

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

Original Application No.73 of 2021 (SZ)

IN THE MATTER OF:

Visakha Pawan Praja Karmika
Sangham, Andhra Pradesh

...Applicant

:Vs:

1. Union of India
Rep. by its Secretary,
Ministry of Environment, Forest & CC
Indira Paryavaran Bhavan,
Jorbagh, NewDelhi-110 003
2. Union of India
Rep. by its Secretary
Ministry of Petroleum & Natural Gas,
Sastry Bhavan, New Delhi-1
3. Central Pollution Control Board
Rep. by its Chairman
Parivesh Bhavan,
East Arjun Vihar, New Delhi-110 032
4. State of Andhra Pradesh
Rep. by its Chief Secretary,
Government Complex,
Velagapudi, Guntur District
Andhra Pradesh-522 503
5. Andhra Pradesh Pollution Control Board
Rep. by its Member Secretary,
D.No.33-26-14/D2
Near Sunrise Hospital, Pushpa Hotel Center
Chalamvari Street, Kasturibaipet
Vijayawada, Andhra Pradesh-520 010
6. District Collector and Magistrate
Main Road, Krishna Nagar,
Maharani Peta, Visakhapatnam
Andhra Pradesh-530 002.
7. M/s.Hindustan Petroleum Corporation Limited
Rep. by its Chairman & Managing Director
Malkapuram Post, Visakhapatnam
Andhra Pradesh-530 001

...Respondents

**OBJECTIONS TO THE REPORT OF JOINT COMMITTEE FILED ON
BEHALF OF HINDUSTAN PETROLEUM CORPORATION LIMITED – 7th
RESPONDENT ON FIRE ACCIDENT**

It is respectfully submitted as follows:

1. This Respondent, Hindustan Petroleum Corporation Limited, is a Government Company and a Central Public Sector Enterprise. This Respondent, as a responsible Public Sector Undertaking, has highest regard for the laws of the land and it not only complies with all the environmental laws, but also is socially responsible and undertakes a lot of activities towards the betterment of the society at large.
2. It is submitted that the Respondent's Visakhapatnam Refinery is having a name plate capacity of 8.33 million Metric Tonnes per annum (MMTPA) and having a valid Consent for Operation (CFO) for 10 MMTPA. The refinery normal operating capacity is in the range of 9 to 10 MMTPA. Moreover, Respondent's Visakhapatnam Refinery has all the necessary environmental consents to operate its Refinery and complies with the conditions imposed upon it by the environmental authorities.
3. This Respondent have already filed a reply statement dated 12.04.2021 to the main application and report dated 24.06.2021 with regard to fire incident which is prayed to be read as a part and parcel of these objections outlined in this report.
4. This joint committee's role with regard to fire incident was to fix quantum of compensation if the APPCB has found any violation in their report. This is clearly stated in paragraph nos. 10 and 11 of the order dated 27.05.2021 passed by this Hon'ble Tribunal. The pollution control board in its report dated 17.06.2021 did not observe any serious violations and also not recommended compensation. Thus, the Joint Committee recommending and directing that compensation of

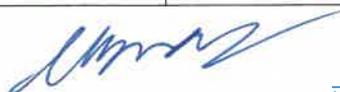
Rs. 26,61,551/-towards damage of environment during the fire incident shall be paid to APPCB is not sustainable. Moreover, the joint committee itself has stated in their report that there was no significant damage to the surrounding environment, injury or casualties reported. It is further submitted that despite fire incident on 25.05.2021, the emissions were below the stipulated NAAQ (National Ambient Air Quality) standards prescribed by CPCB.

5. Without prejudice to the preliminary objections stated above, the below tabulation is reply to Joint committee report on fire incident, in seriatim:

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
2.1	Causes of Fire Accident	
i	The mechanical failure of one of the pipeline elbows on the pump discharge line caused leak in the 6" Carbon Steel (CS) pipeline carrying vacuum residue, which contains fuel oil/ bitumen at a temperature of about 350°C & pressure of 16 kg/cm ² . A hole about 2.5" - 3" was formed (may be due to corrosion) and drained the fluid with high pressure, which resulted in the auto ignition of the hydrocarbon fluid (auto ignition temperature of the vacuum residue fluid is 280°C) caused fire at deck 1 (first floor) of the CDU-III.	
ii	The fire further extended to deck 2 and air fin coolers (deck 3) of the CDU-III. The flames at deck 3 resulted in the rupture of atmospheric column overhead pipeline carrying Naphtha and leading to fire from this location.	
3	Measures Taken by M/s HPCL, District Collector and APPCB after the Fire Accident	
3.1	Immediate action taken by M/s HPCL (Visakh Refinery) When the unit noticed black smoke and fire at 15.06 hrs from the ground floor (deck 1) of the CDU-III, the emergency shutdown of the CDU was taken at 15.07 hrs, and all the motor pumps were stopped. The emergency	

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
	<p>siren was raised at 15.07hrs, the Emergency Response & Disaster Management Plan (ERDMP) of the Refinery was activated immediately and the fire & safety crew reached the area and carried out firefighting activities using foam tender and dry chemical powder tender. The fire was extinguished at 16:10 hrs, cooling operations were continued in the surrounding area and all clear siren was given at 16:15 hrs. No injury or casualties were reported.</p>	
	<p>M/s. HPCL Visakh Refinery has submitted the investigation report, dated 03.06.2021 to the Director Refineries on the fire accident occurred in the CDU-III of the refinery on 25.05.2021, wherein reported the cause of the fire accident as:</p> <p>3.1.1 The probable cause is mechanical failure of the 6" hydrocarbon (Vacuum residue) pipeline elbow. This has resulted in release of hydrocarbon (Vacuum residue) at 350° C.</p> <p>3.1.2 The ignition source is the high temperature (above the auto ignition temperature) of the leaked vacuum residue itself. Copy of the report enclosed (Annexure-2).</p>	
3.2	<p>Immediate measures taken by District Collector, Visakhapatnam, AP</p> <p>On hearing the news of fire accident at HPCL, the officials from the district administration reached the unit around 15:25 hrs as per the instruction of District Collector. The RDO, Joint Chief Inspector of Factories, District Fire Officer, officials from the industries department and APPCB reached the site and given necessary instruction to combat the fire for the Emergency response team of HPCL.</p> <p>The Collector and District Magistrate, Visakhapatnam Dt.25/05/2021 constituted a Committee with the following Members to enquire into the incident of fire at M/s HPCL, Visakh Refinery with a direction to</p>	<p>It is submitted that immediately after noticing black smoke and fire at 15.06 hours from the pipe rack elevation of the CDU-III, the emergency shutdown of the CDU-III was taken by us at 15.07 hours and all the unit motors were stopped.</p> <p>The emergency siren was given at 15.07 hours and the Emergency Response & Disaster Management Plan (ERDMP) of the Refinery was activated immediately from Emergency Control Centre (ECC). Head-Visakh Refinery (I/C) and</p>

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
	inspect the incident place and to submit the report.	<p>other designated personnel present in ECC carried out their roles and responsibilities instantaneously. Fire & safety crew reached the site and carried out firefighting activities immediately. Refinery firefighting facilities viz., Foam tender and Dry Chemical Powder tender along with fixed long-range monitors and High Volume Long Range (HVL) monitor were utilized during the firefighting.</p> <p>Thus, it can be seen that as per ERDMP of HPCL Refinery, communications were sent to all concerned officials including District Collector, RDO etc. and by the time they arrived at the refinery, HPCL controlled the fire and continued further firefighting.</p>
3.3	<p>Immediate action taken by APPCB, Visakhapatnam, AP</p> <p>APPCB immediately rushed to the incident site by 15:40 hrs along with scientific staff of Zonal Laboratory, Visakhapatnam and immediately started monitoring the ambient air in the surrounding areas through Mobile lab in the down wind direction. The Total Volatile Organic Carbons (TVOCs) were monitored in ambient air at various points from the fire accidents and also outside the unit premises. Samples of wastewater generated during fire-fighting operations and accumulated in the drain at CDU-III were collected. The values of TVOC recorded during fire accident were ranging from 0.2 PPM to 7.4 PPM and outside the premises, the maximum TVOC of 0.2 PPM was recorded. Analysis report enclosed as Annexure-3.</p>	<p>Perusal of the Ambient Air Quality report referred to makes it clear that Volatile Organic compound found beyond 100 meters of the fire incident are negligible quantity. As a matter of fact, it was below detectable limits outside the industry premises as can be seen from Annexure-3 of the Joint Committee Report (Ambient Air Quality Monitoring Report of APPCB).</p>



S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
3.3.1	<p>At Southgate CAAQM Station (South side to the Industry):</p> <ul style="list-style-type: none"> ➤ PM10 values increased from 202 µg/m³ (14.00 hrs) to 319 µg/m³ (17.00 hrs) during the accident period. Minimum value of 93 and Maximum value of 319 µg/m³ was observed during the day of accident on 25.05.2021. ➤ PM2.5 values increased from 37 µg/m³ (14.00 hrs) to 47.9 µg/m³ (16.00 hrs) during the accident period. Minimum value of 22 and maximum value of 52 µg/m³ was observed during the day of accident on 25.05.2021. ➤ NO_x values increased from 1.7 µg/m³ (14.00 hrs) to 142 µg/m³ (16.00 hrs) during the accident period. Minimum value of 05 and maximum value of 132 µg/m³ was observed during the day of accident on 25.05.2021. ➤ No significant change in the SO₂ concentrations were observed during the fire accident period. Minimum value of 05 and maximum value of 132 µg/m³ was observed during the day of accident on 	<p>It is submitted that PM10 value is more than the maximum prescribed limit of 100 µg/m³ in the entire city of Visakhapatnam and during the fire incident, there was only a minor increase. The 24-hour average PM10 values As recorded in the continuous ambient air monitoring station installed by Pollution Control Board located in the city are in the range of 105 to 184 µg/m³, during the period from 23.05.2021 to 31.05.2021 which are higher than the maximum prescribed limit of 100 µg/m³.</p> <p>It is submitted that the maximum prescribed limit for PM2.5 is 60 µg/m³. The observed value is less than the maximum value.</p> <p>It is submitted that even though there is a increase NO_x value, 24 hour average value observed in the report is 24.9 µg/m³, which is well below the maximum prescribed limit of 80 µg/m³.</p> <p>The Minimum and Maximum values observed during the day of the incident are 4.95 µg/m³ & 10.45 µg/m³ (wrongly mentioned as 132 µg/m³ in the report) respectively. The Joint</p>

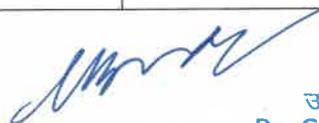
S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
	<p data-bbox="427 286 632 315">25.05.2021.</p> <p data-bbox="379 797 1027 1021">➤ Average value of Air Quality Index (AQI) during the day of accident (25.05.2021) at this location found to be 143, i.e. moderate category. Value of PM 10 is exceeding the standard limit prescribed for 24-hour average.</p>	<p data-bbox="1054 286 1474 465">committee report itself states that no significant change in the SO₂ concentrations were observed during the fire incident period.</p> <p data-bbox="1054 506 1474 719">In spite of observing no significant change in the SO₂, a sum of Rs 24,36,696 was calculated towards damages for SO₂ emission which is legally not sustainable.</p> <p data-bbox="1054 786 1474 1397">As stated earlier, PM10 value most of the time exceeds the maximum prescribed limit of 100 µg/m³ in the entire Visakhapatnam city and therefore HPCL refinery is not responsible for the same. Visakhapatnam is an industrial town having various other industries. Needless to state that various causes are attributable to increase in PM10 level, such as vehicular pollution, Port activities, Construction works, industrial activities etc., in Visakhapatnam.</p>
3.3.2	<p data-bbox="331 1406 1007 1473">At store yard CAAQM Station (West side to the Industry)</p> <p data-bbox="379 1518 1027 1776">➤ PM10 value increased from 365 µg/m³ (14.00 hrs) to 511 µg/m³ (15.00) during the accident period. Minimum value of 120 and maximum value of 608 µg/m³ was observed during the day of accident on 25.05.2021.</p> <p data-bbox="379 1816 1027 2033">➤ PM2.5 values increased from 73 µg/m³ (14.00 hrs) to 99 µg/m³ (15.00 hrs) during the accident period. Minimum value of 37 and maximum value of 99 µg/m³ was observed during the day of accident on</p>	<p data-bbox="1054 1507 1474 1664">The reply made to para 3.3.1 is equally applicable to this paras and it is not repeated for the sake of brevity.</p>

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
	<p>25.05.2021.</p> <ul style="list-style-type: none"> ➤ NOx values recorded 26.77 µg/m³ (13.15 hrs) and increased to 35.49 µg/m³ (17.30 hrs) during the accident period. Minimum value of 0.6 and Maximum value of 11.84 µg/m³ was observed during the day of accident on 25.05.2021. ➤ No significant change in the SO₂ concentrations were observed during the fire accident period. Minimum value of 11.76 and maximum value of 37.74 µg/m³ was observed during the day of accident on 25.05.2021. ➤ Average value of Air Quality Index (AQI) during the day of accident (25.05.2021) at this location found to be 204, i.e. poor category. Value of PM10 is exceeding the standard limit prescribed for 24-hour average. 	<p>NOx value recorded at 13.15 hrs is 14.66 µg/m³ and increased to 35.49 µg/m³ at 17.45 hrs. The Minimum and Maximum values observed during the day of the incident are 11.6 µg/m³ & 37.74 respectively, while the same are written as 0.6 µg/m³ and 11.84 µg/m³ (lower than actual recorded values). The mentioned minimum and maximum values correspond to recorded SO₂ emissions during the period. It appears to be an inadvertent error.</p> <p>The Minimum and Maximum values of SO₂ observed during the day of the incident are 0.6 µg/m³ & 11.84 respectively, while the same are written as 11.76 µg/m³ and 37.74 µg/m³ (higher than actual recorded values). The mentioned minimum and maximum values correspond to recorded NOx emissions during the period. It appears to be an inadvertent error. Further, the Joint committee reports itself states that no significant change in the SO₂ concentrations were observed during the fire incident period.</p> <p>As stated earlier, PM10 value most of the time exceeds the maximum prescribed limit of 100 µg/m³ in the entire Visakhapatnam city and therefore HPCL refinery is not responsible for the same. Visakhapatnam is an industrial town having various other industries.</p>

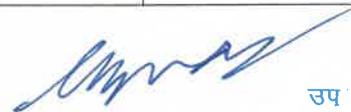
S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
		Needless to state that various causes are attributable to increase in PM10 level, such as vehicular pollution, Port activities, Construction works, industrial activities etc., in Visakhapatnam.
3.3.3	<p>At HLPH CAAQM Station (Northeast side to the Industry)</p> <ul style="list-style-type: none"> ➤ PM10 value increased from 252 µg/m³ (15.00 hrs) to 267 µg/m³ (16.00) during the accident period. Minimum value of 130 and maximum value of 411 µg/m³ was observed during the day of accident on 25.05.2021. ➤ PM2.5 values increased from 26 µg/m³ (14.00 hrs) to 30 µg/m³ (16.00 hrs) during the accident period. Minimum value of 21 and maximum value of 153 µg/m³ was observed during the day of accident on 25.05.2021. ➤ NOx values increased from 15.8 µg/m³ (14.45 hrs) to 59.7 µg/m³ (15.45 hrs) during the accident period. Minimum value of 15.81 and maximum value of 110 µg/m³ was observed during the day of accident on 25.05.2021. ➤ As far as the SO₂ concentrations are concerned, minimum value of 30.34 and maximum value of 510 µg/m³ was observed during the day of accident on 25.05.2021. 	<p>The reply made to para 3.3.1 is equally applicable to this paras and it is not repeated for the sake of brevity.</p> <p>Values mentioned are in line with the recorded values. However, the maximum value of 510 µg/m³ was not observed during the fire incident. Further, it is stated that HLPH CAAQM station is located in the up-wind direction during the fire incident i.e. the wind direction was predominantly towards South-East direction and away from the HLPH CAAQM station. Hence,</p>

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
	<p>➤ Average value of Air Quality Index (AQI) during the day of accident (25.05.2021) at this location found to be 186, i.e. moderate category. Values of PM10, PM2.5 and SO₂ are exceeding the standard limits prescribed for 24 hour average.</p> <p>Ambient air quality data obtained from these CAAQM stations enclosed as Annexure - 4.</p>	<p>the SO₂ values mentioned in this para of the report do not relate to fire incident.</p> <p>As stated earlier, PM10 value most of the time exceeds the maximum prescribed limit of 100 µg/m³ in the entire Visakhapatnam city and therefore HPCL refinery is not responsible for the same. Visakhapatnam is an industrial town having various other industries. Needless to state that various causes are attributable to increase in PM10 level, such as vehicular pollution, Port activities, Construction works, industrial activities etc., in Visakhapatnam.</p>
	<p>APPCB has deployed Mobile CAAQM Station Lab and monitored the ambient air quality in the neighboring residential area, Ajanta colony, Malkapuram for a period of 24 hours on 25.05.2021 and 26.05.2021 to assess the impact of fire accident occurred at M/s. HPCL and the values found to be:</p> <ul style="list-style-type: none"> ➤ PM10 values: Min 70 µg/m³; Max 177 µg/m³; average 124 µg/m³. ➤ PM2.5 values: Min 14 µg/m³; Max 56 µg/m³; average 33 µg/m³. ➤ NO_x values: Min 14.5µg/m³; Max 44.8 µg/m³; average 26.7 µg/m³. ➤ SO₂ values: Min 6.3 µg/m³; Max 34.1 µg/m³; average 21.8 µg/m³. ➤ AQI value: 116, i.e. moderate category. <p>Ambient air quality data obtained from the Mobile CAAQM station is enclosed as Annexure-5.</p>	<p>It is to be noted that the maximum prescribed limit of PM10 is 100 µg/m³, PM2.5 is 60 µg/m³, NO_x is 80 µg/m³ and SO₂ is 80 µg/m³. Except PM10, other values are within the maximum prescribed limit. For PM10, there is a minor increase from the maximum prescribed limit. As stated earlier, PM10 value most of the time exceeds the maximum prescribed limit of 100 µg/m³ in the entire Visakhapatnam city and therefore HPCL refinery is not responsible for the same. Visakhapatnam is an industrial town having various other industries. Needless to state that various causes are attributable to increase in PM10 level, such as vehicular pollution, Port activities, Construction</p>

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		works, industrial activities etc., in Visakhapatnam.
	The characteristics of wastewater generated during firefighting operation found to be, TSS values ranging from 820 to 1160 mg/lit; COD values from 156 to 184 mg/lit and oil & grease from 8 to 14 mg/lit. Analysis report enclosed as Annexure-6.	It is submitted that the waste water was routed to API separators of ETP-I. The same has already been explained in this Respondent's report dated 24.06.2021 on the fire incident, which is already on record of this Tribunal.
4	Site inspection and observations made by the Joint Committee appointed by Hon'ble NGT	
	a. The committee inspected the CDU-III area and physically verified the burnt pipelines and the impact area, deck 1, 2 & 3 floors, which were damaged due to the fire.	
	b. It was informed by the unit representative that about 78 MTs of hydrocarbons was burnt in the fire accident, out of which 35 tons of bitumen/furnace oil and 43 tons of Naphtha.	
	c. The cause for the fire was informed due to the hole in the 6" CS pipeline carrying the bitumen/furnace oil, which may be due to corrosion/erosion, which led to mechanical failure. However, it was informed that the technical reasons for the sudden burst of the pipeline carrying bitumen/furnace oil is to be ascertained.	
	d. The refinery has to carry out hydrotesting of the pipelines once in 4 years as per the protocol and carried out the said test in the year, 2012 & 2016. The next testing has to be carried out during the year, 2020. However, it was not conducted and informed that due to COVID-19 situation it got delayed. Self-certified copy of the hydro-test report of M/s. HPCL (Visakh Refinery) is enclosed as Annexure-7.	The hydrotest and other testing activities are carried out during unit shutdown period stretching about one month. During the shutdown, each equipment will be dismantled, tested and refitted and thereafter Hydro testing will be conducted. For carrying out these activities, more than 1000 workers have



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		<p>to be assembled and they work round the clock for about one month.</p> <p>In view of Nationwide lockdown due to COVID situation prevailing during the mentioned period, the above said activities could not be taken up as a planned activity. However, UTG (Ultrasonic Thickness Gauging) of the pipelines was initiated in 2020 and the same was in progress till the onset of the COVID lockdowns. UTG of the balance pipelines and hydrotest of all the pipelines were completed during the shutdown.</p> <p>In addition, various established alternate testing methods such as on-stream inspections (OSI), Visual Inspection (VI) and in-house Remaining Life Assessment (RLA) were carried out for all hydrocarbon (HC) circuits to ensure healthiness and longevity of the pipelines.</p>
	<p>e. During inspection, the debris from the fire accident was cleared and the preparation work for repair/renovation was in progress.</p>	
	<p>f. The high oil sludge of 5 KL from the CDU-III was collected in drums and stored in the sludge lagoons for the recovery of oil. The sludge lagoons was inspected and observed that the drums used for collection was dumped along with the sludge.</p>	<p>Oily sludge was deposited into the sludge lagoons for further processing. It is submitted that few damaged empty drums which were found lying near the sludge lagoons at the time of inspection of the committee, were removed subsequently.</p>
	<p>g. The sea water of about 6000 KL was used for fire-fighting and informed that the wastewater collected in the drains of CDU-III was diverted to ETP-</p>	



S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply			
	I for treatment and discharged along with the cooling water.				
	h. To combat the fire, Dry Chemical Powder of 2000 kg and foam tender of 5200 litres along with 6000 KL seawater were used.				
	i. The detailed report from the Petroleum and Explosives Safety Organization (PESO), to ascertain the cause for fire accident is awaited.				
5	Environmental damage assessment for Contribution of Emission into atmosphere				
	<p>Accordingly, the Joint Committee proposed to levy Environmental damage compensation on M/s. Hindustan Petroleum Corporation Ltd., (Visakh Refinery), Visakhapatnam as per the European Union "Environmental Prices Handbook" EU28 version published in October 2018 wherein prices are expressed in Euros per kilogram pollutant emitted into the environment. The committee has used the document as a reference to calculate the prices of the pollutants emitted into environment. The document indicates three types of pricing, lower, central and upper depending upon magnitude of emissions. The quantities of pollutants emitted were in considerable quantity, but there was no significant damage to the surrounding environment, injury or casualties reported. Hence, the committee has used central limit environmental prices assigned to SO₂ & CO₂ while calculating the compensation for damage as detailed below.</p> <p>The environmental price of SO₂ is 11.5 €₂₀₁₅/Kg emission and for CO₂ is 0.057 €₂₀₁₅/Kg emission, for CO₂, which is a greenhouse gas also, includes VAT and increase in 3.5% per annum.</p> <table border="1" data-bbox="363 1899 1007 2033"> <tr> <td data-bbox="363 1899 539 2033"></td> <td data-bbox="539 1899 746 2033">Calculation for SO₂ emission</td> <td data-bbox="746 1899 1007 2033">Calculation for CO₂ emission</td> </tr> </table>		Calculation for SO ₂ emission	Calculation for CO ₂ emission	<p>Without prejudice to the above contentions, it is submitted that the Environmental Prices Handbook (EU-28 Version) which contains the standards applicable to the European Union and does not apply to India. Furthermore, as per Clause 3.2 of the Environmental Prices Handbook (EU-28 Version) it is stated that "the damage cost of environmental pollution can vary widely according to local circumstances and nature of emission. Environmental prices make no allowance for these differences". For these reasons, these environmental prices cannot simply be applied to specific cases of environmental pollution, for pollution in other countries or for pollution by non-average emission sources. The Joint Committee appears to have failed to consider the</p>
	Calculation for SO ₂ emission	Calculation for CO ₂ emission			

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply												
	<table border="1"> <tr> <td data-bbox="363 271 528 524">Environmental Compensation for emissions contributed</td> <td data-bbox="528 271 740 577">n 2,380 Kgs of SO₂ X Environmental price of SO₂</td> <td data-bbox="740 271 1002 577">2,11,000 Kgs of CO₂ X Environmental price of CO₂ with VAT of 3.5% per annum</td> </tr> <tr> <td></td> <td data-bbox="528 577 740 685">2,380 Kgs of SO₂ X 11.5 €/Kg</td> <td data-bbox="740 577 1002 685">2,11,000 Kgs X (0.057 €/Kg X 0.21)</td> </tr> <tr> <td></td> <td data-bbox="528 685 740 860">27,370 € 1€ = Rs. 89.028 (As on 25.05.2021)</td> <td data-bbox="740 685 1002 860">2,525.67 € 1€ = Rs. 89.028 (As on 25.05.2021)</td> </tr> <tr> <td></td> <td data-bbox="528 860 740 927">Rs. 24,36,696/-</td> <td data-bbox="740 860 1002 927">Rs. 2,24,855/-</td> </tr> </table>	Environmental Compensation for emissions contributed	n 2,380 Kgs of SO ₂ X Environmental price of SO ₂	2,11,000 Kgs of CO ₂ X Environmental price of CO ₂ with VAT of 3.5% per annum		2,380 Kgs of SO ₂ X 11.5 €/Kg	2,11,000 Kgs X (0.057 €/Kg X 0.21)		27,370 € 1€ = Rs. 89.028 (As on 25.05.2021)	2,525.67 € 1€ = Rs. 89.028 (As on 25.05.2021)		Rs. 24,36,696/-	Rs. 2,24,855/-	<p>above. Without prejudice to above, it is further submitted that the Joint Committee Report applies central limit environmental prices even after finding that there was no significant damage to the surrounding environment, injury or casualties reported. Hence, this methodology of estimating the compensation is not applicable.</p>
Environmental Compensation for emissions contributed	n 2,380 Kgs of SO ₂ X Environmental price of SO ₂	2,11,000 Kgs of CO ₂ X Environmental price of CO ₂ with VAT of 3.5% per annum												
	2,380 Kgs of SO ₂ X 11.5 €/Kg	2,11,000 Kgs X (0.057 €/Kg X 0.21)												
	27,370 € 1€ = Rs. 89.028 (As on 25.05.2021)	2,525.67 € 1€ = Rs. 89.028 (As on 25.05.2021)												
	Rs. 24,36,696/-	Rs. 2,24,855/-												
	<p>Total of Rs. 26,61,551/- (rupees twenty six lakhs sixty one thousand five hundred and fifty one only)</p>	<p>Refinery SO₂ emission on the day of incident (25.05.2021) was 5.6 TPD. Even after considering the SO₂ emissions from the hydrocarbon burnt during the fire incident (which was 2.3 MT as reported by the joint committee), overall SO₂ emission from the Refinery was 7.9 TPD, which is less than maximum prescribed limit of 11.5 TPD. Thus, the Refinery has not exceeded the prescribed SO₂ emission limit.</p> <p>The tons of CO₂ equivalent emissions per ton of crude (tCO₂e/MT) processed is in the range of 0.200 to 0.213 for HPCL-Visakh Refinery. The estimated increase in tCO₂e/MT due to 211 MT of CO₂ emission as</p>												

S.No	Report of Joint Committee on Fire Accident occurred in CDU-III	HPCL Reply
		<p>reported by the joint committee is 0.004 tCO₂e/MT, which is insignificant.</p> <p>Finally, the committee observed that there is no significant damage to the surrounding environment, the environmental compensation that is linked to the damage, should not have been ascertained. HPCL denies any liability to pay any compensation.</p>

6. The below tabulation contains the reply to recommendation made in the Joint Committee Report on fire incident

S.No	Recommendations of the Committee on CDU-3 Fire Incident (visit on 23.06.2021)	HPCL Reply
6 (i)	The unit shall strictly follow the standard laid down protocols/Standard Operating Procedures (SOP) for hydrotesting of pipelines and immediately take precautionary measures to avoid this type of fire accidents in future. The unit shall immediately take up hydrotesting of the remaining two CDUs and confirm its efficiency.	<p>Periodic On-stream inspections, Visual Inspection (VI), Ultrasonic Thickness Gauging (UTG), Positive Material Identification (PMI) and in-house Remaining Life Assessment (RLA) are carried out for all hydrocarbon (HC) circuits to ensure unit reliability. Hydro testing is carried out during respective unit turnarounds.</p> <p>CDU-III: On-stream inspections, Visual Inspection (VI), Ultrasonic Thickness Gauging (UTG) and in-house Remaining Life Assessment (RLA), were carried out for all hydrocarbon (HC) circuits. Positive Material Identification (PMI), Phased Array Ultra sonic testing (PAUT), Long range Ultra sonic</p>

S.No	Recommendations of the Committee on CDU-3 Fire Incident (visit on 23.06.2021)	HPCL Reply
		<p>testing (LRUT), Profile RT, In-situ metallography, hardness were carried out for HC circuits as applicable. Hydrotest was completed for all Hydrocarbon circuits in Jun-Aug 2021 shutdown. Factories Act competent person certification (Form 8) obtained for all Hydrocarbon circuits.</p> <p>For other CDUs on-stream inspections, Visual Inspection (VI), Ultrasonic Thickness Gauging (UTG), Positive Material Identification (PMI) and in-house Remaining Life Assessment (RLA) have been carried out for all hydrocarbon (HC) circuits. Long range Ultra sonic testing (LRUT), Profile RT, Real time thickness monitoring are carried out for HC circuits as applicable. Regular Corrosion parameters monitoring are carried out. Further, TPI, M/s Bureau Veritas Inspection Services (BVIS) were engaged for carrying out RLA of all equipment and piping in the unit, and as per their assessment the remaining life of loops is found to be more than 2 years. Accordingly, hydrotest of hydrocarbon piping of CDUs will be carried out during Turnaround of unit in 2022-23.</p>
6(ii)	The unit shall treat the high oily sludge waste of 5 KL generated and collected during the fire accident occurred at CDU-III and the status report shall be submitted to APPCB.	<p>High oily sludge generated from CDU-3 is transferred to sludge storage facility and will be processed for oil recovery. The same will be informed to APPCB after completion of the sludge processing.</p> <p>Purchase Order (21000626-ON-46002 dated 18-08-2021) placed on</p>

S.No	Recommendations of the Committee on CDU-3 Fire Incident (visit on 23.06.2021)	HPCL Reply
		M/s LMR Oils Pvt Ltd for processing high oily sludge. Sludge processing will commence after mobilization of the equipment by the agency.
6(iii)	The unit shall pay the compensation of Rs.26,61,551/- (rupees twenty six lakhs sixty one thousand five hundred and fifty one only) towards damage of environment during the fire accident and the same shall be paid to APPCB.	<p>It is submitted that no compensation towards damage of environment is payable by this Respondent for the reasons specified above in Para 5 of this reply. It is reiterated that:</p> <p>a) Since the wind direction was predominantly towards south-east during the incident, the average recorded values of ambient air quality in Southgate CAAQM station are to be considered. As can be seen from the readings therein, all the ambient air quality parameters (except PM10 which has been higher before, during & after the incident) were within the stipulated limits (prescribed in NAAQ standards) including SO₂. Hence, SO₂ emissions as reported by the Joint Committee due to the fire incident did not have any impact on the ambient air quality.</p> <p>b) The SO₂ emission was within the maximum prescribed limit of 11.5 TPD and increase in CO₂ emission was insignificant.</p> <p>c) The ambient air quality data recorded in CAAQMS-Mobile van stationed by APPCB after the fire incident were also within the NAAQ standards.</p> <p>d) The Joint Committee has confirmed in their report that</p>

S.No	Recommendations of the Committee on CDU-3 Fire Incident (visit on 23.06.2021)	HPCL Reply
		<p>there was no significant damage to the surrounding environment due to the fire incident.</p> <p><u>Quote</u> <i>The quantities of pollutants emitted were in considerable quantity, but, there was no significant damage to the environment, injury or casualties reported.</i></p> <p><u>Unquote</u></p> <p>e) The Environmental prices handbook (EU-28 version) cannot be applied to the present case.</p>
	<p>To regularly conduct mock-drills to the employees in controlled environment on actions to be taken during failures, gas leakage etc.</p>	<p>Mock-drills are conducted regularly in all the process units and offsites areas on various scenarios viz., gas leak, pipeline leak, tank fire, chemical spillage, equipment failure, offsite emergency etc., About 250 mock drills were conducted in the refinery during the years 2020 and 2021 out of which 36 mock drills were conducted in CDUs.</p> <p>This practice of conducting mock-drills helped to extinguish the fire within short duration and without any injury or casualty.</p>
	<p>The committee humbly submits that the industries have to ensure self-compliance and the industry and its personnel are solely responsible for this negligent act, which resulted in the accident. The industries have to adhere self-monitoring and self-compliance to avoid accidents or any other untoward incidents.</p>	<p>The unit personnel are fully equipped to meet such emergency, which is evident from the fact that within 1 minute of the fire incident the firefighting response commenced.</p> <p>The unit personnel took timely action like emergency shutdown, coordination and firefighting, etc. The same was acknowledged by enquiry committee, by the state</p>

S.No	Recommendations of the Committee on CDU-3 Fire Incident (visit on 23.06.2021)	HPCL Reply
		<p>govt. authorities and APPCB who had visited the incident site.</p> <p>The refinery personnel take proactive steps to ensure that the units are properly working and their timely repairs and maintenance is carried out.</p> <p>It is humbly submitted that there was no negligent act and the Refinery operations are carried out as per stipulated norms. Well established systems and procedures are in place to ensure self-monitoring for complying the guidelines with respect to environment and safety. The emissions and discharges resulting from the fire incident of CDU-3 were within the prescribed parameters.</p>

The Respondent most respectfully submits that being a CPSE industry working for the cause of the nation and carrying out public utility services, it is running its operation within the parameters of various statutory approvals given to it and takes utmost efforts to ensure that no environmental damage is caused due to its operation.

It is therefore most respectfully prayed that this Hon'ble Tribunal may be pleased to take into consideration the above replies and dismiss the above application as against the 7th Respondent and thus render justice.

Dated at Visakhapatnam on this third day of December 2021.

Advocates for 7th Respondent



7th Respondent

जी. भगवान
G. BHAGAVAN
उप महाप्रबंधक - तकनीकी
Dy. General Manager-Technical
एच.पी.सी.एल. - विशाख रिफाइनरी
H.P.C.L - Visakh Refinery

VERIFICATION

I Gudala Bhagavan, working as Deputy General Manager -Technical in Visakh Refinery, Hindustan Petroleum Corporation Limited, of the 7th Respondent herein, do hereby declare that what is stated in the above paragraphs are true and correct to the best of my knowledge, information and belief.

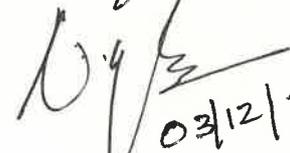
Verified at Visakhapatnam on this third day of December 2021.



7th Respondent

जी. भगवान
G. BHAGAVAN
उप महाप्रबंधक - तकनीकी
Dy. General Manager-Technical
एच.पी.सी.एल. - विशाख रिफाइनरी
H.P.C.L - Visakh Refinery

Signed before me.



03/12/2021

N. NAGESWARA RAO, M.Com..B.L..
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