

**REPORT SUBMITTED BY HINDUSTAN PETROLEUM CORPORATION LIMITED ON
CDU-3 FIRE INCIDENT ON 25.05.2021 IN HPCL-VISAKH REFINERY**

{in compliance with the Order dated 27.05.2021 of the Hon'ble National Green Tribunal,
South Zone in OA No. 73/2021 (SZ)}

1. INTRODUCTION

The fire incident has taken place in the Refinery on 25.05.2021 in the Crude Distillation Unit – 3 (CDU-3) which is one of the crude distillation units in the refinery.

At around 15:06 hrs, fire was noticed in the unit and simultaneously, emergency shutdown of the unit was taken. Due to firefighting efforts and quick response the fire was extinguished at 16:10 hrs and all-clear siren was given at 16:15 hrs. There were no injuries and casualties.

2. IMPACT OF FIRE ON ENVIRONMENT

The fire was predominantly at an elevation of 25 meters and 30 meters. Due to this incident, about 78 MT of Hydrocarbon (35 MT of Vacuum Residue and 43 MT of Naphtha and others) got burnt.

2.1.1 Ambient Air Quality:

There was no increase in the ground level concentrations of ambient air quality parameters recorded in the two of the three Continuous Ambient Air Monitoring (CAAM) stations during the fire incident. In the third CAAM station located at south gate, even though there was slight increase in NOx emissions for short duration (15:45 hrs to 16:45 hrs), the 24-hour average value was well within the stipulated limit of National Ambient Air Quality Standards (NAAQS).

Since the wind direction was predominantly towards south east during the incident, the average recorded values of the ambient air quality in CAAMS-1 (South Gate) which is located at south-east in the downwind direction during the incident are provided below:

	CAAMS-1 (South Gate)							
	NOx	SO2	CO	PM10	PM2.5	Benzene	Ozone	NH3
	µg/m ³	µg/m ³	mg/m ³	µg/m ³				
Average value observed during incident	66	8	1	240	40	0.4	9	0.1
24 hour Average value (8 AM to 8 AM)	27	8	0.8	177	39	0.8	13	0.1
Stipulated limit	80	80	2	100	60	5	100	400

As can be seen from the above table, all the ambient air quality parameters were within the stipulated limits, except PM10, which has been higher before, during & after the incident due to the ongoing construction activities in the area including the approved refinery modernization project. 15-minute average data recorded in the CAAMS-1 (South Gate) from 14:00 hrs to 17:00 hrs of 25.05.2021 is provided in Annexure-I, which shows that the ambient air quality parameters were within stipulated limits.


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2.1.2 Liquid Effluent

Sea cooling water is the medium used in the fire water network of HPCL-Visakh Refinery. The fire water was mainly used to extinguish fire during the incident besides dry chemical powder (DCP) and aqueous foam. The fire water used for fire-fighting gets collected in surface drains of CDU-3 and is routed to API separators of ETP-I (as per design) where the traces of oil (if any) will get removed. This fire water (after oil removal) along with sea water cooling tower blowdown is routed back to sea through the normal outlet channel of Refinery at MHF-1 (Main Hay Filter).

The fire water samples from CDU-3 surface drain and the final outlet after treatment in the API separators were collected for analysis. The samples were analyzed by MoEF recognized third party laboratory, M/s SV Enviro Labs & Consultants, and it was found vide reports dated 15.06.2021 that the parameters of final outlet were within the stipulated limits of sea cooling water discharge. Analysis reports are provided in **Annexure-II**.

3. CONCLUSIONS

From the above, following inference can be drawn:

- a) The Refinery operations are carried out as per stipulated norms. There is no violation of Consent For Operation (CFO) granted by the environmental authorities. The emissions and discharges resulting from the fire incident in CDU-3 are within the prescribed parameters.
- b) The fire incident has not impacted the environment or surrounding habitation and the ambient air quality was within stipulated limits.

24th June, 2021


(Signature)

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