रिफाइनरीज़ प्रमान Refinerles Division इंडियन ऑयल कार्पोरेशन लिमिटेड पानीपत रिफाइनरी एवं पेट्रोडेविफल कॉम्प्लेफल पानीपत, हरियाणा - 132140 Indian Oil Corporation Limited Panipat, Haryana - 132140 मेक्साइट www.iocl.com/ ई-वेन : pepc\_hee@indiapoil.in दूरमाण : 0180-252 4001/0180-2578833

Ref. No. PNC/HSE/EC Compliance/S

Dates: 14.07.2022

### To,

The Additional Director(S), Ministry of Environment, Forest 8& Climate Change, Govt. of India, Regional Office (NR), Bays No. 24-25, Sector 31-A, Dakshin Marg, Chandigarh- 160047

Subject: Six Monthly Environmental Clearances (ECs) Compliance Report- Panipat Naphtha Cracker Complex

#### Sir,

Enclosed please find herewith the Six Monthly Environmental Clearances (ECS) Compliance Report- Panipat Naphtha Cracker Complex for the period of Jan 2022 to Jun 2022 of the MOEFCC stipulations w.r.t. following EC Letters.

- EC Letter No. J-11011/153/2004-IA II (I) dated 04.01.2005 for Naphtha cracker complex at Panipat Refinery by M/s Indian Oil Corporation Limited at Village Baljatan in district Panipat, Haryana – Environmental clearance registration.
- EC Letter No. J.11011/106/2012-IA-II (I) dated 23.05.2014 for Butene-1 Project at Panipat Refinery & Petrochem Complex of M/s Indian Oil Corporation Limited (IOCL) at village Balijathan Tehsil Matlauda – Environmental cleärance registration.
- EC Letter. No. J-11011/268/2014-IA.II (I) dated 22.02.2017 for Recovery of Styrene and Synthetic Olefins Production from RFCC and DCU off gases (from Panipat Refinery) and its integration with Naphtha Cracker Unit and Mounded Bullet Storage for C4 Mix at Indian Oil Panipat Refinery & Petrochemical Complex at Panipat, Haryana by M/s Indian Oil Corporation Limited- Environmental clearance registration.
- EC Letter No. J-110011/106/2012-IA-II(I) dated 16.08.2018 for Capacity expansion of Naphtha Cracker, Mono Ethylene Glycol, HDPE & Polypropylene units and setting up Catalyst Manufacturing Unit by M/s Indian Oil Panipat Refinery & Petrochemical Complex at Panipat Refinery & Petrochemical Complex, Panipat (Haryana) - Environmental clearance registration.
- EC Letter No. No.J-11011/177/2016-IA II (I) & EC Identification No. EC21A018HR144149 dated 16.12.2021 for Setting up of additional 450 KTA of Polypropylene Production Plant in Existing Naphtha Cracker Complex (Expansion project) - Environmental clearance registration.

This is for your information

Thanking you

Yours faithfully,

(P V Ramakrishna) しししてしてしてした General Manager (HSE) For and on behalf of IOCL

Panipat Refinery and Petrochemical Complex dt. dl. composition P. V. Barnakostna separation (control, span, watere) General Manager (Health, Salety & Environment) General Manager (Health, Salety & Environment) separation (col\_al\_cfl.pr.)

Enclosures: as above CC: 1. The Regional Officer, HSPCB, Panipat

2. The Member Secretary, HSPCB, C-11, Sec-6, Panchkula

पत्नी पुन्द नामरितम जीप-, जन्दी यायर जंग मार्ग, बांदा ( पूर्व), मुंबई 400051, महाराष्ट्रकाक्र्या Fednery & Petrochemical Complex (LO.C.L) Regd. Office: G-9, Ali Yavar Jong Murg, Bandra (East), Murbai-400051, Mahanshire (India) CIN - 23201 MH 1959 GCt 011385

### PANIPAT NAPHTHA CRACKER PROJECT

Environmental Clearance No.J-11011/153/2004-IA II (I) dated 4.1.2005 from Ministry of Environment & Forests

### Six-monthly compliance report (Jan'22- Jun'22)

#### A. Specific Conditions SL. Conditions stipulated in the EC letter Status/Action plan No. 1) The gaseous emissions (SO2, NO, and HC, Benzene) from the various process units should conform to the standards prescribed under Gaseous Emissions are Environment (Protection) Rules, 1986 or norms stipulated by the SPCB well within limits as per whichever is more stringent. At no time, the emission level should go standards prescribed beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency. 10) Adequate ambient air quality monitoring stations (SPM, SO2, NOx and Ambient air quality being HC, Benzene) should be set up in the Naphtha Cracker Complex in monitored for compliance consultation with SPCB, based on occurrence of maximum ground through ambient air level concentration and down-wind direction of wind i.e. maximum quality monitoring impact zone. The monitoring network must be decided based on stations installed modeling exercise to represent short term GLCs. Continuous on-line according maximum stack monitoring equipment should be installed for measurement of impact zone. SO2 and NOx. Data on VOC should be monitored and submitted to the Continuous online stack SPCB/Ministry. monitoring analyzers are being used for measurement of SO2 and NO. VOC Monitoring being done quarterly and six monthly submissions to HSPCB/Ministry. 111) Measures for fugitive control should be taken by installation of Complied internal floating roof tanks for storage of liquid HCs and provision of double mechanical seals to all pumps handling high vapor pressure materials, sensors for detecting HC/toxic gas leakages at strategic locations, regular inspection of floating roof seals, maintenance of valves and other equipments and regular skimming of separators/ equalization basin. IV) All new standards/norms that are being proposed by CPCB for Complied petrochemical plants shall be applicable for the proposed Naphtha Cracker and downstream polymer units. The company shall conform to the proposed process vent standards for organic chemicals including non-VOCs and all possible VOCs i.e. TOCs standard and process vent standards for top priority chemicals. The company shall

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SL. No.	Conditions stipulated in the EC letter	Status/Action plan
	install online monitors for VOC measurements. Action on the above should be taken during the detailed design stage of the NCC. The project authorities shall take necessary measures to comply with the above proposed emission norms including monitoring facilities and intimate the same to the Ministry.	
V)	M/s IOCL shall adopt Leak Detection And Repair (LDAR) programme for quantification and control of fugitive emissions.	Complied
VI)	The company shall also ensure that the total SO <sub>2</sub> emission from the NCC shall not exceed 138 kg/hr during the normal operations	Total SO <sub>2</sub> emission is well within the limit of 138 Kg/hr.
VII)	To mitigate NO <sub>x</sub> emission, the company shall install low NO <sub>x</sub> burners.	Low NO, burners are in operation to mitigate NO, emission
VIII	The waste water effluent from the NCC should not exceed 750 M3/Hr. The waste water shall be segregated in different streams at the source. The treated effluent should comply with the standards stipulated by HSPCB/CPCB for discharge on land for irrigation. The treated effluent should be used for cooling service, greenbelt, dust suppression and firewater. As per the commitment given, there should be zero effluent discharge due to the proposed project. The company should ensure that there will be no discharge of treated effluent into Thirana drain.	Average waste water effluent from the NCC is 160 m <sup>3</sup> /hr. Treated effluent of stipulated quality as per HSPCB/CPCB standards, is recycled in DMRO and is reused for cooling service, greenbelt, dust suppression and firewater Company is complying with the provision of no discharge of treated effluent into the Thirana drain.
(X)	The oily sludge generated from the ETP after oil recovery shall be taken to the existing refinery facilities for further treatment and disposal into the secured landfill. The spent catalyst shall be disposed off into the secured landfill facility. The design of the secured landfill site shall be as per the central pollution control board guidelines. The company shall firm up the plan for construction of hazardous waste facility within the NCC or send the hazardous waste to secured Landfill site being developed by the Haryana Environmental Management society. The final plan during detailed design stage of NCC for construction of hazardous waste management facility shall be submitted to the Ministry.	Having the Secured Landfill provision within the Indian Oil Panipat Complex at Refinery site. Further, as an alternative, the membership/registration with the HEMS-GEPIL, Haryana is available for disposal of Hazardous Waste.

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SL. No.	Conditions stipulated in the EC letter	Status/Action plan
x)	Green belt should be provided to mitigate the effects of fugitive emissions all around the plant in an area of 40 ha. In addition to 240 ha. of area already afforested in consultation with DFO as per CPCB guidelines. Green belt in the NW direction should be strengthened keeping in view the winds from SE and E direction. The trees should be planted in both sides of approach roads and truck parking area.	Green belt of 40 ha area has been provided all around the plant to mitigate the effects of fugitive emissions. Density of Green belt in the NW direction has also been increased. Further, plantation being done on both sides of approach roads and truck parking area.
XI)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per Factories Act.	Complied.

### **B.** General Conditions

SL. No.	Conditions stipulated in the EC letter	Status/Action plan
1)	The project authorities must strictly adhere to the stipulations made by Haryana State Pollution Control Board and State Government.	Noted
11)	No further expansion or modification of the plant should be carried out without prior approval of Ministry of Environment & Forests.	Shall be ensured
81)	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	shall be ensured
IV)	All the recommendations made in the EIA/EMP and risk assessment report should be implemented.	Complied
V)	The overall noise levels in and around the plant area should be kept well within the standards (85dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Acoustic hoods, silencers, enclosures etc. on all sources of noise generation have been provided to meet the required noise stipulations.

SL. No.	Conditions stipulated in the EC letter	Status/Action plan
VI)	The Project Authorities must strictly comply with the provisions made in manufacture, storage and Import of Hazardous chemicals Rules 1989, as amended in 2000 for handling of Hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commissioning of the project.	Complied, CCE /PESO approval is available
VII)	The Project Authorities must strictly comply with the rules and regulations with regard to handling and disposal of Hazardous wastes, in accordance with the Hazardous waste (Management and Handling) Rules, 2003. Authorization from State Pollution Control Board must be obtained for conditions/ treatment/ storage/disposal of hazardous wastes.	Complied
VIII)	The Project Authorities will provide adequate funds both recurring and non- recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Being followed
IX)	The stipulated conditions will be monitored by the Regional office of this Ministry at Chandigarh/ Central Pollution Control Board/ State Pollution Control Board. A six monthly compliance status report and the monitored data should be submitted to them regularly.	complied
X)	The project proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry and Forests at http://www.envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the regional office.	complied
XI)	The Project Authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Final approval of the project has been accorded by IOC's Board of Directors in their meeting on 22.12.2006

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### **BUTENE-1 PROJECT AT PANIPAT REFINERY & PETROCHEMICAL COMPLEX**

Environmental Clearance No. J-11011/106/2012-IA-II (I) dated 23.05.2014 from Ministry of Environment & Forests

### Six-monthly compliance report (Jan'22- Jun'22)

### A. Specific Condition

SL. No.	Conditions stipulated in the EC letter	Status/Action plan
0	All the specific conditions and general conditions specified in the earlier environmental clearance letters accorded vide Ministry's letter nos. J-11011/27/91-IA-II (I) dated 16 <sup>th</sup> July 1992, J-11011/60/2000-IA-II (I) dated 9 <sup>th</sup> April, 2001, J-11011/52/2000-IA-II (I) dated 30 <sup>th</sup> April, 2001, J-11011/9/2001-IA-II (I) dated 6 <sup>th</sup> December, 2001, J-11011/153/2004-IA-II (I) dated 4 <sup>th</sup> January, 2005 and J-11011/7/2004-IA-II (I) dated 9 <sup>th</sup> August, 2004 shall be complied with.	Already complied .All the conditions of these ECs as per reports sent to MoEFCC.
11)	M/s Indian Oil Corporation Limited shall comply with new standards/norms for Oil Refinery Industry and petrochemical industry notified under the Environment (Protection) Rules, 1986.	Noted
111)	Continuous on-line stack monitoring for SO2, NOx and CO of all the stacks shall be carried out. Low NOx burners shall be installed.	No heater/ Furnace in the plant.
₩)	The Emission standards prescribed by the MoEF under Environment (Protection) Act for petrochemical industry shall be strictly followed. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emissions shall be monitored regularly.	This project does not have any furnace. However the total emission of PNC including this project is well within the limit of 138 Kg/hr.
V)	Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.	Complied Leak Detection and Repair programme is conducted by external agency quarterly. Sensors for detection of HC leak are provided at strategic locations.
VI)	Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above the permissible limits, effective measures shall be taken immediately.	Complied as stated above.
VII)	SO2 emissions after implementation of Butene-1 shall not exceed 138kg/hr.	Complied Ttotal emission of PNC including this

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SL. No.	Conditions stipulated in the EC letter	Status/Action plan
		project is well within the limit of 138 Kg/hr.
VIII	Record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur) atmospheric emissions etc.	This project does not have sulphur plant or any raw material having 'Sulphur'. Also there is no furnace.
IX)	Ambient air quality monitoring stations, [PM 10, Pm2.5, SO2, NOx, H2S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Haryana State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs.	Ambient air quality being monitored for compliance through ambient air quality monitoring stations installed according maximum impact zone
X)	Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16 <sup>th</sup> November, 2009 and trend analysis w.r.t past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.	Ambient air quality data is collected as per NAAQES standards.
XI)	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit.	There is no DG set in Butene-1 plant.
XII)	Total fresh water requirement from Yamuna Canal shall not exceed 1813 m3/hr and prior permission shall be obtained from the concerned agency. No ground water shall be used.	The water requirement of 5 m3/hr of this plant is met from existing circuits. The overall water requirement of complete PNC is normally less than 1813 m3/hr from WJC cannel. No ground water is being used.
KIII)	Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused in the existing cooling tower. Water quality of treated effluent shall be monitored regularly.	There is no effluent generation in the BUTENE-1 Plant
«v)	Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	Butene-1 plant does not have any Oil Catcher and also not required.

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SL. No.	Conditions stipulated in the EC letter	Status/Action plan
XV)	The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.	Fully Complied We send Environment statement to HSCB every year.
XVI)	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	No oil spillage.
XVII)	The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	Complied
XVIII)	To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.	Complied
XIX)	Additional 25000 trees shall be planted to increase the greenbelt coverage. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.	Since 2011, we have planted about 25000 trees in and around PNC.
XX)	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.	Complied
XXI)	All the issues raised and commitment made during the public hearing/consultation meeting held on 23 <sup>rd</sup> August, 2013 shall be satisfactorily implemented. Accordingly, provision of budget to be kept.	Complied
XXII)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied Being a small project in house manpower where utilized.
в.	General Conditions	
1)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	Complied All consents are valid up to 30.09.2021
11)	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alteration in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted
III)	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous	Complied

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SL. No.	Conditions stipulated in the EC letter	Status/Action plan
	Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.	PESO approval maintained.
IV)	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA(daytime) and 70 dBA (night time).	Complied Continuous Noise monitoring is done.
V)	A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	Complied
VI)	Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.	Complied Reported in environment statements.
VII)	The Regional office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Complied
/11)	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Complied The communication to local Panchayat has been done on 31.07.2014.
IX)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM10,PM2.5,SO2,NOx,HC (Methane & Non-Methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Complied Ambient air data is displayed at Main gate.
X)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal office of CPCB and the SPCB. The Regional Office of this Ministry/CPCB/SPCB shall monitor the stipulated conditions.	Complied
XI)	The environmental statement for each financial year ending 31"	Complied

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SL. No.	Conditions stipulated in the EC letter	Status/Action plan
	March in Form-V as is mandated to be submitted by the project proponent to the concerned state Pollution Control Board as prescribed under the Environment (Protection) rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of MOEF by e-mail.	Environment Statement is sent to HSPCB every year.
XII)	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	Complied The message has been circulated through AMAR UJALA & THE TRIBUNE on 05.08.2014.
XIII)	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Complied
XIV	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
XV	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Complied
XVI	The above conditions will be enforced, inter-alia under the provision of the water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of water pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Complied

### ERU/SRU Project at Panipat Refinery & Petrochemical Complex

Environmental Clearance No. J-11011/268/2014-IA.II (I) dated 22.02.2017 from Ministry of Environment & Forests

### Six-monthly compliance report (Jan'22- Jun'22)

### A. Specific conditions

S.No	Conditions stipulated in the EC letter	Status/Action Plan
1	The Ministry vide G.S.R 608 (E) dated 21" july 2010 and amended time to time has prescribed emission and effluent standards that shall be complied by the unit.	Noted
11	Compliance to all environmental conditions stipulated in the environmental clearance shall be satisfactorily implemented and compliance reports submitted to the Ministries regional office of Moef&cc	Noted
ш	All Pollution control and monitoring equipment shall be installed tested and interlocked with the process equipment SPCB shall grant Consent to operate after ensuring that all the maintenance Pollution control equipments, construction of storm water drain, rainwater harvesting structure, green belt, uploading of Compliance report on the website etc have been implemented.	Noted
IV	SO2 emission after expansion from the plant shall not exceed 138kg/hr and further efforts shall be made for reducing of SO2 load through use of low sulphur fuel, sulphur recovery units shall be installed for control of H2S emission.	Noted
v	Ambient Ait quality data shall be collected as per NAAQS standards notified by the Ministry vide G.S.R No. 826 (E) Dated 16.September, 2009 .The levels of PM10,PM2.5, SO2,NOX,VOC and CO shall be monitored in the Ambient Air and emission from the stacks and displayed at a convenient location near the main gate of the company and at important public places . The company shall upload the results of monitored data in its website and shall update the same periodically .it shall simultaneously be sent to the reginal office of MOEF, The respective zonal of CPCB and the State Pollution control Board (MPCB).	Noted
VI	In Plant control measures for checking Fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, handling	Will be compiled
VII	The gaseous emission from D G set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to The D G sets to mitigate the noise pollution.	Will be complied
VIII	Total fresh water requirement from the canal shall not exceed shall not exceed 1700m3/hr (annual average) and prior permission shall be obtained from the competent authority be . No ground water shall be used without permission.	Will be complied
IX	The marginal waste water from SRU & ERU plant shall be sent to ETP/RO plant. Effluent stream shall be treated in the comprising primary, secondary and tertiary treatment facility ETP. As proposed RO plant shall be employed to treat 140m3/hr	Will be complied

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S.No	Conditions stipulated in the EC letter	Status/Action Plan
x	Automatic /online monitoring system (24x7 monitoring devices) for flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to the respective SPCB and in the company's website.	Online connectivity of all analyzers of stacks (PM, SO2, NOx, CO,) and ETP effluent (PH, TSS, COD, BOD) is available to CPCB and HSPCB. Public access is also available on HSPCB e-portal.
XI	Adequate odour management plan and its mitigation measure be implemented on priority.	Noted
XII	Regular VOC monitoring to be done at vulnerable points.	Being Done
XIII	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system	Not applicable
XIV	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme	Noted
XV	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	Will be complied
XVI	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	Will be complied
XVII	The company shall strictly comply with the rules and guidelines under Hazardous and other wastes (Management and Trans- Boundary Movement) Rules,2016 as amended time to time All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989	This is being complied already and will continues to do so in future
XVIII	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	This is being complied already and will continues to do so in future
XIX	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	This is being complied already and will continues to do so in future.
XX	At least 2.5% of the total project cost shall be earmarked towards Enterprise social commitment (ESC) based on local needs and action plan with financial and physical break up /details shall be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensure accordingly in a time bound manner.	Noted
XXI	As proposed green belt over33% shall be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of the project area, in downward wind direction, and along road sides etc Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	Complied

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### **B. GENERAL CONDITIONS**

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan
1	The project authorities shall adhere to the stipulations made by the State Pollution Control Board. Central Pollution Control Board, state Government and any other Statutory authority.	Complied
п	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to his Ministry for clearance a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environment protection measures required, if any.	Noted
II	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one Station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Will be Complied
IV	The national Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 <sup>th</sup> November, 2009 shall be followed.	Complied
v	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied
VI	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Will be ensured after project execution
VII	Training shall be imparted to all employees on Safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	This is being complied already and will continue to do so in future
VIII	The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Will be Complied
IX	The company shall undertaken all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.	Will be Complied
x	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Will be Complied
XI	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the	Complied

1

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan
	Environmental Management and Monitoring functions.	
XII	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	Will be Complied
XIII	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any from whom suggestions/representations, if any were received while processing the proposal.	Complied
XIV	The project proponent shall also submit six monthly reports on the status of compliance of the Stipulated Environment Clearance conditions including results of monitored data (both in hard copies as well as by email) to the respective Regional Office of MoEFCC, the respective Zonal Office of CPCB and SPCB. A copy of Environment Clearance and six monthly compliance status be posted on the website of the company.	This is being complied already and will continue to do so in future
XV	The Environment statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned state Pollutions Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of company along with the status of compliance of Environmental Clearance conditions and shall be sent to the respective Regional Officers of MoEFCC&CC by email.	This is being complied already and will continue to do so in future
XVI	The project proponent shall inform the public that the project has been accorded environment clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <u>http://envfor.nic.in/</u> . This shall be advertised within seven days from the date of issue of the Clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied and informed
XVII	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Will be Complied. Date of financial closure of all projec is 31st March every year

AN

### Capacity expansion Project of Naphtha Cracker at Panipat Refinery & Petrochemical Complex

Environmental Clearance No. J-110011/106/2012-IA-II(I) dated 16.08.2018 from Ministry of Environment & Forests

### Six-monthly compliance report (Jan'22- Jun'22) GENERAL CONDITIONS

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan
1	The project authorities shall adhere to the stipulations made by the State Pollution Control Board. Central Pollution Control Board, state Government and any other Statutory authority.	Complied
Ш	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to his Ministry for clearance a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environment protection measures required, if any.	Noted
ш	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one Station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Will be complied
IV	The national Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 <sup>th</sup> November, 2009 shall be followed.	Complied
v	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied
VI	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Will be complied
VII	Training shall be imparted to all employees on Safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	This is being complied already and will continue to do so in future
VIII	The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Will be Complied
IX	The company shall undertake all relevant measures for improving the	Will be Complied

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan		
	socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.			
x	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Will be Complied		
XI	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Complied		
XII	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	Will be Complied		
XIII	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any from whom suggestions/representations, if any were received while processing the proposal.	Complied		
VIX	The project proponent shall also submit six monthly reports on the status of compliance of the Stipulated Environment Clearance conditions including results of monitored data (both in hard copies as well as by email) to the respective Regional Office of MoEFCC, the respective Zonal Office of CPCB and SPCB. A copy of Environment Clearance and six monthly compliance status be posted on the website of the company.	This is being complied already and will continue to do so in future		
XV	The Environment statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned state Pollutions Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of company along with the status of compliance of Environmental Clearance conditions and shall be sent to the respective Regional Officers of MoEFCC&CC by email.	This is being complied already and will continue to do so in future		
XVI	The project proponent shall inform the public that the project has been accorded environment clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <u>http://envfor.nic.in/</u> . This shall be advertised within seven days from the date of issue of the Clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied and informed (Already published in two newspapers on 05.09.18)		
XVII	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Will be Complied. Date of financial closure of all project is 31 <sup>th</sup>		

S. 2

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan
		March every year

### **TERMS & CONDITIONS**

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan		
1	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the water (Prevention and Control of Pollution) Act, 1974	r		
Ш	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	Will be complied		
ш	Necessary authorization required under the Hazardous and other wastes (management and Trans-Boundary Movement) Rules,2016 and solid waste management Rules,2016 shall be obtained and the provisions contained in the Rules, shall be strictly adhered to.	Will be complied		
IV	National emission Standard for Organic Chemicals Manufacturing industries issued by the Ministry vide G.S.R. 608 (E) dated 21 <sup>st</sup> July'2010 and amended from time to time be followed.	Will be complied		
v	To control source and the fugitive emissions, suitable pollutions control devices shall be installed with different stacks to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stacks of adequate height as per CPCB/SPCB guidelines.	Will be complied		
VI	Total fresh water requirement shall not exceed 47955 cum/day to be met from western Yamuna Canal. Necessary permission in this regard shall be obtained from the concerned regulatory authority.	Will be complied		
VII	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Will be complied		
VIII	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	Will be complied		
IX	Process organic residue and spent carbon. If any shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufactures/cement industry.	Will be complied		
x	The company shall strictly comply with the rules and guidelines under manufacture, Storage and import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	Continuous, Will be complied		
XI	Regular VOC monitoring to be done at vulnerable points.	Will be complied		
XII	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.	Not applicable		
XIII	Comprehensive water audit to be conducted on annual basis and	Noted		

3

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan		
	report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme.	2-1-11-14-1 		
XIV	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	Noted		
XV	The company shall undertake waste minimization measures as below:- (a) Metering and control of quantities of active ingredients to minimize waste. (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure hoses for equipment clearing to reduce Waste water generation.	Will be complied		
XVI	The green belt of 5-10 m width shall be developed in more than 33% of .the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.			
XVII	At least 0.25% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	Will be Complied		
XVIII	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	Complied		
XIX	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	Will be ensured after project execution		
XX	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the 'data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	Will be ensured		
XXI	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	This is being complied already and will continues to do so in future)		

P 4

### Setting up of additional 450 KTA of Polypropylene Production Plant in the Existing Naphtha Cracker Complex

Environmental Clearance No. J-11011/177/2016-IA.II(I) & EC Identification No. EC21A018HR144149 dated 16.12.2021 from Ministry of Environment & Forests

### Six-monthly compliance report (Jan'22- Jun'22)

#### A. SPECIFIC CONDITIONS S.No Conditions stipulated in the EC letter Status/Action Plan Existing naphtha cracker complex shall adhere to complete ZLD. 1 Will be Complied 11 The company shall comply with all the environmental protection Will be Complied measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. ш Total fresh water requirement shall not exceed 47040 m3/day and it Noted will be met from Western Yamuna Canal. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The fresh water requirement shall be reduced after installation of rainwater harvesting system in the Unit/project area. IV Comprehensive water audit to be conducted on annual basis and report Noted to the concerned Regional Office of MoEF&CC. Outcome from the report to be implemented for conservation scheme. V Process effluent/any wastewater shall not be allowed to mix with storm Noted water. Storm water drain shall be passed through guard pond. VI Hazardous chemicals shall be stored in tanks, tank farms, drums, Will be Complied carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps. VII. Process organic residue and spent carbon, if any, shall be sent to Will be Complied cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry. VIII Regular VOC monitoring shall be done at vulnerable points. Will be Complied The oily sludge shall be subjected to melting pit for oil recovery and the IX: Noted residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system. х Oil catchers/oil traps shall be provided at all possible locations in Will be Complied rain/storm water drainage system inside the factory premises. XI The company shall undertake waste minimization measures as below: Will be Complied a) Metering and control of quantities of active ingredients to minimize waste. b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c) Use of automated filling to minimize spillage. d) Use of Close Feed system into batch reactors. Venting equipment through vapour recovery system. f) Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.

S.No	Conditions stipulated in the EC letter	Status/Action Plan		
XII	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	Will be Complied		
XIII	As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.	Noted		
XIV	The project proponent shall ensure 70% of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development center/provide skill development training to village people.	Noted		
XV	A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Noted		
XVI	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	Will be Complied		
XVII	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	Noted		
XVIII	PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	Noted		
XIX	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time shall be followed.	Will be Complied		
XX	Recommendations of mitigation measures from possible accident shall be implemented based on Risk Assessment studies conducted for worst case scenarios using latest techniques.	Will be Complied		
XXI	The project proponent shall develop R& D facilities to develop their own technologies for propylene and polypropylene processing.	Will be Complied		

All

### B. GENERAL CONDITIONS

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan
I	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Will be Complied
Ш	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Will be Complied
m	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Will be Complied
IV	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Will be Complied
v	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Will be Complied
VI	to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	Noted
VII	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	Noted
VIII	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	Noted

Sr. No.	Conditions stipulated in the EC letter	Status/Action Plan
IX	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Noted
x	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Will be Complied



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### BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

### Test Report

Issued To

Sample Particulars Nature of the Sample.

Sampling Location

Purpose of Monitoring

Monitoring Conducted By

Sampling Duration (Hrs.)

Method of Sampling.

- M/s Indian Oil Corporation Limited
  - (Refinery Division) Panipat Naptha Cracker Haryana, INOIA

TC636622000000010, 031, 060, 100,128, 189, 293, 327 05/02/2022

### Ambient Air Quality Monitoring

- Quality Control Lab
- To Check the Pollution Load
- 15 5182 (Part 14)
- Mr. Rishi Pal
- 24 Hrs.

Date of			Parameter									
Sampling	Particulat e Matter (PM2.5) µg/m3	Particul ate Matter (PM10) µg/m3	Sulphur Diexide (as \$02) µg/m3	Nitrogen Dioxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Pb <sup>L</sup> ) µg/ m3	Carbon Monoxide (as CO) mg/m3	Ammon ia (as NH3) ug/m3	Nickel (as Ni <sup>2</sup> ) ng/m <sup>3</sup>	Arsenic (as As <sup>3</sup> ) ng/m3	Benzo (a)pyren e (as BAP <sup>4</sup> ) ng/m <sup>3</sup>	Benzer e (C6H6 <sup>1</sup> ) ug/m3
63/01/2022	32,41	78.42	16.24	24.82	20.16	BDI.	1.15	38.46	BOL	BDL.	BDL	0.26
07/01/2822	30.48	82.64	18.61	28.41	22.54	BDL	1.82	46.82	BDL	BDL	BD.	0.82
10/01/2022	34.16	84.28	22.51	30.18	17.62	BDL.	1.18	34.24	BDL	BDL	804	0.95
14/01/2022	31.58	88.55	20.82	25.14	21.87	BDL.	1.16	36.22	BD1	BDL	INDN.	1.04
17/01/2022	38.56	50.08	24.18	34.80	24.51	BDL	1.05	42.48	BD4	80L	BDI.	1:05
21/01/2622	42.18	90.68	26.84	40.12	18.68	BDL.	1.09	44.66	BDL.	BDL	BDI.	1.00
24/01/2522	44.82	92.54	21.98	32.62	21,42	BDL	1.04	41.29	BDA,	BDL.	BOL	1.02
28/01/2622	34,84	85.94	23,66	30.86	23.62	BDi.	1.07	37.88	BCA,	BDI.	801.	1.16
Minimum	30.48	78.42	16.24	24.82	17.62	-	1.04	34.24			-	0.76
Maximum	44.82	92.54	26.84	40.12	24.51	-	1.18	44,66	-	-		1.16
Average	36.13	86.22	21.86	30.97	21.30		1.11	39.51	• :			0.99
NAAQH Standards	60	100	80	80	100	1	2	400	20	6	1	5
Test Method	40CFR Appendix L Part 53 CPCB Guidelines	15:5182 (P-23)	IS:5182 (P-2)	I5:5182 (P=6)	IS:5182 (P-9)	NL/SOP/ AAQ-11	15:5182 (P-10)	Method of Air Samplin g R Analysis	NL/50 P/AAQ -13	NL/SOP /AAQ- 12	15:5182 (P-12)	1\$:5182 (P-11)

Renauto

"NAApy Transma Amalenc Air Quality Standards, Scheduler VII, (Role 3 (188)) 101-Briss Determonistics, "Aname-R011100, 0.52, "MAP 401 (LOG ID 52, Semple Analysed active Seven days from the date of sampling.

я #1.804 [1.00-0.11, Nickel 404 (1.00-1.0] HORISED SIGNATORY) (AUT

RAVINDER MITTAL)

NOTE. The interaction access the responsibility for moment of report. The results compared in this test report infinite only to the unique tested. Test report that not be reported as only in the original compared in the compared tested. report in intential arts for your pudaton and this for lagar surpose or his amongs ent. This report that not be reproduced except in fail without the andam approval of the argamic the doplarenti differ [1] shish or of test complicate union generoist specified. Any compariso about this report should be communicated in writing within 7 deep of this report. Total nations of Netra Laborations is involved another a model and 17 pro-base any completely feedback regarding the sample collection (initiagites) report, process and enabled initiagites) report, process and call at +91-351-2465597, +81-5473024005

TC-6366

### CORPORATE OFFICE & CENTRAL LABORATORIES :-

O DEAT MO 118 CHIERCH BOAD BEHIND FAILOF VATINA BUAGAT GINGS COLONY BALLABUGARS CARDABAD . 121004 WARYAMA INDIA

Test Report Date:

## ULR No.:

# NITYA LABORATORIES

### NITYA LABORATORIES

491-191-2465597

 43, Sector-A1 Ext., Bhalla Enclave, Channell Himmat, Jammu-180 015, J&K (UT), India

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## BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

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#### **Test Report**

4ssued To	M/s Indian Oil Corporation Limited		ULR No.:	TC5366220000003	33
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA		Test Report Date:	08/02/2022	
Sample Part	ticulars				
Nature of the	Sample & No. of Sample		Waste Water #	0	
Sample Quantity & Packaging			Waste Water & One No		
Test Started o		3	1.0 Liter, Pet Bott	le	
Test Complete	a	2	31/01/2022		
Method of San		;	07/02/2022		
		32	SOP/B/D-3		
Date of Sampi	1970	33	29/01/2022		
Sampling Conc	Jucted By -	13	Mr. Rishi Pal		
Place of Samp	ling	3	ETP Outlet-PNC		

### Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH				· · · · · · · · · · · · · · · · · · ·
2	Total C	- 274	7.64	6.5-8.5	IS:3025 (P-11)
	Total Suspended Solids (TSS)	mg/L	40	100 Max	15:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	110	250 Max	1
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOO)	mg/L	16	30 Max	15:3025 (P-58) 15:3025 (P-44)
5	Phenols (C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.88	1.0 Max	IS:3025 (P-43)
6	Sulphide (S)	mg/L	1.4	2.0 Max	
7	Fluoride	mg/L	2.6	5.0 Max	IS:3025 (P-29)
8	Chromium Hexavalent (Cr+8)			SIG FREX	I5:3025 (P-60)
35	and and reconstruction (OP)	mg/L	0.06	0.1Max	IS:3025 (P-52)





(RAVINDER MITTAL)

NOTE: The association the dependently for content of report. The results contained in this are report report only to be sample leader. Test report shall not be installable except in full, writing without written approach of the installable only to be sample leader. Test report shall not be installable except in full, writing writing written approach of the installable only to be sample leader. Test report shall not be installable except in full, writing writing written approach of the installable only to be sample leader. Test report shall not be installable except in full, writing written approach of the installable only in the installable only in the installable except in full written approach of the installable only installable on the installable on the installable on the installable except in full written approach of the installable only installable on the installable on

### CORPORATE OFFICE & CENTRAL LABORATORIES :-



# **NITYA LABORATORIES**

Test Report

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		2017202020	
M/s Indian Oil Corporation Limited (Refinery Division) Panipat Naptha Cracker Haryana, INDIA		Test Report No.: Test Report Date:	202201290110 08/02/2022
ticulars			
ity & Packaging n d npling ing fucted By	计计计算法	Waste Water & 1.0 Liter, Pet Bott 31/01/2022 07/02/2022 SOP/B/D-3 29/01/2022 Mr. Rishi Pal ETR Outlie Dar	
Te			
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA ticulars Sample & No. of Sample tty & Packaging on ad inpling ing ducted By ling	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA ticulars Sample & No. of Sample ity & Packaging in ad inpling ing ducted By ing	(Refinery Division)       Test Report Date:         Panipat Naptha Cracker       Haryana, INDIA         ticulars       Sample & No. of Sample       Waste Water & the second seco

Sr. No.	Parameter				
		Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	BOL (LOQ-0.1)	0.20	ADMA DOM -
2	Total Chromium	-7250250		0.20	APHA-23rd Ed.
1000	Toda Cardindra	mg/L	BDL(LOQ-0.05)	2.0	15:3025 (P-52)



NOTE: The memory strain the moonstate for career of report. The much contained in this detingont relate only to be sample leaded. Test expert shall not be reportivel except in this entire approach the Maximum Test and the Property of the Maximum Test and the relation of the relatio If non-hove any complaint/heathack represing the sample contection, testing/test report, please send as event of infolinity stations and call at +91-191-2465597, +91-9872924093

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### **Test Report**

M/s Indian Oil Corporation Limited Issued To

> (Refinery Division) Panipat Naptha Cracker Haryana, INDIA

Sample Particulars

- Nature of the Sample
- Sampling Location
- Purpose of Monitoring
- Method of Sampling
- Monitoring Conducted By
- Sampling Duration (Hrs.)

ULR No.: Test Report Date:

TC636622000000387, 404, 416, 432, 514 545, 580, 633

05/03/2022

#### Ambient Air Quality Monitoring

- Quality Control Lab
- To Check the Pollution Load Υ.
- 15 5182 (Part 14)
- Mr. Rishi Pal \*
- 24 H/s.

Date of	Parameter												
Sampling	Particulat e Hatter (PM2.5) µg/m3	Particul ate Matter (PM10) µg/m3	Sulphur Dioxide (as S02) µg/m3	Nitrogen Dioxide (as NO2) ug/m3	Ozone (as 03) ug/m3	Lead (as Pb <sup>1</sup> ) µg/ m3	Carbon Monoxide (as CO) mg/m3	Ammon ia (as NH3) ug/m3	Nickel (as Ni <sup>2</sup> ) ng/m <sup>3</sup>	Arsenic (as As <sup>3</sup> ) ng/m3	Benzo (a)pyren e (as BAP <sup>4</sup> ) ng/m <sup>3</sup>	Benzen e (C6H6 <sup>5</sup> ) ug/m3	
01/02/2022	30.22	76.42	18.66	28.44	18.45	BDL.	1.32	40.22	BDL	BDL	BOL	1.16	
04/02/2022	26.45	80.44	22.02	30.86	20.69	BOL.	1.14	44.61	BOL	BDL.	BDL	1.08	
08/02/2022	28.92	86.92	26.68	36.42	22.55	BDL	. 13	32,67	BDL	BOL	BD4.	1.11	
11/02/2022	32.45	84.67	21.91	28.24	17.85	BDL	1.11	34.95	BDL	BDL.	BOL	1.14	
15/02/2022	27.84	82.71	20.24	32.58	23.64	BOL	1.02	41.28	BDL	BDL	BOL	1.07	
18/02/2022	30.65	88.28	24.28	38.64	20.95	BCIL.	1.06	42.46	BOL	BDL	BDL.	1.02	
21/02/2022	35.60	90.92	23.92	34.28	18.94	BDL	1.01	44.98	BCL	BOL	BDL	1.08	
25/02/2022	32.82	81.86	21.52	31.62	21.44	BDL	1.05	36.48	BDL.	BDL.	BOL	1.12	
Minimum	26.45	76.42	18.66	28.24	17.85		1.01	32.87				1.02	
Maximum	35.60	90.92	26.68	38.64	23.64		1.14	44,98				1.16	
Average	30.62	84.02	22.52	32.64	20.56		1.08	39.73			•	1.10	
NAAQH Standards	60	100	80	80	100	1	2	400	20	6	1	5	
Test Method	40CFR Appendix L Part 53 CPCB Guidelines	15:5182 (P-23)	15:5182 (P-2)	15:5182 (P-6)	IS:5182 (P-9)	NL/SOP/ AAQ-11	15:5182 (P-10)	Method of Air Samplin g & Analysis	NL/SO P/AAQ -13	NL/SOP /AAQ- 12	(P-12)	IS:5182 (P-11)	

Remark:

\*NAACIS: National Ambient Air Quality Standards; Schedule VH, (Rule 3 (36)), (Part-9-sec.-39)) 16.11.2009

901-8elow Detection Link, "Anamic-801 (LOQ-0.5),"8AP-801 (LOQ-0.51,"8ensene-801 (LOQ-0.5), "Lass-601 (LOQ-0.5),"Nickel-901 (LOQ-1.0) Sample Analysed within Seven days from the date of sampling.

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(RAVINDER MITTAL)

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#### Test Report

Issued To M	/s Indian Oil Corporation	Limited
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(Refinery Division) Panipat Naptha Cracker Haryana, INDIA

ULR No .: Test Report Date:

TC636622000000476-480, 516-520, 537-540, 547 25/02/2022

Sample	Partic	ulars

Nature of the Sample

Purpose of Monitoring

Method of Sampling

Nonitoring Conducted By

Stack Monitoring To Check the Pollution Load 2 IS: 11255 (Part 7)

Mr. Rishi Pal

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (mtr.)	Stack Dia. (mtr.)	nt k e Gas Matters <sup>1</sup> (as PM Temp. Tem Velocit		k e Gas Matters <sup>1</sup> (as PM) (as Ni & V) <sup>2</sup> Tem Velocit					
					(°C)	p. (°C)	y (m/s)	mg/Nm <sup>3</sup>	Kg/hr	mg/N	Kg/hr	PPM
1	Stack-1 CPP HRSG 1	14/02/2022	70	3.30	29	107	9,74	8.97	2.1	BDL		
2	Stack-2 CPP HRSG 3	14/02/2022	70	3.30	28	112	10.03	7.21	1.7	BDL		+
3	Stack-3 CPP HRSG 4	14/02/2022	70	3.30	29	123	9.41	7.52	1.6	BOL	-	
4	Stack-4 CPP UB1	14/02/2022	70	3.30	27	119	9.04	8.01	1.7	BOL		
5	Stack-5 CPP UB2	14/02/2022	70	3.30	27	139	9.60	8.36	1.8	BOL		
6	Stack-6 NCU H100	15/2/2022	70	3.10	26	129	9.32	7.72	1.4	BDL	-	-
7	Stack-7 NCU H200	15/2/2022	70	3.10	25	125	10.10	6.38	1.3	BDL		-
8	Stack-B NCU H300	15/2/2022	70	3.10	27	128	9.42	7.82	1.5	BDL		1
9	Stack-9 NCU H400	15/2/2022	70	3.10	32	225	11.09	9.02	1.6	BDL		-
10	Stack-10 NCU H500	15/2/2022	70	3.10	31	127	9.54	8.20	1.6	BDL	-	
11	Stack-11 NCU H600	17/02/2022	70	3.10	21	128	10.41	7.48	1.6	BDL		
12	Stack-12 NCU H700	17/02/2022	70	3.10	21	133	10.14	7.83	1.6	BOL	- 22	
13	Stack-13 Swing Unit DTA/VAP-02	17/02/2022	70	1.80	25	174	9.71	BOL	BDL.	BOL	-	
14	Stack-14 Swing Unit DTA/VAP-01	17/02/2022	70	1.80	27	181	9.51	BDL	8DL	BDL	10	(+)
15	Stack-15 MEG Unit	18/02/2022	70	3.10	22	298	11.33	7.64	1.2	BDL		12
	Per	missible Limits	(mg/Nm <sup>3</sup> )				Gas	10	-			-
-	1.4.45						Liquid	100	)		5	
		Test	Nethod					IS:11255 (P-1) USEPA Method 29			ethod 29	BY AAS

RDL-Below Detection Limit, <sup>2</sup> Perticulate Metters (as PM) 9DL (LOC- 5.0), <sup>2</sup> Nickel & Vanedium (as Ni & V) - 6DL (LOC- 0.5) Sample Analysed within six days from the date of sampling.





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(RAVINDER MITTAL)

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Test Report

Issued To	M/s Indian Oil Corporation Limited		Test Report No .:	202202140110-114, 202202150110-114,
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA		Test Report Date:	202202170110-113, 202202180110 25/02/2022
Sample Par				
Nature of th	e Sample	1	Stack Monitoring	
Purpose of 1	Monitoring		To Check the Pollution	Load

Method of Sampling

Monitoring Conducted By

IS: 11255 (Pwt 7)

Mr. Rishi Pal

Sr. No.		Stack Particulars	Stack Particulars	Stack Particulars	Date of Sampling	Stack Height (mtr.)	Stack Dia. (mtr.)	Ambien t Temp. (°C)	Stack Temp. (°C)	Averag e Gas Velocit	Oxi	des of Sul (as SO <sub>X</sub> )		Oxides of Nitrogen (as NO <sub>x</sub> )		
						Stores and	Y (m/s)	mg/ Nm <sup>2</sup>	Kg/hr	PPM	mg/N m <sup>3</sup>	Kg/h	PPM			
1	Stack-1 CPP HRSG 1	14/02/2022	70	3,30	29	107	9.74	7	1.6	3.7	68	16.00	36.14			
S	Stack-2 CPP HRSG 3	14/02/2022	70	3.30	28	112	10.03	5	1.2	2.7	265	63.37	140.85			
3	Stack-3 CPP HRSG 4	14/02/2022	70	3.30	29	123	9.41	6	1.3	3.2	46	10.04	24.45			
4	Stack-4 CPP UB1	14/02/2022	70	3.30	27	119	9.04	9	1.9	4.8	174	35.81	92.48			
5	Stack-S CPP-UB2	14/02/2022	70	3.30	27	139	9.60	6	1.3	3.2	123	26.31	92.48			
6	Stack-6 NCU H100	15/2/2022	70	3.10	26	529	9.32	4	0.8	2.1	43	8.07	1000000			
1	Stack-7 NCU H200	15/2/2022	70	3.10	25	125	10.10	5	1.0	2.7	37	7.60	22.86			
8	Stack-8 NCU H300	15/2/2022	70	3.10	27	128	9.42		1.3	3.7	37		19.67			
9	Stack-9 NCU H400	15/2/2022	70	3.10	32	225	11.09	0	1.6	4.8		7.04	19.67			
10	Stack-10 NCU H500	15/2/2022	70	3.10	31	127	9.54	6		1.	31	5.59	16.48			
11	Stack-11 NCU H600	17/02/2022	70	3.10	21	129	10.41		1.2	3.2	105	20.29	55.81			
12	Stack-12 NCU H700	17/02/2022	70	3.10	21	133	100067515	6	1.3	3.2	24	5.05	12.75			
13	Stack-13 Swing Unit	17/02/2022	70	1.80	1	1.1.1.1.1.1	10.14	3	0.6	1.6	29	5.87	15.41			
	DTA/VAP 02		~	1.00	25	174	9.71	3	0.2	1.6	92	5.46	48.90			
14	Stack-14 Swing Unit DTA/VAP-01	17/02/2022	70	1.80	27	181	\$.51	6	0.3	32	90	5.15	47.84			
15	Stack-15 MEG Unit	18/02/2022	70	3.10	22	298	11.33	3	0.5	1.6	14	2.25	7.44			
	P	ermissible Lim	its (mo/Ne	.h			Gas		50		1100-01-0	350				
errark			ice (mg/ Mit	.,			Liquid		1700	-	-	450				

Remark

NDL-Below Detection Limit, Oxides of Sulphur Jas 50,3-60, 0.00-1.0

Sample Analysed within six days from the date of sampling, All above Parameters are measures with File Get Analyser

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#### **Test Report**

Issued To	M/s Indian Oll Corporation Limited		Test Report No.:	202202140110-114, 202202150110-114,
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA		Test Report Date:	202202170110-113, 202202180110 25/02/2022
Sample Par	rticulars			
Nature of the	e Sample	4	Stack Monitoring	
Purpose of 1	Monitoring	1	To Check the Pollution	Load

: To Check the Pollu : IS: 11255 (Part 7)

Mr. Rishi Pal

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (mtr.)	Stack Dia. (mtr.)	Ambient Temp. (°C)	Stack Temp. (°C)	Average Gas Velocity	Ca	Carbon Monoxide (as CO)		
							(m/s)	mg/Nm <sup>3</sup>	Kg/hr	PPM	
1	Stack-1 CPP HRSG 1	14/02/2022	70	3.30	29	107	9.74	415	97.64	362.25	
2	Stack-2 CPP HRSG 3	14/02/2022	70	3.30	28	112	10.03	818	195.60	714.03	
3	Stack-3 CPP HRSG 4	14/02/2022	70	3.30	29	123	9.41	70	15.27	61.10	
4	Stack-4 CPP UB1	14/02/2022	70	3.30	27	119	9.04	12	2.54	10.47	
5	Stack-S CPP UB2	14/02/2022	70	3.30	27	139	9.60	2	0.43	1.75	
6	Stack-6 NCU H100	15/2/2022	70	3.10	26	129	9.32	6	1.13	5.24	
7	Stack-7 NCU H200	15/2/2022	70	3.10	25	125	10.10	11	1.26	9.60	
8	Stack-8 NCU H300	15/2/2022	70	3.10	27	128	9.42	30	5.71	26.19	
9	Stack-9 NCU H400	15/2/2022	70	3.10	32	225	11.09	34	6.13	29.68	
10	Stack-10 NCU H500	15/2/2022	70	3.10	31	127	9.54	13	2.51	11.35	
11	Stack-11 NCU H600	17/02/2022	70	3.10	21	128	10.41	5	1.05	4.36	
12	Stack-12 NCU H700	17/02/2022	70	3.10	21	133	10.14	7	1.42	6.11	
13	Stack-13 Swing Unit DTA/VAP-02	17/02/2022	70	1.80	25	174	9.71	5	0.30	4.36	
14	Stack-14 Swing Unit DTA/VAP-01	17/02/2022	70	1.80	27	191	9.51	1	0.06	0.87	
15	Stack-15 MEG Unit	18/02/2022	70	3.10	22	298	11.33	52	8.36	45.39	
		Permissible L	imits (mo)	Nm <sup>3</sup> )			Gas		150		
			(und)				Liquid		200		

Remark:

Nethod of Sampling

Monitoring Conducted By

8DL-Below Detection Limit, Carbon Menoside (sa CO) 8DL (LDQ-1.0)

Sample Analysed within alx days from the date of sampling. All above Parameters are measures with Fige Gas Analyses

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(RAVINDER MITTAL)

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### BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

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#### **Test Report**

Issued To	M/s Indian Oil Corporation Limited (Refinery Division) Panipat Naptha Cracker Haryana, INDIA		LR No.: est Report Date:	TC636622000000609 04/03/2022
Sample Pa	rticulars			
Nature of th	e Sample & No. of Sample		Waste Water 8	One No
	ntity & Packaging	;	1.0 Liter, Pet Bot	ttle
Test Started			24/02/2022	
Test Comple		4	03/03/2022	
Method of S		4	SOP/B/D-3	
Date of San		1	23/02/2022	
	onducted By	2	Mr. Rishi Pal	
Place of Sa	mpling	ł	ETP Outlet INC	

### Test Report

Sr. No.	Parameter	Uist	Result	Permissible Limits	Protocol	
			7.85	6.5-8.5	1S:3025 (P-11)	
1	pH	-	46	100 Max	15:3025 (P-17)	
2	Total Suspended Solids (TSS)	mg/L		250 Max	15:3025 (P-58)	
3	Chemical Oxygen Demand (COD)	mg/L	120			
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	14	30 Max	15:3025 (P-44)	
5	Phenols (C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.82	1.0 Max	IS:3025 (P-43)	
6	Sulphide (S)	mg/L	1.6	2.0 Max	15:3025 (P-29)	
7	Fluoride	mg/L	2.2	5.0 Max	15:3025 (P-60)	
8	Chromium Hexavalent (Cr+6)	mg/L	0.08	0.1Max	(S:3025 (P-52)	



(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

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NOTE: The interview access the responsibility for concert of report. The results containing in this test report initiation only to the sample tested. Test report take not be represented except in fully, whose sentent sportwal of the interview on the case of a fear from the case of the interview on the case of the report of the interview on the case of the interview of the inter

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

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### BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

**Test Report** 

Issued To	M/s Indian Oil Corporation Limited (Refinery Division) Paripat Naptha Cracker Haryana, INDIA		est Report No.: est Report Date:	202202230117 04/03/2022	
Sample Par	ticulars				
Nature of the Sample & No. of Sample			Waste Water & One No		
	Sample Quantity & Packaging		1.0 Liter, Pet Bottle		
Test Started			24/02/2022		
Test Comple		1	03/03/2022		
Nethod of S		:	SOP/B/D-3		
Date of Sam		÷	23/02/2022		
	onducted By	Ť.	Mr. Rishi Pal		
Place of Sar		1	ETP Outlet-PNC		
FIACE OF SH	riterio di Contra di	Test	Report		

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	BOL (LOQ-0.1)	0.20	APHA-23 <sup>rd</sup> Ed.
2	Total Chromium	mg/L	50L(LOQ-0.05)	2.0	IS:3025 (P-52)

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The interview arrays the reconsistence of sport. The marks contained in this test report sized one to the sample cased. Test record shall be reproduced entry: in fall, without writen approval of the segmentation. Samples will be descript in fall, without writen approval of the segmentation cased on the reproduced entry: in fall, without entry and an the same of the sample case of the segmentation. Samples will be descript in fall, without the reproduced entry: in fall, without the report size of the reproduced entry: in fall, without the report size of the report of the reproduced entry: in fall, without the report size of the report of the

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#### Test Report

Test Report No.:

M/s Indian Oil Corporation Limited Issued To

> (Refinery Division) Panipat Naptha Cracker Haryana, INDIA

Test Report Date:

202203030114, 202203070115, 202203110119, 202203140115 202203180111, 202203210115, 202203250127, 202203280111 04/04/2022

#### Sample Particulars

Nature of the Sample

Sampling Location

Purpose of Monitoring

Method of Sampling

Monitoring Conducted By

Sampling Duration (Hrs.)

4	Ambient Air Quality Monitoring
÷	Quality Control Lab
	To Check the Pollution Load
4	15 5182 (Part 14)
1	Mr. Rishi Pal
:	24 Hrs.

Date of	Parameter												
Sampling	Particulat e Matter (PN2.5) µg/m3	Particul ate Matter (PM10) µg/m3	Sulphur Dioxide (as SO2) µg/m3	Nitrogen Diaxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Po <sup>1</sup> ) µg/ m3	Carbon Honoxide (as CO) mg/m3	Ammon la (as NH3) ug/m3	Nickel (as Ni <sup>2</sup> ) ng/m <sup>3</sup>	Arsenic (as As <sup>3</sup> ) ng/m3	Senzo (a)pyren e (as BAP*) ng/m <sup>3</sup>	Benzen e (C6H6 <sup>s</sup> ) ug/m3	
03/03/2022	34.16	90.16	16.28	25.16	16.22	ND	1.04	36.18	ND	ND	ND	1.14	
07/03/2022	28.24	76.44	20.44	30,82	21.92	ND	1.52	40.24	ND	ND	ND	1.02	
11/03/2022	32.14	84.12	18.92	32.73	20.24	ND	1.16	34.92	ND	ND	ND	1.14	
14/03/2022	26.18	78.94	22.48	26.18	21.84	ND	1.05	32.10	ND	ND	ND	1.05	
18/03/2022	30.60	82.18	17.94	28.41	18.42	ND	1.05	44.64	ND	ND	ND	1.02	
21/03/2022	36,42	88.68	20.82	30.11	22.64	ND	1.11	38.18	ND	ND	ND	1.10	
25/03/2022	32.04	80.92	22.16	36.72	24.18	ND	1.03	40.84	ND	ND	ND	1.02	
28/03/2022	30.98	78.62	18.24	26.82	19.84	ND	1.15	37.92	ND	ND	ND	1.04	
Minimum	26.18	76.44	16.28	25.16	16.22		1.03	32.10				1.02	
Maximum	36.42	88.68	22.48	36.72	24.18		1.16	44.64			-	1.14	
Average	31.45	81.26	19.66	29.62	20.66	- i -	1.09	38.13		1 X		1.07	
NAAQM Standards	60	100	80	80	100	1	2	400	20	6	1	5	
Test Method	40CFR Appendix L Part 53 CPCB Guidelines	15:5182 (P-23)	(P-2)	15:5182 (P-6)	15:5182 (P-9)	NL/SOP/ AAQ-11	15:5182 (P-10)	Method of Air Samplin g& Analysis	NL/50 P/AAQ -13	NL/SOP /AAQ- 12	15:5182 (P-12)	IS-5182 (P-11)	

Remark)

\*MAACO: Malional Ambient Air Quality Standards; Schedule-VII, (Rule 3 (38)), (Part-H-sec.-3))) 16:11:3009

ND-Below Detection Limit, "Amenic-ND (DL- 0.5]," BAP-ND (DL- 0.5], "Benzere-ND (DL- 0.5], "Leed-ND (DL- 0.5], "Mickel AD (OL- 1.0) Sample Analysed within Seven days from the date of sampling.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

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### Test Report

	a) 171			
Issued To	M/s Indian Oil Corporation Limited (Refinery Division) Panipat Naptha Cracker Haryana, INDIA		Test Report No.: Test Report Date:	202203280114 05/04/2022
Sample Part	liculars			
Nature of the Sample Quant	Sample & No. of Sample ity & Packaging		Wastewater & C	
Test Started o	n	1	1.0 Liter, Pet Bott	le
Test Complete	d	1	29/03/2022	
Method of San	pling	-	04/04/2022	
Date of Sampli		4	50P/B/D-3	
Sampling Cond	-	ŧ	28/03/2022	
Place of Sampli		1	Mr. Rishi Pal	

1 ETP Outlet-PNC

### Test Report

Sr. No.	Parameter	1	-		
		Unit	Result	Permissible Limits	Protocol
1	pH	-		1	P
2	Total Suspended Solids (TSS)	1994	- 7.28	6.5-8.5	15:3025 (P-11)
3	Chemical Oxygen Demand (COD)	mg/L	52	100 Max	IS:3025 (P-17)
4	Bio-Chemical Occase B	mg/L	130	250 Max	IS:3025 (P-58)
-	Blo-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	16	30 Max	IS:3025 (P-44)
5	Phenois (C <sub>6</sub> H <sub>5</sub> OH)	mah			10.0025 (1-44)
6	Sulphide (S)	mg/L	0.88	1.0 Max	IS:3025 (P-43)
7	Fluoride	mg/L	1.8	2.0 Max	IS:3025 (P-29)
_		mg/L	2.1	5.0 Max	IS:3025 (P-60)
8	Chromium Hexavalent (Cr+6)	mak		100,6000	10.5025 (P-60)
		mg/L	0.05	0.1Max	IS:3025 (P-52)

(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

NOTE: The anomalory excepts the responsibility for sortent of legant. The results care NOTE: The solution access the reportably for identical of agent. The report is the tot report share only to the some access that not report share only to the reportably for identical encycles of the some access to the solution of the some access to the solution of the s spile seases. That requirt shall not be reproduced except in full, without written approval of the lataration. This

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### Test Report

Issued To	Issued To M/s Indian Oil Corporation Limite		Test Report No.:	202203280114	
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA	10	Test Report Date:	05/04/2022	
Sample Par	ticulars				
Nature of the	Sample & No. of Sample	1	Waste Water &	One No	
Sample Quar	Sample Quantity & Packaging			tle	
Test Started	on	:	: 29/03/2022		
Test Complet	ed	÷	04/04/2022		
Method of Sa	mpling	:	SOP/B/D-3		
Date of Samp	bling	1	28/03/2022		
Sampling Cor	iducted By	13	Mr. Rishi Pal		
Place of Sam	oling	15	ETP Outlet-PNC		

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	ND (DL-0.1)	0.20	APHA-23rd Ed.
2	Total Chromium	mg/L	ND (DL-0.05)	2.0	1S:3025 (P-52)

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(RAVINDER MITTAL)

worth. The upwatory accepts the responsibility for content of aspert. The results to ad in this test report robbed only to the service lances. Test report shell not be appropried except in Aul, without written approve of the Spannacy. The NOTE: The Use story access the responsibility for consists of report. The results contained in this left report, named only is the served tasks. Their report and responsible decays in the report water and not to be produced except in the report shall not be reproduced except in the vertex approach of the server access of the server access of the advertexence. This report shall not be reproduced except in the vertex approach of the server access of the advertexence access and the report shall not be reproduced except in the vertex approach of the server access of the report of the server access and the report shall not be report and access of the report. The report access are advertexence access and the report shall not be reported access the server access and the report of the server access are advertexence access and the report access are advertexence and the report of the server access are advertexence at the 10 decay from the server are any complication of the server at the server are advertexence and the report of the server are advertexence at the 10 decay from the server are complication of the server at the server at the 10 decay from the server are complication of the server are advertexence at the 10 decay from the server are complication of the server at the 10 decay from the server at the 10 decay from the server at the 10 decay from the server are complication. The result of the server at the 10 decay from the server are complicated at the 10 decay from the server a

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#### Test Report

Issued To	M/s Indian Oil Corporation Limited	Test	Report No.:	202204010111, 202204040112, 202204008111, 202204110115
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA	Test	Report Date:	202204150115, 202204180114, 202204020115, 202204220123 202204290115 07/05/2022
	the party stream		interest interest	
Sample Pa	rticulars			
Nature of th	ie Sample	10	Ambient Ai	r Quality Monitoring
Sampling Lo	scation	1	Quality Contr	rol Lab
Purpose of I	Monitoring		To Check the	Pollution Load

Method of Sampling

Monitoring Conducted By

Sampling Duration (Hrs.)

Date of

To	Chec	k the	Pollut
IS	5182	(Part	14)

Mr., Rishi Pal

24 Hrs.

#### T. Parameter

Date of	Parameter											
Sampling	Particulat e Matter (PM2.5) µg/m3	Particul ate Matter (PM10) µg/m3	Sulphur Dioxide (as SO2) µg/m3	Nitrogen Dioxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Pb <sup>1</sup> ) µg/ m3	Carbon Monoxi de (as CO) mg/m3	Ammoni a (as NH3) ug/m3	Nickel (as Ni <sup>2</sup> ) ng/m <sup>3</sup>	Arseni c (as As <sup>2</sup> ) ng/m 3	Benzo (a)pyre ne (as BAP <sup>4</sup> ) ng/m <sup>3</sup>	Benzen e (C6H6 <sup>s</sup> ) ug/m3
01/04/2022	32.64	83.42	18.61	24.22	18.22	ND	1.05	38.41	N(E)	ND	ND	1.12
04/04/2022	30.42	80.55	22.42	34.68	20.47	ND	1.14	44:68	ND	ND	ND	1:05
08/04/2022	28.44	82.61	17.58	30.24	22.91	640	1.05	35.28	ND	ND	ND	1.08
11/04/2022	31.54	83.42	23.65	28.66	20.44	ND	1.02	31:44	ND	ND	ND	1.02
15/04/2022	33.29	85.65	20.80	31.24	21,46	ND	1.12	40.58	ND	ND	ND	1.12
18/04/2022	35.41	81.22	23.48	32.86	23.85	ND	1.13	34.20	ND	ND	ND	1,15
22/04/2022	36.14	84.46	19.82	30.84	19.82	ND	1.06	34.16	ND	ND	ND	1.08
25/04/2022	33.42	80.71	20.44	32.88	22.48	ND	1.12	40.64	ND	ND	ND	1.12
Minimum	28.44	80.55	17.58	24.22	18.22	1.6	1.02	31.44				1.02
Maximum	36.14	85.66	23.65	34.68	23.85	-	1.14	44.68	- 18			1.15
Average	32.66	82.76	20.85	30.70	21.21		1.09	37.55		1.40	+	1.10
NAAQH Standards	60	100	80	80	100	1	2	400	20	6	1	5
Test Method	40CFR Appendix L Part 53 CPC8 Guidelines	IS:5182 (P-23)	IS:5182 (P-2)	IS:5182 (P-6)	15:5182 (P-9)	NL/SOP /AAQ- 11	IS:5182 (I+10)	Method of Air Samplin g & Analysis	NL/SO P/AAQ -13	NL/50 P/AAQ -12	(P-12)	IS:5187 (P-11)

Bernach

\*RAAQS\_National Aerolem Air Galanta Standards, Schedule VII: (Pare 3 (30)), (Pare + sec - 3)), 10-11-2001

NO-Beau Determanium, "America NO (DL-0.5),"BAP-ND (DL-0.5), "Benaine NO (DL-0.5), "Lead-ND (DL-0.5), "Make-ND (DL-0.5), "Make-ND (DL-0.5), "Make-ND (DL-0.5), "Benaine ND (DL-0. Sumply Associate within Soveri Gays From the Gate of sampling

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The storating access the required by a camera of each. The results contained in this test match drive to the tample table. Test report due to the resolution access of a full which a mean aperator of the obligation. Note the destruction where the product of not the tege before or for advecturement. The report builling water destruct the vertex advector approach. Some of the second advector adve If you have advector advect

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#### Test Report

Issued To	M/s Indian Oil Corporation Limited		Test Report No.:	202204260122-127, 292294270117-119,
	(Refinery Dwision) Panipat Naptha Cracker Haryana, INDIA		Test Report Date:	202204280113-116, 202204290120-122 07/05/2022
Sample Pa	rticulars			
Nature of th	ie Sample	1	Stack Monitoring	
Purpose of	Monitoring	15	To Check the Pollution	Load

Method of Sampling

Monitoring Conducted By

To Check the Pollution Los IS: 11255 (Part 7)

Mr. Rishi Pal

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (mtr.)	Stack Dia. (mtr.)	Ambie nt Temp. (°C)	Stac k Tem p. (°C)	Averag e Gas Velocit y (m/s)	Particulate Matters <sup>1</sup> (as PM)		Nickel & Vanadium <sup>2</sup> [as Ni & V] <sup>2</sup>		
								mg/Nm <sup>3</sup>	Kg/hr	mg/N m²	Kg/hr	PPN
1	Stack-1 CPP MRSG 1	26-04-2022	70	3.30	40	119	10.04	0.59	1.6	ND	- 14	
2	Stack-2 CPP HRSG 2	26-04-2022	70	3.30	40	112	10.10	5.9	1.4	ND	1.18	1.1
3	Stack-3 CPP HRSG 3	26-04-2022	70	3.30	40	121	9,71	8.21	1.9	ND		-
4	Stack-4 CPP HRSG 4	26-04-2022	70	3.30	40	117	10.36	0.59	2.1	ND	1.3	1.1.1
5	Stack-5 CPP HRSG 5	26-04-2022	70	3.30	39	130	10.03	9.25	2.1	ND	1.1	1
6	Stack-6 CPP UB1	26-04-2022	70	3.30	37	132	9.68	7.32	5.6	ND	1.1	1.1.1
2	Stack-7 Swing Unit DTA/VAP-02	27-04-2022	70	1.80	32	187	11.39	ND	ND	ND		
В	Stack-8 Swing Unit DTA/VAP-01	27-04-2022	70	1.80	n	176	11.48	ND	ND	ND	1	
9	Stack-9 MEG Unit	27-04-2022	70	3.10	34	321	11.95	9.39	1.5	ND	1.0	
10	Stack-10 NCU H100	28-04-2022	.70	3.10	44	119	9.31	6.89	1.3	ND	1	4
11	Stack-11 NCU H200	28-04-2022	70	3.10	.45	127	8.80	7.38	1.3	ND	1.1	1.1
12	Stack-12 NCU H400	28-04-2022	70	3.10	42	156	9,88	8.36	1.6	ND		1
13	Stack-13 NCU H500	28-04-2022	20	3.10	42	142	9.96	9.47	1.8	ND		
14	Stack-14 NCU H30D	29-04-2022	70	3.10	38.	121	9.89	8.29	1.7	ND	17	
15	Stack-15 NCU H600	29-04-2022	70	3.10	37	146	10.01	7.49	1.4	ND		
15	Stack-15 NCU H700	29-04-2022	70	3.10	37	152	10.08	8.24	5.6	ND	1.6	+
Gas								1	10		- C	
Permissible Limits (mg/Nm <sup>3</sup> )							Liquid	100		5		
Test Method								15:11255 (P-1)		USEPA Method 29 By AAS		

Remark:

AD below Detection Level, Particulate Matters [as PM]-KD [DL-5.0], \*NoteF& Veraelouw (as Nr.& V/ NR (D, -0.5) Sample Analysed within six days from the date of sampling.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The editionary access the reportion is consist of report. The maint contract is the report want over to be more report and in the non-show occur is the determined on the second occur is the non-show of the non-show occur is the non-show of the non-show occur is the non-show of th

If you have any complaint/loodback regarding the sample collection/factory/batt report, please send or aread at infad a result at end call or +95(19)-2466597. +91 4073924093

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#### Test Report

Issued To	M/s Indian Oil Corporation Limited	Test Report No.:	202204260122-127, 202204270117-119.
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA	Test Report Date:	202204280113-116, 202204290120-122 07/05/2022

#### Sample Particulars

Nature of the Sample

Purpose of Monitoring

Method of Sampling

Monitoring Conducted By

To Check the Pollution Load IS: 11255 (Part 7)

Stack Monitoring

Mr. Rishi Pal

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (mtr.)	Stack Dia. (mtr.)	Ambien t Temp. (°C)	Stack Temp. (°C)	Averag e Gas Velocit	Oxie	des of Sul (as SO <sub>x</sub> )	plaur	Oxide	Oxides of Nitro (as NO.)		
			100012				y (m/s)	my/ Nm <sup>3</sup>	Kg/hr	ррм	mg/N m <sup>3</sup>	Kg/h t	PPM	
1	Stack-1 CPP HRSG 1	26-04-2022	20	3.30	40	119	10.04	8	1.9	4.3	162	38.09	86.11	
2	Stack-2 CPP HRSG 2	26-04-2022	70	3.30	-40	112	10.10	9	2.2	4.8	158	38,06	83.98	
1	Stack 3 CPF HRSG 3	26-04-2022	70	3.30	40	121	9.71	7	1.6	3.7	187	41.39	97.27	
4	Stack-4 CPP HRSG 4	26-04-2022	70	3,30	40	117	10.36	- 9	2.2	4.8	78	19.03	41.46	
5	Stack-5 CPP HRSG 5	26-04-2022	70	1.30	39	130	10.03	20	4.6	10.6	293	66,94	155.74	
6	Stack-6 CPP U81	26-04-2022	70	3.30	37	332	9.68	-9	2.0	4.8	54	11.85	28.70	
7	Stack-7 Swing Unit DTA/VAP-02	27-04-2022	70	1.80	32	187	11.39	9	0.6	4.8	127	8.59	67.50	
8	Stack-8 Swing Unit DTA/VAP-01	27-04-2022	70	1.80	31	176	11.48	8	0.6	4,3	117	8.17	67.19	
	Stack-9 NEG Link	27-04-2022	70	3.10	- 34	321	11.95	16	2.6	8.5	24	3.93	12.76	
50	Stack-10 NCU H100	28-04-2022	20	3.10	- 44	119	9.33	3	0.6	1.6	- 24	14.23	39.33	
11	Stack-11 NCU H200	28-04-2022	70	3.10	- 45	127	8.80	6	11	3.2	60	10.69	31,89	
12	Stack-12 NCU 19400	28-94-2022	70	3.10	42	156	9.80	- 3	0.6	1.6	74	13.81	39.33	
13	Stack-13 NCU H500	28-04-2022	20	3.10	42	142	9.96	3	0.6	1.6	85	15.05	41.58	
14	Stack-14 NCU H300	29-04-2022	70	3.10	38	121	9.09	34.2	1.4	3.7	-90	20.13	52.67	
15	Stack-15 NGJ H600	29-04-2022	70	3.10	37	146	10.03	13.9	0.6	1.6	20	13.55	37.21	
16	Stack-16 NCU H700	29-04-2022	76	3.10	32	152	10.08	32.3	1.3	3.7	92	19.02	52.62	
				-	1		Gas		50			350		
		Permissible Limits (mg/Nm <sup>3</sup> )						Liquid 1700				450		

Remark:

NG by the Detection Low T. On Kenter Selector (by Muldel (D)-1-2)

Sample Analysed within any data from the data of settering. A calline Parameters are measured with Fue Gat Analyses

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The standary works the representative for parter, of report, The results converted is this left report related only to the party motion. Feet report of the report of an experimental second on the vectors, where represent of the total will be described so an har advantage and. The report shall and he reprod at event in full without the written poprover of the organization. Gat associative. This report is interced and for your glubance and we for eight ph your 31 they from the Gets of sole of bots on these uncess unwerker specifies. Any comparements down diversity when a series when a finite of the second test series a finite of the second iversite amount only

If you have any complexit/feedback regarding the sample collection/booteg/lest report, please send on small at info@provalab.com and all +91-191-2445591. +91-3803324693

CORPORATE OFFICE & CENTRAL LABORATORIES :-

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Carbon Monovida

## BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

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Issued To	M/s Indian Oil Corporation Limited		Test Report No.:	202204260122-127, 202204270117-119,
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA		Test Report Date:	202204280113-116, 202204290120-122 07/05/2022
Sample Pa	rticulars			
Nature of th	e Sample	1	Stack Monitoring	
Purpose of	Monitoring		To Check the Pollution	Load '
Method of S	anping	t	15: 11255 (Part 7)	
Monitoring (	Conducted By	1	Mr. Rishi Pal	

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (mtr.)	Stack Dia. (mtr.)	Ambient Temp. (*C)	Stack Temp. (°C)	Average Gas Velocity	Car	(as CO)	de
			Cardence C	1	0.024	049856	(m/s)	mg/Nm <sup>3</sup>	Kg/hv 28.45 27.70 27.59 20.98 22.30 1.95 0.07	ррм
1	Stack-1 CPP HRSG 1	26-04-2022	70	3.30	40	119	10.04	121	28 45	105.62
2	Stack-2 CPP HRSG 2	25-04-2022	70	3.30	40	112	10.10	115	27.70	100.38
3	Stack-3 CPP HRSG 3	26-04-2022	70	3.30	40	121	9.71	122	27.59	105.49
4.	Stack-4 CPP HR5G 4	26-04-2022	70	3.30	40	117	10.36	86	20.98	75.07
5	Stack-5 CPP HRSG 5	26-04-2022	70	3.30	39	130	10.03	98	22.39	85.54
6	Stack 6 CPP UB1	26-04-2022	70	3.30	37	132	9.68	18	1.95	15.71
7	Stack-7 Swing Unit DTA/VAP-02	27-04-2022	70	1.60	32	187	11 39	t	0.02	0.87
8	Stack-8 Swing Unit DTA/VAP-01	27-04-2022	70	1.80	31	120	11.48	3	0.67	0.87
9	Stack-9 NEG Unit	27-04-2022	70	3.10	34	325	11.95	147	23.14	123.95
10	Stack-10 NCU H100	28-04-2022	70	3.10	94	119	9.31	1	0.19	6.87
11	Stack 11 NCU H200	28-04-2922	20	3.10	45	127	B.80	3.0	3.21	15.71
12	Stack-12 NOU H400	28-04-2022	70	3.15	42	155	9.88	21	4,29	20.08
13	Stack-13 NC8 H580	28-04-2022	70	3.10	42	142	9.96	15	3.69	16.59
14	Stack-14 NCU H300	29-04-2022	70	3.10	38	321	9.89	34	6,91	29.68
15	Stack-15 NCU H600	29-04-2022	70	3.10	37	146	10.01	-40	7,74	34.92
16	Stack-16 NCU H700	29-04-2022	70	3.10	37	152	10.08	65	12.49	56.74
-							Gas		150	
		Permissible	e Limits (m	g/Nm²)			Liquid		200	

HISTORY

All-Brian Detector martel, Carpers Marsonale (as CE) All (D. 191

Sample Assessed with him date from the date of sampling. All above PD analysis are multiply with free Gas Analysis

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The sensitive where the responsive to content of react. The result contained in this test result width of y to the same lefter. The sense lefter that the reputation experience is the sense of th and it also have be use of some of not contrasts owner, mineway question, the comparison down the sport should be contraviated in writing within 5 days of many prime many. Total laster of Gya (above days) is investigated by a contract of the contract of water a manufacture

If you have any comparison building the service contection/have growt report, place and an analist info@ctivalet.com and of a 91-151-2465691. +51-4822324693 CORPORATE OFFICE & CENTRAL LABORATORIES :-

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## BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

**Test Report** 

Issued To	M/s Indian Oil Corporation Limited	1	est Report No.:	202204250112
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA	1	fest Report Date:	30/04/2022
Sample Par	ticulars			
Nature of the	e Sample & No. of Sample	÷	Wastewater &	One No
Sample Qua	ntity & Packaging	- 83	1.0 Liter, Pet Bot	tie
Test Started	on	- 83	26/04/2022	
Test Comple	ted	12	30/04/2022	
Method of S	ampling	1	SOP/B/D-3	
Date of Sam	pling	-	25/04/2022	
Sampling Co	inducted By	1	Mr., Rishi Pal	
Place of San	npling	1	ETP Outlet-PNC	

#### **Test Report**

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	444	7.64	6.5-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	68	100 Max	15:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	150	250 Max	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	14	30 Max	1S:3025 (P-44)
5	Phenols (CeHsOH)	mg/L	0.84	1.0 Max	15:3025 (P-43)
6	Sulphide (S)	mg/L	1.4	2.0 Max	15:3025 (P-29)
7	Fluoride	mg/L	2.6	5.0 Max	IS:3025 (P-60)
8	Chromium Hexavalent (Cr+0)	mg/L	0.08	0.1Max	IS:3025 (P-52)
9	Cyanide (CN)	mg/L	ND (DL-0.1)	0.20	APHA-23 <sup>rd</sup> Ed
10	Total Chromium	mg/L	ND (DL-0.05)	2.0	IS:3025 (P-52)

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The Jakowawa assists the responded to content of elever, The results contained on this text rested unv to be define texted. Text report the resolution for a start water to be resolved on the resolution of If you have any complexit/functionsk regarding the sample collectron fanding/feet report, please and an erroll at photocharity.com and call at + 51-191-1665567, +01-8872924083

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## BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

#### **Test Report**

Issued To	M/s India	n Oil Corp	oration Lin	nited	Test	Report No.		202205010	121, 202200	5010118, 2	202205090	126. 20220	5130121
	(Refinery D Panipat Nag Haryana, IM	tha Cracke			Test	Report Dal			415, 202209 115				
Sample Pa	rticulars												
Nature of th	e Sample				1	Ambient	Air	Quality Mo	nitoring				
Sampling Lo	cation				:	Quality Co		2000- <b>2</b> 00-2					
Purpose of t	fonitoring				:	To Check	the F	olution Loa	d				
Method of 5	ampling					15 5182 (1	art 1	(4)					
Monitoring (	Conducted By				i.	Mr. Right							
Sampling Du	ration (Hrs.)				:	24 Hrs.							
Date of Sampling					_	Pa	ame	ter					
sampling	Particulat e Matter (PM2.5) µg/m3	Particul ate Natter (PM10)	Sulphur Dioxide (as SO2)	Nitrogen Dioxide (as NO2) ug/m3	Ozor (as C ug/r	a) (E	5	Carbon Monoxi de (as CO)	Ammoni a (as NH3) up/m3	Nickel (as Ni <sup>2</sup> )	Arseni c (as As <sup>1</sup> )	Benzo (a)pyre ne (as	Benzen e (CGHG <sup>S</sup> )

	(PN2.5) µg/m3	Natter (PM10) µg/m3	(as SO2) µg/m3	(as NO2) ug/m3	ug/m3	Pb <sup>1</sup> ) µg/ m3	de (as CO) mg/m3	NH3) ug/m3	(as Ni <sup>2</sup> ) ng/m <sup>3</sup>	c (as As <sup>1</sup> ) ng/m 3	(a)pyre ne (as BAP*) ng/m <sup>3</sup>	e (C6HG <sup>5</sup> ) ug/m3
02/05/2022	28.16	80.40	20.42	26.48	16.24	ND	1.02	34.68	ND	ND	ND	1.14
05/05/2022	34.28	86.42	24.16	32.16	18.25	ND	1.12	40.24	ND	ND	ND	1.08
09/05/2022	30.18	82.16	22.10	34.60	20.82	ND	1.04	32.80	ND	ND	ND	1.00
13/05/2022	32.62	84.24	18.42	24.22	22.64	ND	1.05	34.62	ND	ND	ND	1.14
16/05/2022	30.82	82.65	21.40	36.48	20.26	ND	1.14	32.82	ND '	ND	ND	1.19
20/05/2022	35.48	88.60	18.84	30.24	24.68	ND	1.10	36.44	ND	ND	ND	1.14
23/05/2022	34.24	81.46	22.15	28.46	21.58	ND	1.06	32.80	ND	ND	ND	1.05
27/05/2022	32.82	82.82	24.48	30.22	20.26	ND	1.10	38.40	ND	ND	ND	1.14
30/05/2022	36.59	\$1.28	25.48	31.29	21.27	NO	1.02	37.47	ND	ND	ND	
Minimum	28.16	80.40	18.42	24.22	16.24		1.02	32.8				1.11
Maximum	36.59	88.60	25.48	36.48	24.68	2	1.14	40.24				1.14
Average	32.91	83.34	21.94	30.46	20.67		1.07	35.59				1.11
NAAQM Standards	60	100	80	80	100	1	2	400	20	6	1	5
Test Method	40CFR Appendix L Part 53 CPCB Guidelines	IS:5182 (P-23)	15:5182 (P-2)	15:5182 (P-6)	15:5182 (P-9)	NL/SOP /AAQ- 11	IS:\$182 (P-10)	Method of Air Samplin g & Analysis	NL/50 P/AAQ -13	NL/SO P/AAQ -12	15:5182 (P-12)	3 15:5182 (P-11)

Remarks

\*NAACS: National Ambient Air Guality Standards; Schedule-VII, (Rule 3 (SB)), (Part-Insec-SF)) 16.11, 2009

AD-below Detection Limit, "Average AD (DL-0.52,"BAP AD (DL-0.51, "Densing AD (DL-0.51, "Lead-AD (DL-0.5), "Webs" AD (DL-1.05arrole Analysed within Severadays In fate of campling

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(RAVINDER MITTAL)

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## BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

#### Test Report

Issued To	M/s Indian Oil Corporation Limited	- 8	Test Report No.:	202205270130
	(Refinery Division) Panipat Naptha Cracker Haryana, INDIA	3	lest Report Date:	04/06/2022
Sample Par	ticulars			
Nature of the	2 Sample & No. of Sample	-	Wastewater &	One No
Sample Quar	ntity & Packaging		1.0 Liter, Pet Bot	tle
Test Started	on		28/05/2022	
Test Complet	ted	1	03/06/2022	
Method of Sa	ampling	22	SOP/8/D-3	
Date of Samp	pling	31	27/05/2022	
Sampling Co	nducted By	13	Mr. Rishi Pal	
Place of Sam	pling	.7	ETP Outlet-PNC	

#### **Test Report**

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	рН		7.86	6.5-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	62	100 Max	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	160	250 Max	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	18	30 Max	IS:3025 (P-44)
5	Phenois (C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.88	1.0 Max	IS:3025 (P-43)
6	Sulphide (S)	mg/L	1.8	2.0 Max	IS:3025 (P-29)
7	Fluoride	mg/L	2.4	5.0 Max	15:3025 (P-60)
8	Chromium Hexavalent (Cr+5)	mg/L	0.04	0.1Max	15:3025 (P-S2)
9	Cyanide (CN)	mg/L	ND (DL-0.1)	0.20	APHA-23 <sup>rd</sup> Ed.
10	Total Chromium	mg/L	ND (DL-0.05)	2.0	15:3025 (P-52)

(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

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#### BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB Test Report

🕈 11.1.1.1.1. Sector Al Fist, Brisla Fuclave, Channe Himmar, Jammu-180 015, 18X (UT), India B+91-391-2465597

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Insued To M/s Tedian Oil Corporation Limited

(Refinery Dension) **Paripal Nachte Cracker** Haryara, INDIA

Test Report No.: 202306130110, 102206068110, 203206100110, 207206130110 202206120110, 302206203110, 202206240318, 202266240115 Taut Report Eater 06/02/3622

Sample Particulars

Nature of the Sample. Sampling Location

Purpose of Monitoriag

Hethot of Sampling

Hardening Constanted By

Simpling Duration (Hos.)

#### E Bassied

18	Ambient Air Quality Manitoring
Ť.	Quality Control Lab
Ť.	To Cleak the Pollution Load
18	25 5182 (Part 14)

Mr. Bish Pal

24 815.

Sampling-	Altra and					Parane	etxor					
- And and	Particulat e Matter (PM2.5) yg/m3	Particul ate Matter (PM10) pg/m3	Sulptur Dioxide (as SO2) pg/re3	Nitrogen Distride (as ND2) ug/m3	Orone (as 03) ug/m3	Load (as Pb') µgi m3	Carbon Honcal de (as CD) mg/x3	Ammosi a (as MR3) ug/m3	(as NP) ag/m <sup>3</sup>	Arseni c (as As <sup>2</sup> ) eg/m 3	Benzo (a)pyre nc (as BAP*) ng/m <sup>3</sup>	Benzers (CSH6*) ug/m3
03/06/3022	36.45	15.28	18.78	28.497	18.16	ND.	1.06	12.48	tin	5D	ND	1.15
16/06/2022	32,40	82.96	22.48	38.10	20.35	30	1.14	38.62	ND	ND	ND	1.04
310/06/2003	28.16	85.40	211,19	38.20	22:40	ND	1.02	34.24	NO	40	ND	1.08
13/00/0053	74.64	85,20	20.50	28.40	19.55	ND.	1.76	36.92	ND.	40	NO	1.0
14/06/2022	31.33	84.72	23.25	25.34	21.82	nD	1.1/	2360	AL)	80	M	1.00
79.0652022	30.82	101.96	16.15	32,28	13.64	NO	1.08	14.16	ND	400	NC	1.00
34(04/2)22	55.96	66.10	20.46	30.12	20.16	NO	1.08	15.24	AD.	MO	ND	100
33106/3323	34/62	11.42	8.0	34.64	22.76	ND	1.05	1630	hD	Att	140	1.12
Hiniman	28.16	70.28	18.25	28.4	18.15	+	1.01	31.92	-	1	-	1.02
Mactrum	34,64	81.42	26.18	38.76	23.64	-	1.14	38.62	-	-		1.13
Average	32.03	\$4,40	22.34	32.05	21.09		1.07	34.64	-	-		1.07
NAGOM Standards	60	100	80	80	100	1	2	400	20	6	ï	5
Test Hethod	40CFS Appendix L Part 32 CPCB Guitelines	(P-33)	(5:5182 (P-3)	(F-6)	85-5182 (P-9)	ML/SOP (ANQ II	(9+10)	Hethad af Air Samplin Q & Ahaiyos	NL/50 P/AND -13	NL/SO P/AAQ +L2	15:5182 (P-12)	(5-5182 (P-311)

WALTS Annound Serviced And Ap. Construction de Services (Ed.), Name 214(4), Name 2004, Name 214(1), 2009.
Will Steffen Landerbox (1996), Respectibilities of Antonic (1997), 2013, Name 2004 (1997), 2014, 201 the first the same of second states



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BUILDING & ROAD, MATERIAL SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB Test Report

Issued To M/s Indian OR Corporation Limited

(Refeary Dissort) Religion Napotra Cracker Horyzoa, INDIA

202206300517-131, 202206-2901+0 07/07/2022

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€ 43, Sector-A1 Ect., Bholia Entlave, Channi Himmat, Jomma-180 015; J&K (UT), India

#### Sample Particulars

Nature of the Sample	
Purpose of Monitoring	
Hethod of Sampling	
Hontony Conducted By	

Stack Monitoring To Check the Pollution Load

	15/1	1255 (Part 7)
18 -	1000	1000 N 100 N 100

Sr. No.	Stack Particulars		Stack Brigh t	Stack pia. (mtr.)		Stac k Tem	Averag e cuas Velocit	Particulate Matters' (as PM)		Nickel & Vanadium <sup>1</sup> (as NL& V) <sup>1</sup>		
			(mti.)		60	ŝ	(m/s)	mg/Hee <sup>3</sup>	Kg/hr	mg/N	Kg/br	PPM
t,	Stack 1.5wing Unit DTA/WW-62	14-06-2055	20	1.80	R	-905	8.94	nD	i.	ND	10	1
2	Stack-2 Swing Unit IITA/SAP-01	14-06-2922	14	1.00	20	191	8.90	ND		MO	-	1
1	Stack-J MEG-UAR	29.06.2022	78	3,40	79	112	9.50	8.46	13	M		-
+	Slack-H MCU19900	28-06-2022	76	3,10	45	198	9.99	7.30	1.5	ND	(e)	-
5	Stack 5 MOU1H400	25-06-2022	20	3,10	45	195	30.11	15.8	1.4	ND	1.2	
4	55e8-5 NC0 1000	15-00-2022	30	3.10	35	175	8.37	8,10	1.3	NU		1.1
P	35ack-7.9CU/H903	75:00-2022	7D	310	- 53	185	3.95	9.28	3.5	-1417	17.	1.1
	Stack-8 NCU H700	25 06 2032	10	5.10	30	190	9.44	9.38	1.5	140		1.00
	56a/8/9/90379500	27 06 2022	10	3.20	. G.	1,30	8,72	1.18	17	N2		
10.	Stack 33 WUU H200	27-06-2072	70	3,10	33	122	8.43	8,45	15	NU.	-	-
14	Stack-11 CPP HRSG #	29-06-2022	80	3.30	35	115	8.58	6.39	2.3	ND	-	
17	Steck-17 CPV HRSG 3	23-06-2022	和	1.30	39	123	1.38	8.41	3.0	ND		1.6
12	3943-33 GM HIDD +	28 46 2022	10	3,30	н	120	1.28	8.08	3.0	ND		1.1
14	Statik-14 CP# HIRSG 5	28-06-2022	70	3.30	32	119	8.02	9.36	1.8	19D		1
15	SURA: 15 CPP UBS	38-06-2022	70	3.30	41	137	8.28	8,49	14	an .	-	-
		and the second of					Gani	3	D		÷	
		missible Limits	dist (au)	1			Liquid	10	6		5	
		Text	Method				Indication	15:1125	5 (P-1)	USERA	Arthod 29	By AA

to how involutions, " Percent (Matters as 740 holds, tats, " movers vacable success W142 (c), both sample its superimethin as shart from the date of simpling.



(RAVINDER HITTAL)

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CORFORATE OFFICE & CENTRAL LABORATORIES :-

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Test Report No.7

📾 info@nityalab.com 🗞 www.nityalab.com 202206240115-117, 702206250113-117, 252206270115-116

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Test Report Bater

NITYA LABUKAIUKIES . + 41. Sector Al far., Bralls Erclow, Chand NIEVAR Werk for Quality

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB info@inityalab.com & www.sityalab.com

#### Issued To M/s Indian Oil Corporation Limited

(Refinery Division) Parts Hav

	dard	24.5	lation
éth,	- Det	746	

202206280017-121. 202206290110 Test Report Date: 07/07/2022

#### Sample Particulars

Nature of the Sancie Purpose of Montoring Method of Sampling Nonitoring Conducted Sy

#### Stack Monitoring To Chock the Pollutern Loan 15-11255 (Part 7)

Mr. Kells Ral

Test Report

Sr. Stack Particu Re.	Stack Particulars	Date of Sampling	Sampling Heigh Dia, t Te t (mtr.) (*	Ambien t Tengi (°C)	t Tengi Temp.	Averag e Gas Velocit	Chiefec of Sulphur (as SOy)			Oables of Nitrogen (as NO <sub>1</sub> )			
	11		(etr.)		12792		A (m/s)	mg/ Nm <sup>3</sup>	Kg/hr	эрм	ng/A	Kg/h	PPH
1	Stee-1 locapility DTANA/ND	2446-3002	10	1.80	35	165	8.94	6	0.3	3.2	49	4.90	46.27
ł.	Surk 2 Sengtion. DTAWAP 01	34-06-2022	m	1.80	30	W6	4.90		Q.4.	4,2	88	8.67	#5.22
3	Stack O MEG LINE	29:00-2022	70	3.14	24	212	9.10	23	1.5	12.2	122	18.55	64.85
4	Sted-4 NCU H000	35-06-2022	20	3.10	41	196	3.00	6	1.0	12	- 29	17.01	\$7.57
5	State-5 NOU 1H00	25-06-2022	70	3,40	45	195	10.11	6	T.I.	12	110	15,75	47.84
6	34xx-6 N2U1500	25/04-2022	70	3.30	35	178	8.97	6	1.0	1.2	34	13.53	44,63
1	State-7 NOU 19600	25-04-2022	70	3.10	3.	185	1.01	6	1.0	1.2	- 94	14392	49.50
8	State 9 NOU 10708	25/06-2022	70	3.18	31	1565	1.91	3	1.5	1.6	64	19.57	34.62
9	36808-9 ROU H100	77-96-2022	70	3.10	25	1:10	8.72	8	-0.5	4.0	10	11.92	: 36,13
49	\$1#9-10 NCUH200	37-66-3022	70	3.10	3.1	\$22	1.0	3	0:5	1.8	66	10.12	11.0
15	Stadi-LLCPP HIGG 7	20-66-2022	70	3.30	22	210	8.50	ND.	+		300	61,52	-759.4
12	Mark-L2 CPP HR96.3	2846-3822	26	3.30	31	321	1.38	TND-		-	10	16.00	43.54
13	52ac8-13 (PP HR9G 4	20-06-2022	70	3.30	- 24	120	8.29	ND			135	36.32	71,75
14	Its/8-04 CPP HRSG-5	28-06-2922	70.	3.30	30	319	8.07	ND.	+	1	140	15.43	74.41
15	UII Noter-2	20.06-2022	70	3.30	- 41	117	8.28	9.	17	4.8	190	19.40	15.04
							Ques		50			350	
	Pa	rmiasible Limi	a (mg/hi	e.)			Sepute		1706			+50	

ine based on land, discus of Science (as 10.2 No. 82.11.5). Concern white as way have no able of sensing 22 discus (by present and reaction of self-charter as a

(AUTHORISED SIGNATORY)

#### (RAVINDER MITTAL)

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CORPORATE OFFICE & CENTRAL LABORATORIES -

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Test Report No.1 202206240316-117, 202206250113-117, 202206220115-118

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB Test Report

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202200240156-117, 202206250113-117, 202206240155-118

202206200117-121. 202200290110

02/02/3022

Essued To M/s Indian Oil Corporation Limited

(Networy Division) Paripal Napilia Crack/er

Huryana, HuDiA

Sample Particulars

Nature of the Serrole Printese of Manfanria Hettos al Sarolina Hootoney Constanted By Stack Monitoring

Test Report No.:

Test Report Date:

: To Dieck the Pollution band (5: 11233 (Fan 7)

Phy. Reni Pal.

Sr. Noj		Sampling	Stack Height (retr.)		Taxeep.	Stack Temp. (%)	Average Gas Velocity	Carbon Honoxide (an CD)		
			1	1.52	11.0555.1	1.382.3	\$80,000	mg/hm3	Kg/hr	59M
F.	Market Swing Dail (21A/A0-92	24.95 202	70	1.60	11	165	8,94	3	d)1	1.75
2	Work 2 Swing Unit DTAYOU-EL	24-09-2002	24	1.00	34	385 :	4.50		811	1.8
1	Stock-3 MES UNIT	20.06-2022	30	3.14	20	212	9.10	19	2.09	10.59
4	Stark 4 NOJ H300	25-06-2022	310	3.54	-45	198	9.99	MD .		
3.	Stack 5 900 H400	8-66-2022	370	3.11	- 65	1%	10.11	MD.	1.0	1.00
. 10.	18HA-6 YEU PS00	25-00-3022	152	3.54	35	178	8.97	MEL		
1	19418-2 NEU H000	25-06-2022	70	3.16	n	105	70.01	HII	-	1.1.1
	Stark & ACH H090	25-05-2003	70	3.10	W	动称	9.44	RP.		
- 0	SEACE & MOLETHING	27-80.2002	70	3.10	15	130	8.37	n0		100
10	Boek III NEU HODO	27-06-2013	14	3.40	11	122	8.40	2	77.75	119.73
11	95## 11 (PF H6957	18-66-3825	70	1.30	32	1.10	11.50	126	21.14	823.95
17	1018-12199-14551	25 16-2672	70	3.51	10	121	9,36	1.945	24,90	324.30
÷.	(Hall+1) (H#HRSG+	78-06-2022	70	3.11	ж	132	8.28	199	25.47	\$12.21
16	State 14 CPF (RSG )	39(-06-3022	70	3.70	25	110	8.07	A4D	22.74	118-71
15	5949-15 (PP 182	26-05-3002	70	1.38	-41	157	1.28	HD	1 2 2	-
	Construction of the second second						Gan		150	
		Fermaciber L	nur (uth)	un'i			Liquid		200	

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(RAVINDER MITTAL)

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CORPORATE OFFICE & CENTRAL LABORATORIES =

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued To H/s Indian Oil Corporation Limited (Refinery Division) Panipat Naphia Cracker Haryana, INDIA

Test Report No.: 202206150118 Test Report Date: 24/06/2022

Wastewater & One No 1.0 Liter, Pet Bothe

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#### Sample Particulars

Nature of the Sample & No. of Sample Sample Quantity & Packaging Test Startaid on Test Completed Method of Sampling Date of Sampling Sampling Conducted By Hace of Sampling.

#### ETP Outer PhC Test Report

1 16/06/7022

1 15/06/2022

23/06/2022 SKIPYB/D 3

Mr. Rishi Put

12

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	cH .		7.62	6.9-8.5	15:3025 (P-11)
2	Total Surgersded Solids (155)	mgA.	,70	100 Max	15:3025 (P-17)
3	Charsical Dayges Demand (CDD)	mgA.	110	250.Max	15.3025 (P-58)
4	Bio-Chemical Oxygen Clemand (3 days al. 27°C) (BOD)	ng4.	15	30 Max	15:3525 (P-14)
- 5	Photok (CeHeOH)	migH.	0.78	LO Has	15:3025 (P-43)
6	Subhate (b)	mgit	1.6	2.0 Max	15:3025 (P-29)
7	#korab	Agen	2.6	5.0.958	15:3025 (P-60)
8	Choumiam Hexavalent (Cr+*)		0.05	0.1Max	15:3025 (P-52)
	Cyanide (CN)	mgil.	NO (0L-0.1)	0.30	APP16-23* Ed.
10	Total Dromum	mg/L	ND (DL-0.05)	2.0	(E5:3023 (P-57)

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(RAVINDER MITTAL)

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CORPORATE OFFICE & CENTRAL LABORATORIES -

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## LDAR Monitoring Report for IOCL, Panipat

Name of client	M/s Indian Oli Corporation Limited
	P.O. Panipat Refinery
	Panipat-132 140
	HARYANA
Name of Contractor	NETEL (INDIA) LIMITED
	Environment Management Services
	W-408, Pipe line Road, Rabale MIDC,
	TTC Industrial Area, Navi Mumbai - 400 701
Nature of job	LDAR Monitoring Report for IOCL, Panipat
Report Period	3 Months October to December,2021

For NETEL (INDIA) LIMITED

JAYANT MESHRAM 40.70 SR.MANAGER - EMS OPREATION



LDAR VOC MONITORING REPORT FOR IOCL, PANIPAT

#### LEAK DETECTION AND REPAIR (LDAR) PROGRAM VOC QUARTERLY REPORT : OCTOBER TO DECEMBER,2021 PLANTWISE SUMMARY

		1 2010111111111111111111111111111111111	THINKS IT		
Sr.No.	Name of the Unit	Date of Monitoring	Total No of Points Monitored	Page No.	Total Leak (kg/day)
1	ETP	24/11/2021	- 113	1 to 4	0.021
2	NCU	24/11/2021	834	4 to 26	3.078
3	BUTADINE	24/11/2021	127	26 to 30	0.073
4	BUTEN-1	25/11/2021	195	30 to 35	0.058
5	PP UNIT	25/11/2021	475	35 to 48	0.639
6	MEG	25/11/2021	246	48 to 55	0.709
7	HDPE	25/11/2021	579	55 to 70	0.597
8	LOADING GANTRY	26/11/2021	171	70 to 75	0.057
9	OFF SITE	26/11/2021	220	75 to 81	0.034
10	SWING UNIT	27/11/2021	400	81 to 92	2.622
otal in Kg/day otal in MT/Annum		-	3360	-	7.888
		+	-		2.879

Verified by

Surekha Jamdar Dy. Technical Manager



Checked by

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Shraddha Kere Technical Manager



## LDAR Monitoring Report for IOCL, Panipat

Name of client	M/s Indian Oli Corporation Limited
	P.O. Panipat Refinery
	Panipat-132 140
	HARYANA
Name of Contractor	NETEL (INDIA) LIMITED
	Environment Management Services
	W-408, Pipe line Road, Rabale MIDC,
	TTC Industrial Area, Navi Mumbai - 400 701
Nature of job	LDAR Monitoring Report for IOCL, Panipat
Report Period	3 Months October to December, 2021

## For NETEL (INDIA) LIMITED



#### LDAR BENZENE MONITORING REPORT FOR IOCL, PANIPAT



#### LEAK DETECTION AND REPAIR (LDAR) PROGRAM BENZENE QUARTERLY REPORT : OCTOBER TO DECEMBER, 2021. PLANTWISE SUMMARY

Sr.No.	Name of the Unit	Date of Monitoring	Total No of Points Monitored	Page No.	Total Leak (kg/day)	
1	NCU	24/11/2021	240	1 to 8	0.112	
2	LOADING GANTRY	26/11/2021	56	8 to 10	0.029	
Total in Kg/d	Total in Kg/day 296					
Total in MT/	fotal in MT/Annum					

Verified by

Surekha Jamdar Dy. Technical Manager



Checked by

Vere

Shraddha Kere Technical Manager



## LDAR (BENZENE) Monitoring Report for IOCL, Panipat Naphtha Cracker

Name of client	M/s Indian Oli Corporation Limited
	P.O. Panipat Refinery
	Panipat-132 140
	HARYANA
Name of Contractor	NETEL (INDIA) LIMITED
	Environment Management Services
	W-408, Pipe line Road, Rabale MIDC,
	TTC Industrial Area, Navi Mumbai - 400 701
Nature of job	LDAR (Benzene) Monitoring Report for IOCL, Panipat Naphtha Cracker
Report Period	3 Months from January 2022 to March2022

#### For NETEL (INDIA) LIMITED

NET 03 ANIL SHELKE

GENERAL MANAGER-EMS

Report for the month of January 2022 to March, 2022.

#### LDAR (BENZENE) MONITORING REPORT FOR IOCL, PANIPAT NAPHTHA CRACKER

#### LEAK DETECTION AND REPAIR (LDAR) PROGRAM BENZENE QUARTERLY REPORT FROM JANUARY 2022 TO MARCH 2022 PLANTWISE SUMMARY

Name of the Unit Date of Monitoring Total No of Points Page Total Leak

Juite.	Name of the Onit	Date of Monitoring	Monitored	No.	(kg/day)
t	NCU	29/03/2022	240	1 to 8	0.020
2	LOADING GANTRY	30/03/2022	80	8 to 10	1.014
Total in Kg/day 320					1.034
fotal in MT/Annum					0.377

Verified by

Sr No

Surekha Jamdar Technical Manager



Checked by

111

Shraddha Kere Quality Manager

Report for the month of January 2022 to March, 2022.

## LEAK DETECTION AND REPAIR (LDAR) PROGRAM VOC QUARTERLY REPORT FROM JANUARY 2022 TO MARCH 2022

		PLANTWISE SU	All	Contraction and and	Total Leak
Sr.No.	Name of the Unit	Date of Monitoring	Total No of Points Monitored	Page No.	(kg/day)
		28/03/2022	127	110.4	0.010
3	BUTADINE	the second se	834	4 to 27	2.380
2	NCU	29/03/2022	( ) and a	27 to 38	3.168
10	SWING UNIT	29/03/2022	407	35 to 43	0.015
4	BUTEN-1	29/03/2022	195	a fact of the later of the late	0.010
	ETP	29/03/2022	85	43 to 45	1210.00
+ +	OFF SITE	29/03/2022	220	45 to 51	0.028
9	and a strength of the strength	30/03/2022	579	\$1 to 67	0.050
2	HDPE	30/03/2022	171	67.to 72	0.032
8	LOADING GANTRY	and the second se	475	72 to 85	0.035
5	PPUNIT	31/03/2022	246	85 to 91	0.046
6	MEĜ	31/03/2022		00.14.14	5,781
Total in Kg/day			3339	-	2.110
Total in MT/Annum					2.110

Verified by

Surekha Jamdar

Technical Manager



Checked by

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Shraddha Kere Quality Manager