

Indian Oil Corporation Ltd
Mathura Refinery
HSE Department

Ref No.: MR/HS&E/ENV/23-24-II/EC conditions compliance

Date: 17th May, 2024

Sub: Submission of status/ compliance of Environmental Clearance conditions

Half yearly EC conditions compliance is being submitted to MoEF&CC/ SPCB by Mathura Refinery on regular interval as per requirement. The reports on compliance status of conditions of following Environment Clearances of Mathura Refinery for the period Oct'23-Mar'24 is enclosed for submission to MOEF&CC/ SPCB after approval.

As per new portal introduced in the Parivesh website new reports will be submitted into the website as per new format introduced. Same shall be uploaded in the portal.

Following Environmental Clearances are applicable to MR:

1. Quality Improvement Project from BS-IV to BS-VI, MOE&F Letter No. F-11011/151/2016- IA II(I) dtd. 13th Sept, 2017
2. Dimerization unit (55 TMTA), MOE&F Letter No. J-11011/208/2013- IA II(I) dtd. 19th Sept, 2014
3. Revamp of Existing Fluidized Catalytic Unit (FCCU) of Mathura Refinery for LPG Yield & Reliability Improvement, MoE&F Letter No. J-11011/283/2006-IA II(I) dated 22nd Mar, 2007 & dtd 11th Oct, 2013
4. MS Quality Up-gradation (MSQU) and additional Diesel Hydro Treatment (DHDT) projects with associated facilities at Mathura Refinery MOE&F Letter No. J-11011/6/2000-IA II(I) Dated 30th April, 2001
5. Installation of Diesel Hydro Desulphurisation unit at Mathura Refinery, MOE&F Letter No. J.11012/65/96-IA-II(I) Dated 5th Dec, 1996
6. Expansion of Mathura Refinery from 7.5 MMTA to 8.0 MMTA and matching secondary processing facilities (Once through Hydrocracker, Hydrogen unit, SRU, Amine absorption/ Amine Regeneration Unit, Sour Water Stripper and augmented Thermal Power Capacity), MOE&F Letter No. J-11011/15/94-IA-II Dated 19th Jan, 1995

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7. Propylene (24,000 MT/yr), Isobutylene (12,500 MT/yr) and 4,50,000 MT/yr Catalytic Reformer Unit at Mathura Refinery MOE&F Letter No. J-11011/9/89-IA-II Dated 28th June, 1990


18-05-2024

(Bhaskar Sen)

DGM (HSE)

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**Compliance Status on 'Conditions of Environmental Clearance by MoEF
For Quality Improvement Project from BS-IV to BS-VI Grade at Mathura Refinery, Mathura (Uttar Pradesh) by M/s Indian Oil Corporation Limited-
Environmental Clearance**

Ref: MOE&F Letter No. F-11011/151/2016- IA II(I) dtd. 13-Sept-2017

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
1.	There shall be no change in the total capacity of the refinery for which earlier EC was granted.	Agree to comply		
2.	There shall be no increase in pollution load in respect of air emission, waste water and solid/hazardous waste generation.	Complied.		
3.	There shall be no additional requirement of fresh water and shall remain as 669 cum/hr and the waste water generation shall be reduced from 176 cum/hr to 169 cum/hr.	Complied.		
4.	Total SO2 emissions shall be within the prescribed limit of 450 kg/hr approved earlier and recorded in EC	Complied.	SO ₂ emission is within 450 Kg/hr limit	Annexure-A
5.	As the project site falls within the limit of Taj Trapezium zone, all orders of Hon'ble courts and other statutory requirements, guidelines and directions issued from time to time, as applicable, shall be complied with letter and spirit.	Agree to comply		
6.	The specific and general conditions of all the environmental clearances issued earlier from time to time shall be complied.	Complied	Half yearly compliance reports of all environmental clearances sent to MoEF & CC and UPPCB regularly.	



Compliance Status on 'Conditions of Environmental Clearance by MoEF for Dimerization unit (55 TMTPA)'

Ref: MOE&F Letter No. J-11011/208/2013- IA II(I) dtd. 19-Sept-2014

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	A: Specific Conditions			
i.	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/9/89 IA-II(I) dtd. 28 th June 1990, J-11011/15/94 IA-II(I) dtd. 19 th January 1995, J-11015/65/96 IA-II(I) dtd. 5 th December 1996, J-11011/6/2000 IA-II(I) dtd. 30 th April 2001, J-11011/283/2006 IA-II(I) dtd. 22 nd March 2007 and J-11011/283/2006 IA-II(I) dtd. 11 th Oct'2013	Complied	All stipulations as mentioned in Ministry's letters have been complied with.	
ii.	M/s Mathura Refinery shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R 186(E) dtd. 18 th March, 2008.	Being complied		
iii.	Continuous online stack monitoring for SO ₂ , NO _x and CO of all the stacks shall be carried out. Low NO _x burners shall be installed.	Complied	Continuous on-line SO ₂ , NO _x and CO analyzers Installed in all the 28 stacks. Low NO _x burners are installed in all the heaters of the units.	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
iv.	The process emissions ((SO ₂ , NO _x , HC (Methane & Non-methane)), VOC's and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency of the pollution control device has been achieved.	Being complied	Process Emissions are well under control.	
v.	Leak Detection and Repair program shall be prepared & 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.	Being complied	Monitoring of fugitive emission is carried out as per MoEF Gazette GSR 186(E). HC leak detectors have also been provided at strategic locations in process units and offsite area	
vi.	SO ₂ emissions after installation of Dimerisation unit shall not exceed 450 kg/hr and further efforts shall be made for reduction of SO ₂ load through use of low sulfur fuel.	Complied.	Stack wise SO ₂ emission detail is attached as Annexure-A	Annexure-A

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
vii.	As proposed record of sulfur balance shall be maintained at the refinery as part of the environmental data on regular basis. The basic component of sulfur balance includes sulfur input through feed (sulfur content in crude oil), sulfur output from Refinery through products, by products(elemental Sulfur), atmospheric emissions etc.	Being complied.	Detailed sulfur balance is - maintained.	
viii.	Ambient air quality monitoring stations [PM10, PM2.5, SO2, NOx, H2S, mercaptans, non-methane-HC and Benzene] shall be set-up in the complex in consultation with Uttar Pradesh 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 GLC's.	Being complied.	3 manual Ambient Air Quality Monitoring Stations set up in the refinery area in consultation with UP PCB. In addition, Refinery has a mobile van to monitor ambient air quality of outside refinery.	
ix.	Ambient Air Quality data shall be collected as per NAAQES standards notified by the Ministry on 16 th 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.	Complied.	Ambient Air Quality data is monitored as per NAAQES standards notified by the Ministry on 16 th November, 2009 and trend analysis is carried out regularly.	Annexure-B

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
x.	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 enclosures/silencer shall be installed wherever noise levels exceed the limit.	Complied.	Mathura Refinery don't use DG set for power generation.	
xi.	Total raw water requirement from Koyala river, Keetham lake and Gokul barrage should not exceed 1070 m ³ /hr and prior permission shall be obtained from competent authority. As proposed, no additional water shall be required for proposed project. Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused as make-up for the raw water cooling tower and remaining treated effluent shall be discharged into the nallah	Complied.	No additional water used in the project.	Treated Effluent Quality Annexure-C
xii.	All the effluents after treatment shall be routed to a properly lined guard pond for equalization and final control. In the guard pond, automatic monitoring system for flow rate, pH and TOC shall be provided.	Complied.	Mathura Refinery has holding pond of 19000 m ³ capacity in upstream of ELR. Analyzers are provided at ELR.	
xiii	Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	Complied	Oil catcher/oil traps are provided at strategic locations in the refinery premises	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
xiv	As proposed, oily sludge shall be disposed off through bio-remediation. Annual oily sludge generation and disposal data shall be submitted to the Ministry's regional office and CPCB.	Complied	Annual Oily Sludge data is submitted regularly via Hazardous waste return to Ministry's regional office and CPCB.	
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.	Being complied	All the rules and regulations under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 & amendments are being complied.	
xvi	The membership of common TSDF shall be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF shall be submitted to Ministry's Regional Office at Lucknow. Chemical/inorganic sludge shall be sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors.	Being complied	Spent catalyst is disposed off through CPCB/ SPCB approved TSDF agency via open tender basis or sold through MSTC to CPCB/ SPCB approved party. MR has also TSDF Membership.	
xvii	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.		Any oil spillage/leakage in process units is routed to Effluent Treatment Plant via OWS network.	
xviii	The company shall strictly follow all the recommendations mentioned in Charter on Corporate Responsibility for Environment Protection (CREP)	Complied	-	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
xix	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 source and inflammable materials shall be in place.	Complied	Minimum and adequate separation distance between equipment maintained as per PESO rules/OISD Standards.	
xx	Green belt shall be developed & maintained around the plant periphery. Greenbelt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with local DFO	Complied.	Green belt has been developed inside and around plant periphery. an ecological park has been developed in the refinery premises. Plant species has been selected considering CPCB guidelines.	
Xxi	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.	Complied.	-	
Xxii	Company shall adopt Corporate Environment Policy as per the Ministry's O.M No. J-11013/41/2006-IA. II(I) dtd. 26th April 2011 implemented.	Complied.	-	
Xxiii	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	-	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	B: General Conditions			
i.	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	Strictly adhered stipulations made by UPPCB and State Government. Hence complied.	
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests. 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 to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Agree to comply		
iii.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous 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.	Complied.	All the rules and regulations under Manufacture, Storage and Import of Hazardous Chemical Rules, 2000 are being complied. All necessary approvals are obtained from respective authorities.	
iv.	The overall noise levels in and around the plant area should be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all	Complied.	To control the noise levels adequate control measures have been provided. Moreover, Employees are using Personal	Noise monitoring Annexure-D.

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).		Protective Equipment if continuous exposure is more than TLVs.	
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.	Full-fledged Environment Protection (EP) cell with NABL accredited Pollution Control Lab exists.	Annexure-F
vi	Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environmental pollution control measures and shall be used to implement the conditions stipulated by MoEF and 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.	Environment Expenditure for the period of Oct'23 to March'24 is attached as Annexure-G	Annexure-G
vii	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 should be submitted to them regularly.	Complied.	Six monthly reports are regularly furnished to MoEF&CC Lucknow office as well as in UPPCB regional office Mathura.	

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viii	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 website of the company by the proponent.	Complied		-
ix	The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including result of the monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office MoEF, the respective zonal office of CPCB and 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	Compliance reports are being sent regularly MoEF&CC Lucknow office as well as UPPCB Regional office Mathura. Display board is placed at main gate of the refinery for the environmental data.	-
x	The project proponent shall also submit six monthly reports on the status of the compliance of stipulated environmental conditions including results of monitored data (both in hard copy as	Complied	Six monthly reports are regularly furnished to UPPCB regional office.	-

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	well as by e-mail) to the regional office of MoEF, the respective zonal office of CPCB and SPCB. The regional office of this ministry/CPCB/SPCB shall monitor the stipulated conditions.			
xii	The environmental statement of each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned SPCB as prescribed under the EPA rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Complied	Environmental statement of each financial year ending 31 st March in Form-V is regularly submitted to the concerned SPCB as prescribed under the EPA rules, 1986.	
xii	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 of Environment and Forests at http://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	The advertisements were published in following newspapers for this EC: 1. Akinchan Bharat & Kalpatru Express on 1.10.2014 in Hindi	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
xiii	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 commencing the land development work.	Complied		

Conditions of Environmental Clearance by MoE&F for revamp of Existing Fluidized Catalytic Unit (FCCU) of Mathura Refinery for LPG Yield & Reliability Improvement

MoE&F Letter No. J-11011/283/2006 - IA II(I) dated 22nd Mar, 2007 & dtd 11th Oct, 2013

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
A.	SPECIFIC CONDITIONS			
i.	The company should strictly adhere to the stipulations made by MoEF vide OM No.J-11011/65/96-IA-II dated 5 th December 1996 and vide letter no. J-11011/6/2000- IA-II (I) dated 30 th April, 2001.	Complied	All stipulations as mentioned in Ministry's letters have been complied with.	
ii.	The crude oil processing capacity shall not exceed 8.0 MMTPA due to revamp of existing Fluidized Catalytic Cracking Unit.	Agree to Comply	Noted	
iii.	The total SO ₂ emission from the entire refinery complex shall not exceed 450 kg/hr even after the proposed revamp of FCCU. The gaseous emissions (SO ₂ , NO _x , HC, CO) and particulate matters, from various process units shall conform to the standards prescribed under Environment (Protection) Rules, 1986 or norms stipulated by the SPCB whichever is most stringent. At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control systems(s) adopted by the unit, the respective unit should not be	Being complied	Total SO ₂ emission is within the stipulated limit of 450 kg/hr for Oct-23 to Mar-24 The other gaseous emissions viz. NO _x , HC, CO also conforms to the prescribed standards.	Annexure-A SO ₂ Emission Data

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	restarted until the control measures are rectified to achieve the desired efficiency.			
iv.	The company shall comply with proposed emission and effluent standards for petroleum oil refineries.	Being complied	Emission and Effluent standards are fully complied with. 3 rd stage cyclone separator has been installed in FCC for PM compliance.	
v.	Additional Sulphur Recovery Unit (SRU) of 60 TPD with more than 99% efficiency shall be installed to prevent excess SO ₂ and H ₂ S emissions. The company shall install continuous system for SO ₂ monitoring. Manual monitoring for all the emission parameters shall be carried out once in a month. Sulphur recovery efficiency shall be calculated on monthly basis, using quantity of Sulphur in the feed to SRU and quantity of Sulphur recover.	Complied	Additional Sulphur Recovery Unit of 60 TPD with more than 99% efficiency was commissioned on 18 th Jun'2011. Manual monitoring and Sulphur recovery efficiency calculation is being done monthly.	
vi.	Adequate ambient Air Quality Monitoring Stations SO ₂ , NOx, HC shall be set up in the refinery area in consultation with SPCB, based on occurrence of maximum ground level concentration and down wind direction of wind. The monitoring network must be decided based on making exercise to	Complied	3 AAQMS are set up in the refinery in consultation with UPPCB. A mobile van is available to monitor ambient air quality. Continuous on-line SO ₂ , NOx, CO and PM analyzers	Annexure-B Ambient Air Quality Data

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	represent short term GLCs. In addition, a mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should be provided. Continuous on-line stack monitoring equipment should be installed for measurement of SO ₂ , NO _x and HC.		have been provided in the stacks.	
vii.	Fugitive emissions of HC from product storage tank yard, crude oil tanks etc must be regularly monitored. Sensors for detecting HC leakage should also be provided at strategic locations.	Complied	Monitoring of fugitive emission is carried out as per MoEF Gazette GSR 186(E). HC leak detectors have also been provided at strategic locations in process units and offsite area.	
viii.	The liquid effluent generated from the proposed project shall be treated comprehensively to conform to the load-based standards and concentration limits prescribed under EPA Rules. The entire treated wastewater shall be recycled for reuse for firewater, plant operation and green belt development so as to conserve the fresh water.	Complied	The liquid effluent generated is treated and recycled in refinery through Effluent Treatment Plant. Treated wastewater is being reused in fire water, plant operation and green belt development.	Annexure-C ELR Quality Parameter

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ix.	Guard ponds of sufficient holding capacity shall be provided to contain the effluent during process disturbances and or ETP failure. The concerned units must be shut down in case of effluent quality exceeding the prescribed limits.	Complied	Surge Reservoirs of 18000 m ³ capacity, guard Ponds (10000 m ³) and Polishing Ponds (35000 m ³) are used for storage of treated effluent and Holding pond of 19000 m ³ is available before ELR discharge.	
x.	The company shall adopt mounded storage for LPG. The recommendations made in the Rapid Risk Assessment Report must be incorporated while firming up the plant layout and equipment design. The company must prepare a comprehensive risk assessment/analysis of the refinery and associated facilities once the engineering design and layout are frozen. Based on this, on-site and off-site emergency; preparedness plan must be prepared. Approval from the nodal agency must be obtained before commissioning the project.	Complied	3 nos. of LPG and 2 nos. of Propylene Mounded storage have been provided. Emergency Response & Disaster Management Plan (ERDMP) of Mathura Refinery is valid till 25.09.2025.	
xi.	Green belt of adequate width and density shall be raised around the Taj region to mitigate the effects of fugitive emission. Selection of plant species should be as per	Complied	Near Taj & Runakta Reserve Forest in Agra region total 1,15,000 trees have been planted by Mathura	

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	the CPCB guidelines.		Refinery. Selections of plants are based on CPCB guidelines.	
xii.	The company shall incorporate water-harvesting measures in civil constructions as part of the project and action plan shall be submitted.	Complied	Rain water harvesting is a regular activity in company. Total 18 Rain Water Harvesting pits are available in Refinery and Township.	
B.	GENERAL CONDITIONS:			
i.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Agree to Comply	Any expansion or modifications in the plant shall be carried out with prior approval of the Ministry of Environment & Forests and Climate Change (MoEF&CC).	
ii.	In case of deviations or alterations in the project proposed 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.	Agree to Comply	In case of deviations or alterations in the project, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection	

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iii.	Data on ambient air quality, stack emission as well as fugitive emissions of HC must be regularly monitored and submitted to CPCB once in three months and to Ministry's Regional office once in 6 months.	Being Complied	measures required. Quarterly Data to CPCB is regularly submitted on quarterly basis and Half yearly data is also submitted along with compliance report.	
iv.	Influent and effluent quality monitoring stations shall be set up in consultation with the SPCB. Regular monitoring stations should be carried out for the MINAS parameters.	Being Complied	Quality monitoring of influent is being done on continuous basis in Effluent Treatment Plant. Treated Effluent quality is also regularly monitored on continuous basis as per MINAS.	Annexure-C ELR Quality
v.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) 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 Environmental (Protection) Act, 1986 Rules, and 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	Being Complied	To control the noise levels adequate control measures have been provided. Moreover, Employees are using Personal Protective Equipment if continuous exposure is more than TLVs.	Annexure-D Noise Monitoring Data
vi.	The project authorities must strictly comply	Complied	All the rules and regulations	

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	with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended subsequently. All approvals from state and nodal agencies including OISD, Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained.		under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 are being complied. All necessary approvals are obtained from respective authorities.	
vii.	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for construction workers during the construction phase so as to avoid felling of trees and pollution of water and the surroundings.	Complied	Adequate facilities such as water supply, power supply, sanitation etc have been provided for construction workers during the construction phase.	
viii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommending in the EIA and Risk Analysis report.	Complied	Environmental measures and safeguards recommended in the EIA and Risk Analysis Report are complied	
ix.	Occupational Health Surveillance programme shall be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances.	Complied	Occupational Health Surveillance program is undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances.	Annexure-E (OHC data)

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x.	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	Full-fledged Environment Protection (EP) cell exists. A well-equipped NABL accredited Pollution Control Lab exists to monitor environmental performance on day-to-day basis.	Annexure-F (HSE Organogram)
xi.	The project authorities will provide adequate funds for both recurring and non-recurring to implement the conditions stipulated by MoEF 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 Complied	Adequate fund is allocated for environmental expenditure. Refer Annexure-G environmental expenditure for the period of Oct-23 to Mar-24	Annexure-G
xii.	The stipulated conditions will be monitored by the Regional Office of this Ministry at Lucknow/ CPCB / SPCB. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	Complied	Six monthly reports are regularly furnished to MOEF&CC, Lucknow office as well as in UP PCB regional office Mathura.	
xiii.	The Project Proponent shall inform public that project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available	Complied	The advertisements were published in Amar Ujala and Danik Jagran on 28.03.2007 in Hindi	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	with the SPCB / Committee and may also be seen at Website of the MoEF at http://envfor.nic.in . This should be advertised within seven days from the date of issue of 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 same shall be forwarded to the Regional office.		The copies of the above were sent to the Regional Office of the Ministry vide letter dated 15.5.2007.	
xiv.	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 commencing the land development work.	Complied		

Ref. letter No. J-11011/283/2006-IA II (I) dtd 22nd March, 2007 (EC), Amendment dtd 11.10.2013

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
1	All the specific conditions and general conditions specified in the environmental clearance accorded vide Ministry's letter no. J-11011/283/2006-IA II (I) dated 22 nd March, 2007 shall be implemented.	Complied		
2	M/s IOCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008.	Complied		
3	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. Leak Detection and Repair programme shall be implemented to control HC/VOC emissions.	Being Complied	Monitoring of fugitive emission is carried out as per MoEF Gazette GSR 186(E). HC leak detectors have also been provided at strategic locations in process units and offsite area.	
4	SO ₂ emissions after product mix from the plant shall not exceed 450 kg/hr and further efforts shall be made for reduction of SO ₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H ₂ S emissions	Complied	SO ₂ emission is within the limit of 450 Kg /hr. Natural Gas and fuel gas (S <20 ppm) are being used on continuous basis as fuel to the furnace. New SRU has been installed	

			in 2011	
5	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.	Complied	Sulphur Balance is available.	
6	Total fresh water requirement from River Yamuna and Keetham Lake after expansion shall not exceed 815 m ³ /hr and prior permission shall be obtained from the Competent Authority. Additional water requirement shall be met from recycled water. Industrial effluent generation will be 44 m ³ /hr and treated in the effluent treatment plant. Treated effluent shall be recycled/ reused within the factory premises to the maximum extent and remaining treated effluent will be discharged into nallah. Domestic sewage shall be treated in sewage treatment plant (STP).	Complied	Total fresh water requirement is within the limit of 815 m ³ /hr. Treated Effluent reuse is more than 83 %.	
7	All the effluents after treatment shall be routed to a properly lined guard pond for equalization and final control. In the guard pond, automatic monitoring system for flowrate, pH and TOC shall be provided.	Complied	Flow rate & pH is available at ELR discharge. 5 no. polishing pond and 19000 m ³ capacity of new polishing pond is available before discharging ELR to Yamuna River.	

Compliance Status on 'Conditions of Environmental Clearance by MoEF for Installation of MS Quality Up-gradation (MSQU) and Additional Diesel Hydro Treatment (DHDT) Projects with Associated Facilities at Mathura Refinery'.

Ref: MOE&F Letter No. J-11011/6/2000 IA II(I) Dated 30-April-2001

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	A: Specific Conditions			
i.	The company should strictly adhere to the stipulations made by MoEF vide OM No. J-11011/65/69-IA-II(I) dated 5 th December 1996.	Complied	All stipulations as mentioned in Ministry's letters have been complied with.	
ii.	The total SO ₂ emission from the entire refinery complex should not exceed 450 kg/hr even after the proposed expansion. The gaseous emissions (SO ₂ , NO _x , HC, CO) and particulate matters, from various process units should conform to the standards prescribed under Environment (Protection) Rules, 1986 or norms stipulated by the SPCB whichever is most stringent. At no time, the emission level should go 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.	Complied	Total SO ₂ emission is well within the stipulated limit of 450 kg/hr. The other gaseous emissions viz. NO _x , HC, CO also conforms to the standards prescribed under Environment (Protection) Rules, 1986	Annexure-A (SO ₂ Emission)

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
iii.	Sulphur recovery units with more than 99% efficiency shall be provided to prevent excess SO ₂ and H ₂ S emissions.	Complied.	4 nos. Sulphur Recovery Units - having efficiency more than 99% along with TGTU are provided.	
iv.	Adequate Ambient Air Quality Monitoring Stations SO ₂ , NO _x , HC should be set up in the refinery area in consultation with SPCB, based on occurrence of maximum ground level concentration and down wind direction of wind. The monitoring network must be decided based on making exercise to represent short term GLCs. In addition, a mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should be provided. Continuous on line stack monitoring equipment should be installed for measurement of SO ₂ , NO _x and HC.	Complied.	Three manual Ambient Air Quality Monitoring Stations and one continuous Ambient Air Quality Monitoring Stations are set up in the refinery area in consultation with UPPCB	Ambient Air quality Annexure-B
v.	Fugitive emission of HC from product storage tank yard, crude oil tanks etc. must be regularly monitored. Sensors for detecting HC leakage should also be provided at strategic locations.	Complied.	Monitoring of fugitive emission is carried out on quarterly basis as per MoEF Gazette GSR 186(E). HC leak detectors have also been provided at strategic locations in process units and offsite area.	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
vi.	As reflected in the EIA/ EMP, out of 753 m3/hr of effluent generated, a minimum of 340 m3/hr should be recycled after treatment to conform with the load based standards and concentration limits prescribed under EPA limits. Remaining 413 m3/hr of effluent may be discharged into river Yamuna/ Barari Minor Irrigation Canal. However, IOCL should as far as possible maximize reuse / recycling of treated wastewater for firewater, plant operation and green belt development so as to conserve the fresh water.	Complied.	The treated effluent meets MINAS concentration-based standards as well as load-based standards under EP Rules. Mathura Refinery is recycling Effluent more than 83% with discharge limit of 169m3/hr	-
vii.	Guard ponds of sufficient holding capacity should be provided to contain the effluent during process disturbances and or ETP failure. The concerned units must be shut down in case of effluent quality exceeding the prescribed limits.	Complied	Surge Reservoirs of 18000 m3 along with Guard Ponds (10000 m3) and Polishing Ponds (35000 m3) and holding ponds 19000 m3 is available used for storage of treated effluent with quality deviation.	-
viii.	The company should adopt mounded storage for LPG. The recommendations made in the Rapid Risk Assessment Report must be incorporated while firming up the plant layout and equipment design. The company must prepare a comprehensive risk assessment/analysis of the refinery and	Complied	No new LPG storage has been envisaged under this project. For new Projects only mounded storage is considered. Recommendations of rapid Risk Assessment incorporated, Emergency plan updated.	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	associated facilities once the engineering design and layout are frozen. Based on this, on-site and off-site emergency preparedness plans must be prepared. Approval from the nodal agency must be obtained before commissioning the project.			
ix.	Green belt of adequate width and density should be raised around the Taj region to mitigate the effects of fugitive emission. Selection of plant species should be as per the CPCB guidelines.	Complied	Near Taj and Runakta Reserve Forest . in Agra region total 1,15,000 trees have been planted by Mathura Refinery. Selection of plants is based on CPCB guidelines	
x.	The company should incorporate water-harvesting measures in civil constructions as part of the project and action plan should be submitted.	Complied	Rain water harvesting is a regular activity in company. Total 18 Rain Water Harvesting pits are in available in Refinery and Township.	
	B: General Conditions			
i.	The project authorities must strictly adhere to the stipulations made by the UP State Pollution Control Board and the State Government.	Complied	Stipulations made by UPPCB and State Government are being complied with.	
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests.	Agree to Comply	Any further expansion or modifications in the plant shall be carried out with prior approval of the Ministry of Environment & Forests.	

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
iii.	In case of deviations or alterations in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Agree to Comply	-	-
iv.	Data on ambient air quality, stack emission as well as fugitive emissions of HC must be regularly monitored and submitted to CPCB once in three months and to Ministry's Regional office once in 6 months.	Being Complied		
v.	Influent and effluent quality monitoring stations should be set up in consultation with the SPCB. Regular monitoring should be carried out for the MINAS parameters.	Complied	Quality monitoring of influent is being done on continuous basis in ETP. Treated Effluent quality is also regularly monitored on continuous basis as per MINAS	Annexure-C
vi.	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) 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	Complied	To control the noise levels adequate control measures have been provided. Moreover, Employees are using Personal Protective Equipment if continuous exposure is more than TLVs.	Annexure-D Noise monitoring data

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
	under Environmental (Protection) Act, 1986 Rules, and 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).			
vii.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended on 3 rd October, 1994. All approvals from state and nodal agencies including OISD, Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained.	Complied	All the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules are being complied. All necessary approvals are obtained from respective authorities as per requirement.	
viii.	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for construction workers during the construction phase so as to avoid felling of trees and pollution of water and the surroundings.	Complied	Adequate facilities such as water supply, power supply, sanitation etc provided for construction workers during the construction phase.	
ix.	The project proponent shall also comply with all the environmental protection measures and safeguards recommending in the EIA and Risk Analysis report.	Complied.	Environmental measures and safeguards recommended in the EIA and Risk Analysis Report are complied	

**CONDITIONS OF ENVIRONMENTAL CLEARANCE BY MOEF&CC FOR INSTALLATION OF DIESEL HYDRO DESULPHURISATION UNIT AT
MATHURA REFINERY**

MOEF Letter No. J.11012/65/96-IA-II(I) Dated 5 Dec, 1996

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
1.	The project authority must strictly adhere to the stipulations laid down by the Uttar Pradesh State Pollution Control Board and the State Govt.	Complied		
2.	No expansion or modernization of the plant should be carried out without approval of the Ministry of Environment & Forests.	Agree to comply	Any further expansion or modifications in the plant shall be carried out with prior approval of the Ministry of Environment & Forests.	
3.	The total SO ₂ emission from Mathura Refinery including DHDS project should not exceed stipulated norm of 450 kg/hr after installation of the hydrocracker unit under the Matching Secondary Processing Facilities.	Complied	SO ₂ emission is well within the stipulated limit of 450 kg/hr.	Annexure-A
4.	As indicated in the EMP the existing ETP should be adequately augmented to accommodate the additional effluent from the DHDS project before commissioning the project so as to ensure the treated effluent meets the MINAS.	Complied.	ETP has been modernized. Treated Effluent meets the New Standards.	
5.	Time bound Action Plan for disposal of oily sludge/ recovery of oil and design details of the solid waste disposal pit should be furnished to the Ministry within a period of 3 months.	Complied.	Oily sludge is generated in refinery operations. PVC lined pit with proper leachate collection facility provided for disposal of sludge.	
6.	SRU having an efficiency of more than 99% should be installed.	Complied.	4 no. of Sulphur Recovery Units including one standby along with TGTU having >99% efficiency have been commissioned.	

CONDITIONS OF ENVIRONMENTAL CLEARANCE BY MOE&F FOR EXPANSION OF MATHURA REFINERY FROM 7.5 MMTPA TO 8.0 MMTPA AND MATCHING SECONDARY PROCESSING FACILITIES (ONCE-THROUGH HYDROCRACKER, HYDROGEN UNIT, SRU, AMINE ABSORPTION/ AMINE REGENERATION UNIT, SOUR WATER STRIPPER AND AUGMENTED THERMAL POWER CAPACITY)

MOE&F Letter No. J-11011/15/94-IA-II Dated 19 Jan, 1995

SN	Condition	Self declaration Complied/Being complied / Not Complied / partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
1.	At no time the SO ₂ emission from various units should go beyond 450 kg/hr. In the event of failure of any pollution control system adopted by the unit, the respective units should be put out of operation immediately and should not be restarted until the control systems are rectified to achieve the desired efficiency.	Complied	The present stipulated limit on SO ₂ emission is 450 kg/h. SO ₂ emission is within the stipulated limit of 450 kg/hr.	Annexure-A
2.	Provisions should be made for standby sulphur recovery units (30 TPD) in addition to the proposed two units of 30 TPD each so as to ensure that high SO ₂ emissions are avoided in the event of SRU failure. The standby SRUs should always be functional.	Complied.	At present 4 nos. of SRUs of 60 TPD each including one as standby unit has been installed.	
3.	The efficiency of SRU should be further increased to reduce SO ₂ emission from the present level of 12000 ppm.	Complied.	SRUs as mentioned above are of > 99% efficiency with TGTU.	

4.	The present policy of using 50% indigenous low sulphur crude should be continued, and LSHS obtained from this crude should be solely used as internal fuel oil.	Complied	As per crude availability	
5.	The continuous ambient air quality monitoring equipment located at Farah, Keetham, Sikandara and Bharatpur should be properly calibrated using permeation tubes / span gas.	Complied.	Continuous SO ₂ monitoring AQMS at Farah, Keetham, Sikandara and Bharatpur. Third Party monitoring of SO ₂ , NO _x , PM, CO, NH ₃ , N ₂ O, SPM being done once in month	
6.	Continuous flow measuring systems should be installed in all the stacks of Mathura Refinery.		Online analyzers provided in stacks for measurement of SO ₂ , NO _x , CO, PM.	
7.	The total hydrocarbon loss from the refinery should be reduced to 0.5% from the present value of 0.8%.	Complied.	The total hydrocarbon loss from the refinery in 2022-23 was 0.19%.	
8.	Adequate steps should be taken to safely dispose the oily sludge as per provision made in Hazardous Waste Management Rules of EPA (1986).	Complied.	Bio-remediation pit with HDPE lining is available for bioremediation of Residual oily sludge, in this process sludge is converted into soil.	
9.	A study to assess the impact of SO ₂ on Agra (Taj Mahal) should be carried out using tracer HF analysis. This study should be done in different meteorological conditions and different seasons to see at what	Complied.	Waived by the MOE&F vide Letter No. J-11011/15/94-1A, II (I) dated 21/12/99.	

	concentration the pollutants (especially SO ₂) emitted by Mathura Refinery are reaching Agra. The above study should be completed within a period of one year and report submitted to the Ministry of Environment & Forests for review.			
10.	A study to assess the impact of vehicular pollution between Mathura – Delhi and Mathura – Agra should also be carried within 6 months and remedial measures wherever necessary should be taken at the earliest.	Complied.		
11.	The project authority should immediately explore the possibility of using natural gas in power plant boiler and the furnaces to reduce the SO ₂ emission. In addition, the provision for natural gas should also be made by running a spur-line from the HBJ natural gas pipeline to Mathura Refinery. This matter should be pursued with the concerned governmental authorities for speedy implementation.	Complied.	Natural Gas facility commissioned in Dec'96.	
12.	Low nitrogen oxide emitting burners should be installed in the proposed additional facilities to keep the status of NOx levels within the applicable standards.	Complied.	Low NOx burners provided in all the new furnaces.	

13.	The quality of effluent in the polishing pond should be maintained in such a manner so that they continue to attract migratory birds. Use of polishing lagoon for aquaculture should be also explored.	Complied.	Experts from the Bombay Natural History Society have recorded 96 species of birds during the survey conducted by them.	
14.	Efforts should be made to increase the density of the existing plantation especially around the ecological park, holding ponds, polishing pond, truck loading facility, oil sludge lagoons, equalisation ponds, TPS, SRU and flare areas.	Complied.	Tree plantation is regular activity in Mathura Refinery. Adequate numbers of trees has been planted in the mentioned location.	

CONDITIONS OF ENVIRONMENTAL CLEARANCE BY MOE&F FOR PROPYLENE (24,000 MT/yr), ISOBUTYLENE (12,500 MT/yr) AND 4,50,000 MT/yr CATALYTIC REFORMER UNIT AT MATHURA REFINERY

MOE&F Letter No. J-11011/9/89-IA-II Dated 28th June, 1990

SN	Condition	Self declaration Complied / Being complied / Not Complied / Partially complied / Agree to comply	Remarks within 200 characters	Supporting Document as Annexure
1.	The project authority should not exceed the throughput capacity (7.5 MMTPA) of the plant either in the form of crude or in the form of any product from outside for processing. Processing of special cut Naphtha of 2,77,000 TPA is not to be undertaken since it will result in increasing the processing capacity of the refinery.	Agree to comply	Clearance for 8.0 MMTPA obtained from the MOE&F vide Letter No. J-11011/15/94-IA-II dated 19 Jan, 1995.	
2.	The project authority must strictly adhere to the stipulations made by the Uttar Pradesh State Pollution Control Board.	Complied	Stipulations made by the UP PCB are complied with.	
3.	The LPG requirement of the surrounding districts shall not be affected due to the proposed product diversification activities.	Complied.	LPG supply is not affected.	
4.	At no time the SO ₂ emission from various unit shall be beyond 1000 kg/hr. In the event of failure of any pollution control system adopted by the unit, the respective units should be put out of operation immediately and should not be restarted until the control systems are rectified to achieve the desired efficiency. This sulphur recovery unit should always be functional.	Complied.	Present stipulation limit is of 450 Kg/h. SO ₂ emission is within the present stipulated limit of 450 kg/hr.	Annexure-A

5.	The project authority will utilize the treated effluent to the extent of 65% either as process water or for agricultural /afforestation purposes. The entire quantity of liquid effluents generated within various operations will have to be treated and should strictly conform to the specified standards.	Complied.	Treated effluent is recycled to the tune of 83 % for various uses in the refinery viz. Cooling Tower make-up, DM water generation, fire water and horticulture. Treated effluent meets MINAS.	
6.	The existing air quality monitoring stations at three different locations in the plant as well as at four outside the plant should be maintained properly. The recorded data should be furnished to the State Board and to the Ministry of Environment & Forests, Govt. of India every year.	Being complied	Reports are periodically sent to the UPPCB and the MOE&F.	Annexure-B
7.	The project must maintain all the existing water quality monitoring stations at different locations of the plant. The recorded data shall be furnished to State Board & to this Ministry once in 3 months. Performance evaluation of each unit of the effluent as well as sewage treatment plant should be undertaken at regular intervals for all relevant parameters covered during study.	Complied.	-	
8.	No change in design of stacks should be made without the prior approval of the State Pollution Control Board. Alternate pollution control systems should be provided and stacks should be designed properly to take care of excess hydrocarbon emission due to failure in any system in the plant.	Complied.		

9.	Sludge recirculation to aeration basin from final clarifier should be done regularly for maintaining desired MLSS concentration.	Being complied.		
10.	Generation of oily sludge in crude oil tank should be kept to the minimum by hot gas oil flushing system or any other approved method.	Being complied.	Mechanized cleaning is being done for all crude oil tanks, which come under cleaning.	
11.	The disposal of all types of sludges to the landfill site should be made after PVC lining or after putting impervious layer. Proper arrangement should be made for overflow during rainy season. Regular ground water monitoring is required to be undertaken at different levels to monitor any contamination through seepage/ leakage. A pump should be installed to pump out leachate from time to time and discharge into the combined waste water stream.	Complied.	Bio-remediation pits with HDPE lining are available for Residual Oily Sludge disposal. Groundwater monitoring being done on periodic basis.	
12.	Proper control of hydrocarbon emissions should be ensured during start up period of any unit.	Being complied	By following proper start-up procedures thereby ensuring smooth start-up of process units and avoiding hydrocarbon emissions to the atmosphere.	
13.	Standby sulphur recovery unit should always be kept in operation ready phase so that excess SO ₂ / H ₂ S emission can be avoided.	Being complied	3 nos. of sulphur recovery units are in running with one SRU as hot standby.	

14.	Captive power station and other utilities should preferably use LSHS instead of fuel oil so as to avoid any excess SO ₂ release from the boiler house. The additional capacity for heaters and utility furnaces should use only LSHS.	complied	Low S Fuel Oil used. Fuel Gas and predominantly Natural Gas is used as fuel & as feed in Hydrogen Generation Units.	
15.	The project authority must explore the possibility of converting the existing heaters into gas based system.	complied	Existing furnaces utilize very less low S liquid fuel. Also, since 1996, Max. Natural Gas is being used in heaters/furnaces.	
16.	The project authority must control fugitive emission of HC from existing and new storage tanks. Monitoring in this area should be carried out regularly.	complied	For fugitive emission control, secondary seal are provided in floating roof in crude oil and light product service. Monitoring of fugitive emission being done for 10000 points per quarter.	
17.	Regular calibration of automatic recording system through permeation tube/ standard gas cylinder system should be done at regular intervals.	Complied	Monthly calibration is being done. Records maintained	
18.	Green belt development plan should be strictly followed as suggested by consultant.	Complied	Mathura Refinery is developing green belt by tree plantation as per details given below. Total approx. 3,23,689 trees planted till date.	

19.	A full-fledged laboratory should be set up for collecting and analysis of samples under the supervision of senior technical personnel.	Complied	A full-fledged pollution control laboratory exists to monitor environmental performance. The laboratory is recognized by NABL.	
20.	The density of the existing plantation should be doubled particularly in the SE direction of the plant with suitable plant species.	Complied	Approx. 1,15,000 trees has been planted in Taj and Runakta Reserve Forest in Agra region(SE direction).	
21	All the construction workers should be provided with proper infrastructural facilities during the construction period.	Complied		
22.	The No Objection Certificate and the Disaster Management Plan should be furnished to this Ministry within six months from the clearance date.	Complied		
23.	The standard laid down for occupational health of the workers should be adopted and followed. If Indian standards in this regard for any specific cases are not available, the relevant standards of WHO/ ILO etc. should be followed. Regular survey should be made and recorded data should be furnished to this Ministry once in six months.	Complied	The health monitoring of workers are carried out by the Occupational Health Centre of the refinery. Reports are periodically sent to the MOE&F.	
24.	Noise levels should be maintained within the permissible limit, to avoid occupational health hazards to the persons working within the plant.	Complied	To control the noise levels adequate control measures have been provided. Moreover, Employees are using Personal Protective	Annexure-D

				Equipment if continuous exposure is more than TLVs.	
25.	Regular safety audit should be done for fire hazards or any other major accident in the plant.	Complied		Safety audits are carried out periodically.	
26.	A separate environmental management cell with suitably qualified people to carry out various functions relating to environmental management should be set up under the control of a senior technical person who will directly report to the Chief Executive.	Complied		Environmental Management Cell having qualified personnel exists to monitor environmental performance.	Annexure-F
27.	Adequate fund provision (capital & recurring expenditure) should be provided for implementation of all the conditions stipulated herein and funds so provided should not be diverted for any other purpose. The funds earmarked for this purpose should be communicated to this Ministry within three months.	Complied			

Annexure A

Total SO₂ emissions from the refinery

SO ₂ Emission (Oct'23-Mar'24)							
Month	Unit	Oct'23	Nov'23	Dec'23	Jan'24	Feb'24	Mar'24
SO ₂	kg/hr	238.95	238.37	271.58	195.13	231.50	250.35

Average Stack Wise SO₂ Emission kg/ hr

Stack	Oct'23	Nov'23	Dec'23	Jan'24	Feb'24	Mar'24
CDU	0.42	0.47	0.40	0.32	0.32	0.37
VDU	0.10	0.11	0.09	0.08	0.08	0.09
VBU-I	0.03	0.03	0.02	0.01	0.01	0.02
VBU-II	0.03	0.03	0.02	0.01	0.01	0.02
TGTU	0.00	0.00	0.00	0.00	0.00	0.00
FCCU	0.05	0.03	0.03	0.02	0.02	0.03
COB	117.36	115.89	109.43	90.50	105.32	110.82
BBU	0.02	0.01	0.01	0.01	0.02	0.01
SRU(A,B,C,D)	119.55	120.34	160.06	102.87	124.30	137.66
CRU-I	0.07	0.05	0.07	0.07	0.08	0.07
CRU-II	0.13	0.08	0.12	0.12	0.15	0.12
DHDS	0.03	0.03	0.03	0.02	0.03	0.03
DHDT	0.03	0.03	0.03	0.01	0.02	0.02
HGU II PDS	0.07	0.16	0.11	0.05	0.07	0.06
OHCU-I	0.01	0.02	0.02	0.02	0.02	0.02
OHCU-II	0.03	0.04	0.04	0.03	0.04	0.03
NHDT	0.03	0.03	0.04	0.04	0.04	0.04
HGU-I	0.00	0.00	0.00	0.00	0.02	0.00
HGU-II reformer	0.07	0.16	0.11	0.05	0.07	0.06
Prime G	0.01	0.01	0.02	0.01	0.01	0.01
Prime-G Revamp	0.01	0.01	0.02	0.01	0.01	0.01
TPS Boiler& HRSG(I,II,III)	0.90	0.84	0.91	0.87	0.88	0.87
TOTAL (kg/hr)	238.95	238.37	271.58	195.13	231.50	250.35

Annexure B

Ambient Air Quality Monitoring Report
Sampling and analysis by
Refinery / Consultant / State Board / Central Board

A. Inside Refinery

	Unit	Limit	Oct'23	Nov'23	Dec'23	Jan'24	Feb'24	Mar'24
PM ₁₀	µg/m ³	100	71.0	74.3	60.3	47.2	52.3	55.0
PM _{2.5}	µg/m ³	60	34.0	37.0	23.2	28.3	31.5	32.3
SO ₂	µg/m ³	80	14.7	10.7	11.6	9.7	12.4	12.1
NO ₂	µg/m ³	80	19.3	23.0	22.4	21.8	21.6	21.1
NH ₃	µg/m ³	400	23.0	24.0	22.9	19.7	22.5	20.8
CO	mg/m ³	2**	1.0	1.0	1.0	1.0	1.1	1.1
O ₃	µg/m ³	100**	28.7	29.7	31.0	21.9	24.0	30.7
BENZENE	µg/m ³	5*	ND	ND	ND	ND	ND	ND
BENZO(a) PYRENE (as BaP)	ng/m ³	1*	ND	ND	ND	ND	ND	ND
LEAD	µg /m ³	1	ND	ND	ND	ND	ND	ND
ARSENIC	ng/m ³	6*	ND	ND	ND	ND	ND	ND
NICKEL	ng/m ³	20*	ND	ND	ND	ND	ND	ND

- * annual average
- ** 8 hour average
- Rest are 24 hours average

Annexure C

Treated Effluent Discharge Quality as per MINAS Standards

Parameter	LIMIT (mg/l)	Oct'23			Nov'23			Dec'23		
		Min value	Max value	Average value for month	Min value	Max value	Average value for month	Min value	Max value	Average value for month
pH	6.0 - 8.5	7.0	8.3	7.8	7.6	8.4	7.8	7.3	8.0	7.8
Oil & Grease	5	2.4	4.8	4.2	3.0	4.8	4.3	2.3	4.8	4.1
Phenols	0.35	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2
Sulphides	0.5	0.3	0.5	0.4	0.3	0.5	0.4	0.1	0.5	0.2
BOD	15	8.0	14.0	10.7	7.0	14.0	11.2	7.0	12.0	10.4
COD	125	73.0	124.0	94.3	64.0	124.0	97.9	64.0	108.0	83.3
TSS	20	6.0	19.0	14.8	17.0	19.0	18.1	12.0	19.0	17.3
		Jan'24			Feb'24			Mar'24		
4Parameter	LIMIT (mg/l)	Min value	Max value	Average value for month	Min value	Max value	Average value for month	Min value	Max value	Average value for month
pH	6.0 - 8.5	7.6	8.1	7.9	7.6	8.2	7.9	7.2	8.2	7.8
Oil & Grease	5	3.4	4.8	4.3	4.0	4.8	4.3	2.4	4.8	4.3
Phenols	0.35	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1
Sulphides	0.5	0.1	0.4	0.2	0.1	0.5	0.2	0.1	0.5	0.3
BOD	15	8.0	14.0	11.3	9.0	14.0	12.3	8.0	14.0	12.3
COD	125	0.0	124.0	99.8	73.0	124.0	107.0	70.0	124.0	105.0
TSS	20	15.0	30.0	18.4	13.0	19.0	17.9	9.0	19.0	17.7

Area Sound Level monitoring

OCTOBER -2023

TLV (TWA) = 90 dBA

Date	Dept./Unit	Area	Findings LAeq(dBA)
3.10.23	Prod / New PRU	18NPM 201 A/B	90.4
		18NPM 202 A/B	90.4
		18NPM 203A/B	90.6
		18NPM 204 A/B/C	97.8
		18NT 241	91.6
		CONTROL ROOM	68.0
3.10.23	Prod / MEROX	25 PM 1A/B	Shut Down
		22PM 1A/B	Shut Down
		25 V4	88.1
		21 V9	85.6
		CONTROL ROOM	68.0
3.10.23	Prod /FCC	NEW TURBINE	94.3
		TURBINE HALL (OP'S ROOM)	70.1
		19 P M 103 A/B	87.2
		Co Boiler	88.5
		19 PM 106 A/B	90.5
		19 PM 2 A/B	90.4
		20 PM 8 A/B	88.1
		CONTROL ROOM	68.0
3.10.23	Prod / CRU	14 PM 1 A/B	88.0
		EXCHANGER AREA	87.9
		9 P 2 A/B/C	90.5
		COMPRESSOR PLATFORM	89.1
		15 K1M1	88.1
		40 KM 1A/B	90.5
		NITROGEN PLANT	88.1
		CONTROL ROOM	69.5
4.10.23	Prod / VBU	16 PM 4 A/B	S/Down
		16 P 10A/B	90.2
		16 PM 1 A/B	91.7
		16 PM 2 A /B	90.1
		CONTROL ROOM	69.5
4.10.23	Prod / AVU	PH TESTING AREA	88.1
		Exchanger Area (pre)	87.9
		CHEMICAL AREA	89.0
		10 P 1 A/B/C/S	91.1
		DESALTER AREA	88.0
		11 PM 108 A/B/C/S	90.4
		11 P M 102 A / B/C/S	91.2
		11PM 5 S ATF R/D	88.1
		12 PM 1 A /B	88.3
		11 PM 7 S	92.7
		FURNACE	88.0
		CONTROL ROOM	69.5

Area Sound Level monitoring

NOVEMBER -2023

TLV (TWA) = 90 dBA

Date	Dept./Unit	Area	Findings LAeq(dBA)
6.11.23	Prod / DHDS	02 PM 05 A	87.1
		02 PM 02 B	87.9
		02 PM 1 A PUMP	90.1
		02 K 1 COMPRESSOR (UP)	87.9
		CONTROL ROOM	69.4
6.11.23	Prod / DHDT	301 P 01 A/B PUMP	88.5
		301 P 04 A/BPUMP	87.4
		301 P 3 A PUMP	88.1
		301 K 01 B COMP. (NEAR WHEEL)	85.4
		CONTROL ROOM	69.4
6.11.23	Prod /OHCU	NEAR 7P 12 B	87.4
		NEAR 7P10 B PUMP	88.2
		EXCHANGER AREA	83.1
		7 KA 3 A/B COMPRESSOR (FAN SIDE)	87.8
		7 KA 3 C COMPRESSOR (FAN SIDE)	88.4
		7 P 1 A	88.6
		7P 5 A /B	88.1
		7P 2C / B / A	87.1
		SAMPLE SOUR WATER (V3)	88.4
		FURNACE F1/F2	88.6
		CONTROL ROOM	69.4
7.11.23	Prod / HGU I	NEAR 6 PM 002 A/B	Shut down
		NEAR 6 KM 003A/B	Shut down
		NEAR 6K 004 A /B	88.1
		PSA 130	Shut down
		PSA 140	89.4
		06 K 05 A/B	86.4
		CONTROL ROOM	70.1
7.11.23	Prod / HGU II	302 P 12 A/B	88.3
		302 K 12 V2 / V3	Shut Down
		302 K 01 A/B COMPRESSOR	86.7
		PSA AREA	89.1
		302 K 11 A/B	87.9
		NEAR 340 KM 001	90..3
		CONTROL ROOM	70.1
7.11.23	P& U /Water Block	COMPRESSOR HOUSE	93.4
		COMPRESSOR HOUSE – INSIDE CABIN	73.5
10.11.23	Prod/ Prime G	306 P 1 B	85.4
		307 P 2 B	86.7
		Comp House	84.1

Area Sound Level monitoring

FEBRUARY -2024

TLV (TWA) = 90 dBA

Date	Dept./Unit	Area	Findings LAeq(dBA)
7.2.24	Prod / DHDS	02 PM 05 A	88.1
		02 PM 02 B	88.3
		02 PM 105 A/B PUMP	90.2
		02 K 1 COMPRESSOR (UP)	88.7
		CONTROL ROOM	70.1
7.2.24	Prod / DHDT	301 P 01 A/B PUMP	88.1
		301 P 04 A/BPUMP	88.4
		301 P 3 A PUMP	87.9
		301 K 01 B COMP. (NEAR WHEEL)	86.1
		CONTROL ROOM	70.1
7.2.24	Prod /OHCU	NEAR 7P 12 B	88.4
		NEAR 7P10 B PUMP	88.4
		EXCHANGER AREA	84.5
		7 KA 3 A/B COMPRESSOR (FAN SIDE)	87.4
		7 KA 3 C COMPRESSOR (FAN SIDE)	88.0
		7 P 1 A	88.4
		7P 5 A /B	88.6
		7P 2C / B / A	87.9
		SAMPLE SOUR WATER (V3)	88.6
		FURNACE F1/F2	88.4
		CONTROL ROOM	70.1
8.2.24	Prod / HGU I	NEAR 6 PM 002 A/B	Shut down
		NEAR 6 KM 003A/B	Shut down
		NEAR 6K 004 A /B	88.6
		PSA 130	Shut down
		PSA 140	88.9
		06 K 05 A/B	85.4
		CONTROL ROOM	69.5
8.2.24	Prod / HGU II	302 P 12 A/B	88.1
		302 K 12 V2 / V3	Shut Down
		302 K 01 A/B COMPRESSOR	87.7
		PSA AREA	89.2
		302 K 11 A/B	88.1
		NEAR 340 KM 001	90.1
		CONTROL ROOM	69.5
8.2.24	P& U /Water Block	COMPRESSOR HOUSE	92.4
		COMPRESSOR HOUSE – INSIDE CABIN	71.4
13.2.24	Prod/ Prime G	306 P 1 B	86.1
		307 P 2 B	87.1
		Comp House	85.4

Area Sound Level monitoring

MARCH -2024

TLV (TWA) = 90 dBA

Date	Dept./Unit	Area	Findings LAeq(dBA)
8.3.24	PROD/SRU	05 K 1A	90.0
		5 C E 14	91.0
		PIT AREA	88.1
		05 K 1B	88.4
		5 K1 C	88.0
		CONTROL ROOM	71.2
8.3.24	PROD/MSQ	308 K 1 A COMPRESSOR	88.6
		308 K 1 B COMPRESSOR	88.1
		309 PM 7 A/B PUMP	88.6
		309 PM 5 A/B	87.1
		315 PM 2 A/B	S/Down
		308 PM 1 A/B	88.1
		309 PM 1 A/B	88.5
		310 PM 2 A/B	S/Down
		CONTROL ROOM	71.2
11.3.24	PROD/TPS	D M PLANT	87.0
		D M PLANT – CONTROL ROOM	79.1
		TURBINE HALL – DOWN (Old PRDS)	93.5
		BFP CABIN	87.1
		GT HALL I	90.1
		GT HALL II	90.3
		GT HALL III	90.8
		SEAL FAN AREA(I)	94.1
		STEAM GENERATOR HALL	88.4
		CONTROL ROOM	72.8
8.3.24	PROD/ETP	ISPH	88.1
		SOPH	88.4
		TPH	87.9
		RPH	88.3

Note:

To control the noise levels adequate control measures like acoustic insulation in control rooms etc have been provided. Moreover, employees are using personal protective equipment if continuous exposure is more than TLVs.

Area Sound Level monitoring

DECEMBER -2023

TLV (TWA) = 90 dBA

Date	Dept./Unit	Area	Findings LAeq(dBA)
21.12.23	PROD/SRU	05 K 1A	90.1
		5 C E 14	90.4
		PIT AREA	87.8
		05 K 1B	87.2
		5 K1 C	88.1
		CONTROL ROOM	70.1
21.12.23	PROD/MSQ	308 K 1 A COMPRESSOR	88.4
		308 K 1 B COMPRESSOR	88.9
		309 PM 7 A/B PUMP	88.1
		309 PM 5 A/B	87.5
		315 PM 2 A/B	S/Down
		308 PM 1 A/B	88.5
		309 PM 1 A/B	88.1
		310 PM 2 A/B	S/Down
		CONTROL ROOM	70.1
23.12.23	PROD/TPS	D M PLANT	86.9
		D M PLANT – CONTROL ROOM	78.6
		TURBINE HALL – DOWN (Old PRDS)	94.3
		BFP CABIN	87.4
		GT HALL I	90.0
		GT HALL II	90.1
		GT HALL III	90.4
		SEAL FAN AREA(I)	94.9
		STEAM GENERATOR HALL	88.1
		CONTROL ROOM	73.1
21.12.23	PROD/ETP	ISPH	88.4
		SOPH	88.1
		TPH	88.6
		RPH	86.5

Area Sound Level monitoring

JANUARY -2024

TLV (TWA) = 90 dBA

Date	Dept./Unit	Area	Findings LAeq(dBA)
1.1.24	Prod / New PRU	18NPM 201 A/B	91.1
		18NPM 202 A/B	91.4
		18NPM 203A/B	90.8
		18NPM 204 A/B/C	88.7
		18NT 241	90.8
		CONTROL ROOM	67.8
1.1.24	Prod / MEROX	25 PM 1A/B	Shut Down
		22PM 1A/B	Shut Down
		25 V4	87.1
		21 V9	86.1
		CONTROL ROOM	67.8
1.1.24	Prod /FCC	NEW TURBINE	93.5
		TURBINE HALL (OP'S ROOM)	71.1
		19 P M 103 A/B	88.1
		Co Boiler	88.2
		19 PM 106 A/B	90.7
		19 PM 2 A/B	90.1
		20 PM 8 A/B	87.9
		CONTROL ROOM	67.8
1.1.24	Prod / CRU	14 PM 1 A/B	88.5
		EXCHANGER AREA	86.9
		9 P 2 A/B/C	91.1
		COMPRESSOR PLATFORM	88.9
		15 K1M1	88.7
		40 KM 1A/B	91.0
		NITROGEN PLANT	87.9
		CONTROL ROOM	67.9
2.1.24	Prod / VBU	16 PM 4 A/B	S/Down
		16 P 10A/B	91.1
		16 PM 1 A/B	90.8
		16 PM 2 A /B	90.1
		CONTROL ROOM	69.6
2.1.24	Prod / AVU	PH TESTING AREA	88.1
		Exchanger Area (pre)	89.3
		CHEMICAL AREA	89.3
		10 P 1 A/B/C/S	90.1
		DESALTER AREA	88.4
		11 PM 108 A/B/C/S	90.5
		11 P M 102 A / B/C/S	90.7
		11PM 5 S ATF R/D	87.9
		12 PM 1 A /B	88.9
		11 PM 7 S	91.4
		FURNACE	87.5
		CONTROL ROOM	69.6

October 2023 TO March 2024

Annexure-E

S. No.	Item	Status			
B. HEALTH					
8	Occupational Health Checks	Category	Target	Reported	Done
		Officer > 40 Yrs.	178	141	141
		Staff > 40 Yrs.	197	121	121
		Officer < 40 Yrs.	297	211	211
		Staff < 40 Yrs.	359	227	227
		Officer Grade G to I	12	12	12
		Pre - Employment	-	98	98
		CISF	28	28	28
		Contract Worker	-	246	246
		Spouse > 40 Yrs.	448	194	194
		Spouse < 40 Yrs.	798	360	360
		Father & Mother > 40 Yrs.	1566	336	336
		Total Examined	3883	1974	1974

Annexure G

COST OF ENVIRONMENT MANAGEMENT (2023-24 H2)

S.N.	Particulars	Rs in Lakhs REVENUE EXPENDITURE AS ON DATE 30.06.2024 for H-2 2023-24
A	O&M contracts	93.90
B	One Time Expenditure	78.47
C	AMC jobs	55.16
D	Audit / Study / Consultancy jobs	6.68
E	Monitoring jobs	12.02
F	Revenue Expenditure(A+B+C+D+E)	246.26
	Total Expenditure (F)	246.26

