CPCL ETP plant, Balmer Lawrie leading up to B canal in the East near CPCL. The drain is not completely connected to the B. Canal. The temporary pipe culvert for construction purposes does not appear to be adequate.*
- ii. *SWD outfall is disconnected from the B. Canal.*
- iii. *Buckingham canal flow capacity is severely compromised due to the bridge construction.*

b) *Kosasthalaiyar river*

- i. *Reduced width of the Redhill surplus channel at the highway bridge site on Manali High Road (North of MFL). This may be one of the reasons for MFL getting flooded.*

21. That IIT has reported that the flooding in the region could be due to two primary reasons :

- a) Flood discharge from reservoirs and lakes and the capacity of the flood carrier is overwhelmed due to encroachments, siltation, and obstructions thus jumping the course of flow and inundating the nearby areas (e.g. case of SPL, MFL and JSW). This is called Fluvial flooding.
- b) Lack of local storm drainage, storm drainage with inadequate capacity, obstructions to local drainage (e.g. case of Kothari, Balmer and Lawrie, and CPCL). This is called Pluvial flooding.

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Representation by Manali Industries Association:

22. That the correspondences from Manali Industrial Association (MIA) to State Authorities for improving the storm water drainage system outside Manali Industrial area has been already submitted on 21.12.23.

23. That even on 18.11.23, Manali Industries Association has requested Zonal Officer, Zone-1, Chennai Corporation the following :

- a) To desilt the canal from MPL-2 to B' Canal
- b) To desilt the canal from MPL-2 to CPCL junction

24. That Manali Industries Association vide communication 18.11.23 has requested Zonal Officer, Zone-2, Chennai Corporation the following :

- a) Desilting from MFL junction to CPCL junction to ensure smooth water flow which was obstructed due to incomplete water canal work.
- b) Desilting is required for the canal or water flow connecting Madras Fertilizer Ltd – MFL junction to Buckingham canal to maintain water flow.

25. That the desilting work of the above referred area is yet to be taken up. The condition of canal as on 31.12.23 is furnished below :

- a) Desilting & removal of river grass is yet to be carried out. Presently the MPL-2 to B' Canal is totally filled with river grass.
- b) Kosasthalaiyar river desilting and removal of encroachments is yet to be carried out.

- c) Reduced width of the Redhill surplus channel at the highway bridge site.

Flow of Kosasthalaiyar river on 02.12.23

- 26.** That Chennai received a heavy spell of rain on 29.11.23 with Avadi receiving 19 cm and Kolathur - 15 cm. Due to rain , excess water was released from Puzhal lake from 01.12.23. Subsequently, the level in Kosasthalaiyar river reached its bund wall level on 02.12.23, at Manali Amullavoil bridge.

Rainfall from 04.12.23 to 06.12.23

- 27.** That Cyclone Michaung caused incessant rain which started in the night of 03.12.2023 and continued for around 36 hours. Impact of Michaung started reducing from late night of 04.12.2023. The rainfall at Manali area released by IMD from 03.12.23 to 06.12.23 is enclosed herewith.

❖	03.12.23	-	3 cm
❖	04.12.23	-	13 cm
❖	05.12.23	-	4 cm
❖	06.12.23	-	No rain

- 28.** That CPCL refinery is engineered with the storm water infrastructure facility constructed as per the prescribed standards to handle the above rainfall. However, excess water released from Puzhal (01.12.23), Poondi (04.12.23) and other reservoirs located near Chennai resulted in heavy water logging and flooded the refinery. As per reports, the total discharge reached was 45,000 Cusec

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IIT Water level study – Dec-23:

- 29.** That **IIT Madras**, Dr Balaji Naraisimhan, Professor Environmental and Water Resources Engineering division had fixed Depth sensor at CPCL Manali at West gate-1, West gate 2 and LPG plant area on 02.12.23. The maximum level measured through the sensor is furnished below :

Date	West Gate -1	West Gate-2	LPG Bottling plant
03.12.23	0	0	0
04.12.23	0.41	0.23	1.1
05.12.23 (evening)	0.61	0.45	1.41
06.12.23	0.38	0.15	0.7

- 30.** That from the above it can be inferred that the **water level increased inside the refinery from 04.12.23 onwards due to excess water release and not due to any default or negligence on the part of CPCL.** It is reiterated that CPCL has fully complied with all the Rules and Regulations relating to Safety and Environment.

- 31.** That as referred by IIT Madras, reduction in flood carrying capacity of Kosasthalaiyar river due to encroachments, siltation, and obstructions is the main cause of flooding in CPCL and Manali Industries.

Responsible Corporate citizen and Public Sector :

- 32.** That CPCL which has always taken lead role during difficult times, has also led the way in 2023 in carrying out Oil spill removal activities, although oil slippage was due to flooding of Manali

Industries. Being a large corporate sector in Oil industry, CPCL mobilized resources from various parts of country within a very short period. Untiring efforts were undertaken by CPCL officials in the cleaning activities on war footing basis in the presence of Government Bodies. CPCL mobilized specialized equipment like containment booms, oil skimmers, etc from expert agencies from Chennai Port Trust, Karaikal Port, Kamaraj Port Trust, Mumbai, Paradip Odisha, etc in a record time and completed the oil cleaning activities. CPCL has stretched beyond the boundaries and its capacity to demonstrate the commitment towards society and Environment.

Action taken by CPCL for clean up:

- 33.** That CPCL immediately engaged four professional agencies i.e, M/s. Viraj Clean Sea Enterprises, M/s. Vens Hydro Luft, M/s. Sea Care Marine and M/s. Neo Will Win (Navtek) for clean up activities at Ennore Creek, Buckingham Canal, Kosasthalayar river and in the shore area. Ennore creek and the oil affected areas were divided into 4 zones namely:
1. Sea Mouth to Ennore Bridge approx. 1.50 Km. - by Viraj Clean Sea Enterprises
 2. Ennore Bridge to Railway Bridge (Kattukuppakam) approx. 400 mts. - by M/S. Sea Care Marine
 3. Railway Bridge to entrance of Buckingham canal approx. 1.60 Km. - by M/ s. Vens Hydroluft Private Limited
 4. Buckingham canal to Sathyamurthy Nagar approx. 6 Km - by M/s. Neo Will Win (Navtek)
- 34.** That containment booms were arranged on emergency basis from different sources viz., Chennai port, Kamaraj port, Karaikal port, Paradip Port (Odisha) and through emergency local procurement.

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Containment booms of around 1500 mts were installed at the following locations

1. 300 mts boom at Mouth of river.
2. Two booms of 325 mts and 275 mts at Ennore Road Bridge.
3. 100 mts boom between Road bridge and Railway bridge.
4. 80 mts boom at Railway Bridge.
5. 250 mts boom (mouth of Buckingham Canal).
6. Two booms 50 mts and 50 mts boom at Kattukuppam.

That the installation of booms was continuously reviewed and implemented as per site requirements.

- 35.** That **6 nos.** of oil skimmers were deployed for oil slick removal activities. Skimmers were arranged on emergency basis from Chennai, Mumbai and Paradip. Absorbent booms and pads were used to sweep the residual oil traces from the water. Around **35,000 nos of absorbent pads and 500 mts** of absorbent booms have been used.
- 36.** That Oily water was collected in around 963 drums and have been shifted to CPCL for further processing as per TNPCB guidelines. **On visual inspection, the material recovered is observed to be predominantly water and the oil content is negligible.** Around 128 boats with 512 manpower were deployed for above mentioned oil removal activities.
- 37.** That **mechanized cleaning efforts have been successfully completed in all 5 village shore areas viz., Ennorekuppam, Mugathuvarakuppam, Nettukuppam, Thazhankuppam and Kattukuppam.** Resources deployed on daily basis to clean the shore area using mechanized methods include - **JCB (7 nos.), Gully Sucker (5 nos.), Hydras (3 nos.), Tractor trailer (2 nos.),**

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Dumpers (15 nos.), Poclain (5 nos.). Around 740-Tons of Solid waste debris have been removed from site and shifted to CPCL for bioremediation and disposal as per TNPCB guidelines. **The oil content in the solid waste is also very insignificant . The major part of solid waste is sewage sludge.**

- 38.** That the mangrove area was also inspected and it was observed that the interiors of the mangroves are unaffected. **National Institute of Oceanography (NIO) has been roped in as per the advise from TNPCB for the bio remediation activities.** Oil traces in the mangroves are being cleaned under the guidance of National Institute of Oceanography (NIO) / TNPCB using **Herbal Nano Bio dispersant.** The Herbal Nano Bio dispersant was air lifted from Gujarat to Chennai. Finalisation of bio remediation site was completed in coordination with NIO & TNPCB officials on 08.01.24 and the Bio remediation commenced on 09.01.24.
- 39.** That as directed by the Honorable panel of NGT, a separate team from CPCL had visited the shore areas near Pulicat lake and confirmed that there were no oil traces in the vicinity. **Since, no tar balls were visible in the Ennore shores, the presence of the same at Pulicat cannot be attributed to the oil spill at Ennore creek.** The oil removal operation was completed and cleaning of Mangrove area through bio remediation process is in progress.

No Engineering/ infrastructure failure.

- 40.** That there was no pipeline leak or tankage / equipment failure in CPCL during Cyclone Michaung and flooding.
- 41.** That the storm water systems in CPCL are adequately designed and the same has been further confirmed by M/s Engineers India Limited

For Chennai Petroleum Corporation Limited

Ravi Kumar

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(EIL), a leading Public Sector Engineering consultant vide email communication 16.12.2023 and M/s Worley India Pvt Ltd vide email communication 18.12.2023.

42. That all the surface run off water is collected in the refinery storm canal network. During normal period, CPCL recycles the water collected in the storm ponds for internal use by routing the water to Effluent Treatment Plants (ETP).
43. That on several previous cyclonic events viz., Flood in 2015, Vardah (2016), Nivar (2020) etc., the existing Storm Water System of CPCL had demonstrated its capability to withstand heavy storm water loads.

Study by CPCL:

44. That CPCL entrusted **The Energy and Resources Institute (TERI)**, an independent, multi-dimensional organization, with expertise in research and consultancy, for carrying out Environmental Impact Assessment on the Marine Eco System including the Flora & Fauna, mangroves etc. present in the Ennore creek area.
45. That TERI visited Ennore Creek area on 20.12.2023 and submitted preliminary report as below:
- ***Between the mouth of the creek up to Ennore road bridge there is no oil leakage or visible oil contamination was noticed.***
 - ***There are no abnormal conditions at site like dead fish or oil layer or any loss of flora and fauna. However, the team observed odour which could be of sewage waste water.***

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- ***It is also stated that oil spread controlling booms have been placed effectively to control the spread of shine from containment zone to sea area.***
- 46.** That apart from the above M/s TERI has collected samples in the stretch from Buckingham Canal to Ennore Creek area on 28.12.23 & 29.12.23 in around 25 locations and the analysis reports are awaited.
- 47.** That M/s IOCL R&D visited the Ennore oil spill site and suggest further remedial measures, if any. Their observations are furnished below:
- ***"At the beach, the top layer of sand was clean without any oil or tar ball.***
 - ***The boat visit was carried out in the affected area and no free-floating oil was observed seen in water body. However, at some places oil sheen was observed which can be removed by absorbent booms.***
 - ***Some foul smell resembling to sewage was noticed near to the source and the water colour was also black. This may be because of sewage ingress in the water body."***

Rehabilitation Measures :

Health and Safety:

- 48.** That to address the health needs of the workers and communities, three mobile medical units with requisite medicines, Doctors and Paramedics teams have been stationed by CPCL in Ennore Creek and nearby villages, benefiting approximately 5507 individuals as of January 3, 2023.

For Chennai Petroleum Corporation Limited

D. Sahu

Authorized Signatory

49. That essential medicines for flood relief was handed over to Zone-1 Medical Officer (Thiruvottiyur) on 12th, 15th and 19th December 2023 and to Zone-2 Medical officer (Manali) on 14th December 2023.
50. That it is being ensured that all workmen involved in the clean-up activities are using requisite Personal Protective Equipment. All required Personnel Protective Equipment (PPE), including 1300 gloves, 3000 masks, 750 gumboots, 500 Helmets, 900 Boiler Suits and 700 goggles were distributed to the local workforce at the Ennore creek area for Safety of the workers.

Flood Relief and Rehabilitation Measures:

51. That around 11000 bags of rice, 6000 bags of groceries, 3000 Sarees, 2000 Women's Clothing, 2000 Dhotis, 2000 Bedsheets, 2000 Mosquito coils, 500 Sleeping mats and other essential items have been handed over to nodal officer as relief measure.
52. That House cleaning of the affected areas was carried out with manpower, Hydro jetting machines and Wet and dry Vacuum Machines in a short span of time which only proved that the quantum of oil spill is insignificant.
53. That CPCL contributed Rs 15 Lakhs for providing rice to the flood affected areas
54. That CPCL has contributed Rs.7.5 Cr towards disaster management as per the instruction of Govt of TN.

55. It is submitted that CPCL had worked on a war footing basis towards mitigating the oil leak and removing the oil discharged in the Canal and Creek areas despite being an unfortunate calamity due to unforeseeable circumstances that was beyond the control of CPCL.

made forces and that this respondent is ready and willing to abide by any condition or direction as may be imposed by this Hon'ble Tribunal, in the interest of justice.

Under the above circumstances, it is humbly prayed that this Hon'ble Tribunal may be pleased to consider the present report and pass such orders as it deems fit and thus render justice.

Dated at Chennai on this the 11th day of January 2024

For Chennai Petroleum Corporation Limited

Anil Sahni

7th RESPONDENT

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VERIFICATION

I, ANIL SAHNI, Son of K.K SAHNI, aged 56 years, the CGM(TS) of Chennai Petroleum Corporation Limited, the 7th Respondent herein, do hereby verify that the contents of the above paragraphs are true to the best of my personal knowledge and grounds are based on legal advice and that I have not suppressed any material fact.

Verified at Chennai on this the 11th day of January 2024

For Chennai Petroleum Corporation Limited

Anil Sahni

7th RESPONDENT

Authorized Signatory

For Chennai Petroleum Corporation Limited

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