

Environmental Monitoring Data

IOCL-Barauni Refinery

(Oct'2024 to Mar'2025)

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Production details (Oct'2024 to Mar'2025)

All figures in Metric Tonnes

Total Crude Processed	Quantity
Low sulfur	28476339.00
High sulfur	328271.00
Total Crude	28804610.00
External Inputs	
SKO Interface	
Ethanol	33420.000
Contaminated Product	11100.000
Naphtha Received and Processed	19600.000
RLNG	68500.000
Total external input	132620.00

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All figures in Metric Tonnes

Production	Quantity
LPG	199900
SRN	167900
EBMS	175600
MS (Euro-VI)	633100
SKO	45200
JET A-1 (ATF)	119900
HSD (Euro-VI)	1494900
LSHS(Premi um)	94500
RPC EX COKER-A	99200
Bitumen VG 40	75000
Bitumen VG 30	10376.662
SULFUR	10400



IndianOil
Barauni Refinery

Status as on 31.03.2025

Subject: Catalytic Reformer at Barauni Refinery of Indian Oil Corporation Environment clearance.

Ref: Ministry's clearance letter no J-11011/10/89-IA dated 25.07.1989

SN	ITEM	STATUS
1.	The project authority must strictly adhere to stipulations made by the State Government and the State Pollution Control Board.	<ul style="list-style-type: none">• With Ref. No.ROB(A+W)-1474/20/1084 dated 05.04.2022 permission from BSPCB, under Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, available with validity till 04.04.2027.• Complied.
2.	The project authority will not increase the throughput capacity of the refinery from the existing level.	<ul style="list-style-type: none">• Prior approval of ministry is always taken before carrying out any expansion or modification of the plant.• Complied
3.	The project authority must submit a rapid EIA report within 6 months and comprehensive EIA report within 18 months to this Ministry for review.	<ul style="list-style-type: none">• The EIA report has already been submitted.• Complied.
4.	Gaseous emissions of Sulphur dioxides, hydrocarbons and oxides of nitrogen should not exceed the standard prescribed by the Central/ State Pollution Control Board. At no time the emission level should be beyond the stipulated standard. In the event of failure of any pollution control system adopted by the unit, the respective unit should be put out of operation immediately and should not be restarted until the control systems are rectified to achieve the desired efficiency.	<ul style="list-style-type: none">• Process emissions at Barauni Refinery conform to the standards prescribed under the EPA rules.• Total SO₂ emissions from existing units at Barauni Refinery are within the stipulated limit of 815 kg/hr as per latest EC.• Complied.
5.	The project authority will recycle the effluent to the maximum extent possible either as process water or for afforestation.	<ul style="list-style-type: none">• Effluent Treatment Plant (ETP) of 1000 m³/hr capacity and Biological Treatment Plant (BTP) of 1400 m³/hr capacity have been provided for treatment of effluent.• Treated effluent is completely reused in refinery operations, horticulture and eco ponds make up.• Complied.
6.	The entire quantity of liquid effluent coming out of the complex should conform to MINAS both in terms of quantity and quality	<ul style="list-style-type: none">• No effluent is being discharged to river Ganga since Oct 2013 and the line going to river Ganga has been dismantled.

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	before discharge into the drainage system. The process plant effluent should be discharged through pipeline/closed channel.	<ul style="list-style-type: none"> The treated water quality is within MINAS. Complied.
7.	The project authority must set up minimum of four air quality monitoring stations at different locations of the plant and in the nearby areas. The air quality will be monitored as per standard procedure. The monitoring of gaseous emissions should also include oxides of nitrogen and hydrocarbons. All the stacks of the plant must be provided with continuous automatic stack monitoring equipment and stacks emission levels must be recorded and furnished to the State Pollution Control Board once in three months and to this Ministry once in six months.	<ul style="list-style-type: none"> Eight manual (four in Refinery, one in township, three in periphery villages) air quality monitoring stations have been set up. Ambient air quality is checked twice in a week. Three continuous online air monitoring stations provided for ambient air quality monitoring covering 8 parameters viz PM 10, PM 2.5, SO₂, NO_x, CO, NH₃, Benzene and Ozone. The stations are also directly connected online with servers at CPCB and Bihar State Pollution Control Board (BSPCB). The results are furnished to the BSPCB and the MoEF&CC (Regional office, Ranchi) at regular intervals as prescribed. Continuous on-line stack analyzers for monitoring of SO₂, NO_x, CO & PM have been installed and connected to CPCB server for 24 nos. of stacks. Stack emissions from all units are sampled once in two months except Sulfur Recovery Unit (which is monitored monthly basis) and results on stack emission, and work zone monitoring data are furnished to the BSPCB and MoEF&CC (Regional Office, Ranchi). <p>Complied.</p>
8.	The liquid effluent quality must be assured on daily basis. At least five water quality monitoring stations must be set up in consultation with the State Pollution Control Board. This should include the monitoring of oil content in the river. If the effluent quality exceeds the standard prescribed at any time, the corresponding units of the plant which are contributing to the excessive pollutant loads shall be immediately stopped and operation must not be restarted till the quality of effluent discharged from the units are brought down to the required levels.	<ul style="list-style-type: none"> Effluent quality monitoring points has been set up in consultation with BSPCB. The results are regularly furnished to the BSPCB and regional office, MoEF&CC, Ranchi. Online effluent analyzers have been installed at the discharge of treated effluent and connected to CPCB and BSPCB server. No effluent is being discharge to river Ganga since Oct 2013 and the line going to river Ganga has been dismantled. <p>Complied.</p>
9.	The project authority will ensure that the effluent treatment plant will be commissioned and operational within the next three months.	<ul style="list-style-type: none"> Effluent Treatment Plant (ETP) of 1000 m³/hr capacity and Biological Treatment Plant (BTP) of 1400 m³/hr capacity have been provided for treatment of effluent. Complied.
10.	The project authority must submit a disaster management plan duly approved by the nodal agency of the State within a period of three months. Disaster management plan should include the worst accident scenario	<ul style="list-style-type: none"> Comprehensive On-site and Off-site Disaster Management Plan exist in refinery and updated regularly as per PNGRB guidelines. On-site & Off-site mock drills are conducted quarterly and annually respectively. The Off-site drill is conducted with involvement of District Authority. Complied.

	and its probable consequence.	
11.	The project authority will start construction only after the approval of Chief Controller of Explosive and a copy of consent letter should be made available to the Ministry.	<ul style="list-style-type: none"> • The approval of Chief controller of Explosive was taken before construction. • Complied.
12.	No change in design of stacks should be made without the prior approval of the State Pollution Control Board. Alternate pollution control system and/or proper design (stacks injection system) of the stacks should be made to minimize hydrocarbon emission due to failure in the flare system in the plant.	<ul style="list-style-type: none"> • No change is done without prior approval of statutory bodies. • Low NOx burners are provided in furnaces to minimize hydrocarbon emission in stacks. • Complied
13.	The project authority must provide necessary infrastructure facilities to the construction worker during construction.	<ul style="list-style-type: none"> • The project is already under operation. The condition is not applicable at present. However, construction work for BR-9 is going on. The construction workers are from nearby village only. • Complied
14.	The project authority must take adequate measure to bring down the noise level. The protective measures taken by the project authority should be made available to this Ministry.	<ul style="list-style-type: none"> • Adequate noise control measures have been taken in new facilities in the project. • For personnel working in the proximity of high noise generating equipments, appropriate PPEs are used, and exposure is controlled through job rotation, education and awareness about PPEs compliance. • Six monthly monitoring report of noise level at different locations of plant are provided to MoEF&CC • Complied.
15.	The project authority will assess the impact on ground water contamination by the leachates and the remedial measures taken by the project authority should be submitted to this Ministry for review. The project authority will also monitor the quality of ground water in the nearby areas and report should be submitted to the State Pollution Control Board once in every three months and to this Ministry once in six months.	<ul style="list-style-type: none"> • The ground water is checked by MoEF&CC certified agency at different locations in Refinery and nearby villages. • The report is submitted to BSPCB and MoEF&CC. • Complied.
16.	The project authority must set up laboratory facilities in the existing premises for testing and analyzing gaseous emissions and water quality.	<ul style="list-style-type: none"> • A fully-fledged laboratory facility is available at Barauni Refinery for testing of gaseous emission and water quality. Moreover, MoEF&CC approved third party monitoring is also done. • Complied.
17.	The project authority must submit a revised green belt details for the plant and township to this Ministry within three months for approval. The green belt should be with a	<ul style="list-style-type: none"> • Total plot area of the refinery: 887.83 acres. • Green belt area in Refinery: 43.8 acres. • Green belt area in Refinery Township: 82.19 acres.

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	minimum tree density of 1000 trees per acre.	<ul style="list-style-type: none"> • Total green belt area: 125.99 acres. • Since, there is no further land available for tree plantation in Refinery and township, MoU was signed with DFO, Munger and 180 hectares of green belt has been developed at Munger Forest Division. Total 1, 65,000 no. of tree has been planted. • Total Green belt area has been increased to 65% of the total project area. EC amendment for the same has been carried out. • Complied
18.	Additional area under the control of the project which is not being used for the plant utilities should be afforested and funds for this purpose should be suitably provided.	<ul style="list-style-type: none"> • Forestation is done at all places wherever plant utilities are not used. • Additional tree plantation also done in Refinery Township and nearby areas. • Complied
19.	A separate environmental management cell with suitably qualified people to carry out various functions related to environmental management should be set up under the control of a senior technical person who will directly report to the head of the organization.	<ul style="list-style-type: none"> • A separate Environment Management Cell with well-equipped dedicated pollution control laboratory exists at Barauni Refinery. • Complied.
20.	The fund provision (capital and recurring expenditure) for the environmental control measure should not be diverted for any other purpose. The implementation schedule for environmental control measure should be strictly followed.	<ul style="list-style-type: none"> • All facilities envisaged for environmental protection and monitoring have been provided in Barauni refinery expansion project. • In addition to one-time investment in facilities for combating pollution, separate funds are allocated and utilized for specific activities such as bio-remediation of sludge, environment monitoring and studies related to environment etc. • Complied.

Further Stipulations

1.	The Ministry of Environment and forest or any other competent authority may stipulate any further conditions after reviewing the impact assessment report or any other report prepared by the project authority.	<ul style="list-style-type: none"> • Complied.
2.	The above condition will be enforced, inter-alia, under the water (Prevention and Control of Pollution) Act, 1974; the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986.	<ul style="list-style-type: none"> • Complied.
3.	The Ministry reserves the right to withdraw the clearance as and when necessary in the interest of the environmental protection.	<ul style="list-style-type: none"> • Complied.

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IndianOil
Barauni Refinery

Status as on 31.03.2025

Subject: Augmentation of Crude Processing Capacity of Barauni Refinery from 3.3 to 4.2 MMTPA of IOC.

Ref: Ministry's clearance letter noJ-11011/48/95-IA-II dated 17.05.1996

SN	Point	Status
1.	The environmental aspects of the project have been examined by this Ministry and environmental clearance is accorded subject to the compliance of conditions stipulated in the clearance order dated 25th July, 1989 and 2nd Dec, 1994.	<ul style="list-style-type: none">• Compliance of conditions stipulated in the clearance order dated 25th July, 1989 is attached in this report.• Complied.
2.	Action Plan for effective disposal of oily sludge should be submitted within a period of 3 months. In case of inability to utilise the sludge due to any reason, there will be provision for immediate proper disposal of the sludge by the project authorities in accordance with hazardous Wastes (Management & Handling) Rules, 1989. A compliance report should be submitted quarterly.	<ul style="list-style-type: none">• HDPE lined RCC pit for storage of hazardous solid waste (Oily Sludge) is in place and mechanized skid process by M/S Viraj clean Sea Enterprises Pvt Ltd. has been deployed for better recovery of oil from oily sludge.• Residual oily sludge is bio-remediated.• Complied.
3.	The project proponent should not increase the through put capacity of Barauni Refinery beyond 4.2 MMTPA without prior approval from this Ministry.	<ul style="list-style-type: none">• Prior approval of ministry is always taken before carrying out any expansion or modification of the plant.• Complied
	There will be no change in the fuel used without permission from the Ministry.	<ul style="list-style-type: none">• Noted for compliance.
5.	On site and off site Emergency preparedness plans should be obtained.	<ul style="list-style-type: none">• Comprehensive Emergency Disaster Management Plans exist in refinery and are updated regularly as per PNGRB guidelines.• Necessary inputs for hazardous chemicals of Barauni Refinery have been provided to district authorities for inclusion in Disaster management plan as per MSIHC rule.• On-site & Off-site mock drills are conducted quarterly and annually respectively. The Off-site drill is conducted with involvement of District Authority.• Complied.

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6.	Rules for storage, handling and import of hazardous substance should be strictly adhered to.	<ul style="list-style-type: none"> • Handling & storage of hazardous chemicals are done in accordance with the rules. • Complied.
7.	The Ministry reverses the right to alter the conditions or withdraw clearance as and when necessary in the interest of environmental protection.	<ul style="list-style-type: none"> • Noted.
8.	The above conditions will be endorecedinteralia under the Water (Prevention and Control Act, 1974; theAir (Prevention and Control of Pollution) Act, 1981; and the Environmental (Protection) Act, 1986; and the Public Liability Insurance Act, 1991 with their amendments and rules.	<ul style="list-style-type: none"> • Noted.

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IndianOil
Barauni Refinery

Status as on 31.03.2025

Subject: STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS (6.0 MMTPA EXPANSION OF BARAUNI REFINERY)

Ref: Ministry's clearance letter no J-1101/23/98-IA II (I) dated 08.03.1999

(A) Specific conditions

SN	ITEM	STATUS
1.	The gaseous emissions from the process stacks must conform to the standards prescribed under the EPA rules and/ or state pollution control board. At no time, the emission level should go beyond the prescribed standards. Specially, the total SO ₂ emissions must not go beyond 1080 kg/hr as confirmed by the company. In the event of failure of any pollution control system adopted by the units, the respective unit must be put out of operation immediately and should not be restarted until control measures are rectified to achieve desired efficiency.	<ul style="list-style-type: none">• Process emissions at Barauni Refinery conform to the standards prescribed under the EPA rules• Total SO₂ emissions from existing units at Barauni Refinery are within the stipulated limit of 815 kg/hr as per latest EC.• Complied.
2.	In consultation with SPCB, the project authority must set up sufficient number of air quality monitoring stations to monitor SPM, SO ₂ , NO _x , CO & NH ₃ . Stack emissions should be monitored regularly. Data on stack emission and ambient air quality including work zone should be submitted to the ministry (Regional Office, Bhubaneswar) once in six months and SPCB once in three months along with statistical analysis.	<ul style="list-style-type: none">• Eight manual (four in Refinery, one in township and three in periphery villages) air quality monitoring stations have been set up. Ambient air quality is checked twice in a week.• Three continuous online monitoring stations provided for ambient air quality monitoring covering 8 parameters viz PM 10, PM 2.5, SO₂, NO_x, CO, NH₃, Benzene and Ozone. The stations are also directly connected online with servers at CPCB and Bihar State Pollution Control Board (BSPCB).• The results are furnished to the BSPCB and the MoEF&CC (Regional office, Ranchi) at regular intervals as prescribed.• Continuous on-line stack analyzers for monitoring of SO₂, NO_x, CO & PM have been installed and connected to CPCB server for 24 nos. of stacks.• Process emissions from all units are sampled once in two months except Sulfur Recovery Unit (which is monitored monthly basis) and results on stack emission, and work zone monitoring data are furnished to the BSPCB and MoEF&CC (Regional Office, Ranchi).• Complied.

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3.	Adequate effluent treatment facilities (primary, secondary & tertiary) should be provided so that liquid effluents conform to the standards prescribed under EPA rules/SPCB before discharging into river Ganga. The outfall point in the river must be approved by Bihar Pollution Control Board.	<ul style="list-style-type: none"> • Effluent Treatment Plant (ETP) of 1000 m³/hr capacity and Biological Treatment Plant (BTP) of 1400 m³/hr capacity have been provided for treatment of effluent. • Treated effluent is completely reused in refinery operations, horticulture and eco ponds make up. • No effluent is being discharged to river Ganga since Oct 2013 and the line going to river Ganga has been dismantled. • Complied.
4.	Adequate number of effluent quality monitoring stations must be set up in consultation with SPCB to monitor the water quality parameters as per EPA / SPCB regulations. Monitored data along with analysis should be submitted to this ministry (Regional Office, Bhubaneswar) once in six months and SPCB once in three months.	<ul style="list-style-type: none"> • Effluent quality monitoring points has been set up in consultation with BSPCB. The results are regularly furnished to the BSPCB and regional office, MoEF&CC, Ranchi. • Online effluent analyzers have been installed at the discharge of treated effluent and connected to CPCB and BSPCB server. • Complied.
5.	The company must identify and implement water conservation and treated effluent recycling / reusing schemes to minimize the raw water consumption and to achieve zero-pollutant discharge to the river Ganga.	<p>To reduce Raw water consumption, treated effluent is re-used as</p> <ul style="list-style-type: none"> • Cooling tower makeup • Fire water make up • Coke cutting water • Make up water for Eco Ponds. • Horticulture of Eco park • No effluent is being discharged to river Ganga. • Complied.
6.	The hazardous solid wastes like spent catalysts must be disposed off in a secured landfill with facility for leachate collection and treating in the ETP.	<ul style="list-style-type: none"> • HDPE lined RCC pit for storage of hazardous solid waste (Oily Sludge) is in place and mechanized skid process by M/S LMR Pvt Ltd. has been deployed for better recovery of oil from oily sludge. • Residual oily sludge is bio-remediated. • Spent catalyst is sold to CPCB/SPCB approved authorized recycler/re-processors in accordance with Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. • Complied.
7.	The proposed storage for LPG shall be of mounded type in order to reduce the risk level. The OISD guidelines must be strictly followed.	<ul style="list-style-type: none"> • 6 nos. of mounded LPG storage bullets as per OISD guidelines for storage of LPG have been provided (commissioned in 2002). • Complied.
8.	In addition to the above stipulations, the company must undertake additional afforestation and Eco-development work in the area. In this regard, the company must augment its tree plantation activities by 25 thousand trees in a phased manner. Further, the company has around 120 acres of borrow-pit area in and adjoining to the plant premises. The company must give an action plan to ecologically develop this area within 3 months.	<ul style="list-style-type: none"> • Spread over an area of 75 acres, Barauni Refinery has developed a beautiful Ecological Park (Eco Park) with sprawling lawns, flowers and ornamental plants, potted plants, diverse habitat of tress and the forest vegetation. The garden has more than 279 plant species under 81 families including some medicinal plants both indigenous and exotic. • Tree plantation has been done in a phased manner to develop green belt in & around refinery controlled area. • Plantation in refinery is continuing. However, existing land of refinery is getting saturated with greenery. • Since, there is no further land available for tree plantation in Refinery and township hence, an agreement has been done with Forest department on

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		<p>agreement has been done with Forest department on 21.10.2021 for 1,65,000 nos. trees plantation in 180 Hectare land. EC amendment for the same has been carried out.</p> <p>Following developmental jobs were undertaken in and around borrow pit area in 2014-15:</p> <ol style="list-style-type: none"> To prevent inundation of nearby agricultural land / fields of farmers, a 1.0M high Bundh has been made around borrow pit. To minimize mosquito menace in nearby villages floating water hyacinth (JalKumbhi) was removed nearby the newly made Bundh. Fogging was undertaken in nearby villages (Bihat, Mahna, Papraur etc.) to control mosquito spread. Later in 2016-17, outlet of borrow pit flowing into Jemra Nalla was blocked to stop flow of borrow pit water to Deona side and other villages as there were complaints of inundation of villages on the banks of Jemra Nalla. Bleaching powder was also provided to representatives of village Panchayats of Devna. <ul style="list-style-type: none"> • Complied.
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(B) General Conditions

1.	The project authority must adhere to the stipulations made by Pollution Control Board and state government.	<ul style="list-style-type: none"> • Stipulations being followed. • Complied.
2.	No expansion or modification of the plant should be carried out prior approval of this ministry.	<ul style="list-style-type: none"> • Prior approval of ministry is taken before carrying out any expansion or modification of the plant. • Complied.
3.	A green belt of adequate width and density should be provided all around the plant in consultation with the state forest department. A norm of 2500 plants/ hectare may be followed and minimum of 25% area must be covered by green belt.	<ul style="list-style-type: none"> • Total plot area of the refinery: 887.83 acres. • Green belt area in Refinery: 43.8 acres. • Green belt area in Refinery Township: 82.19 acres. • Total green belt area: 125.99 acres. • Since, there is no further land available for tree plantation in Refinery and township, MoU was signed with DFO, Munger and 180 hectares of green belt has been developed at Munger Forest Division. Total 1, 65,000 no. of tree has been planted. • Total Green belt area has been increased to 65% of the total project area. EC amendment for the same has been carried out. • Complied
4.	Handling, manufacturing, storage and transportation of hazardous chemicals should be carried out in accordance with The Manufacture, Storage & Import Of Hazardous Chemicals Rules, 1989, as amended in 1991. On-site and Off-site emergency preparedness plans shall be prepared adequately and permissions from state and central nodal agencies in this	<ul style="list-style-type: none"> • Handling & storage of hazardous chemicals are done in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. • Comprehensive Emergency Disaster Management Plans exist in refinery and are updated regularly as per PNGRB guidelines. • Necessary inputs for hazardous of Barauni Refinery have been provided to district authorities for inclusion

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	expenditure should be reported to this ministry and SPCB.	<ul style="list-style-type: none"> • In addition to one time investment in facilities for combating pollution, separate funds are allocated and utilized for specific activities such as bio-remediation of sludge, environment monitoring and studies related to environment etc. • Complied.
13.	Six monthly status reports on the project vis-a-vis implementation of environmental measures should be submitted to the ministry (Regional Office, Bhubaneswar) / CPCB / SPCB).	<ul style="list-style-type: none"> • A six monthly compliance report and monitored data are submitted regularly. • Complied.

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IndianOil
Barauni Refinery

Status as on 31.03.2025

Subject: MS / HSD Quality Upgradation / HS Crude Maximization Project EC Clearance Actionable Points

Ref: Ministry's clearance letter noJ-1101/491/2007-IA II (I) dated 18.03.2008

SN	Point	Status
1.	The company shall comply with new standards/norms that are being proposed by the CPCB for petrochemical plants and refineries.	<ul style="list-style-type: none">Major facilities required for meeting treated effluent quality as per revised MoEF&CC standard has been commissioned in Mar-14.With the commissioning of desulphurization facilities (Amine treating unit) for fuel gas from old plants in Oct 2010, Barauni refinery now meets the revised SO₂ emission standards. H₂S content in FG is also within the revised standard.Continuous on-line stack analyzers for monitoring of SO₂, NO_x, CO & PM have been installed and connected to CPCB server for 22 nos. of stacks.Double seal has been provided in 23 nos. of floating roof tanks.Please refer Annexure-1 for detailed status and action plan of Barauni refinery for compliance of revised MoEF&CC standards.Complied
2.	The process emissions (SO ₂ , NO _x , HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Bihar State Pollution Control Board from time to time. 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 has been achieved.	<ul style="list-style-type: none">Online analyzers are installed for continuous monitoring of SO_x, NO_x, CO & PM for 24 stacks. These analyzers are connected directly to CPCB and BSPCB servers for continuous emission monitoring.Process emissions from all units are monitored once in two months except SRU (which is monitored monthly) by M/s Detox Corporation Private Limited and conform to revised MoEF&CC 2008 standards.Total SO₂ emissions from existing units and new facilities at Barauni Refinery are within the stipulated limit of 815 kg/hr as per latest EC.Complied.

		<ul style="list-style-type: none"> • Further, in keeping with Indian Oil's motto "People before Profit", Barauni refinery lined up the M/S PDIL in 2009 for establishing the ground water quality and its movement in and around Barauni Refinery to investigate cause of odor problem in Keshawe village. PDIL submitted its report in Feb 2010 and it was concluded that <u>"no ground water from the refinery flows beyond the refinery boundary. Hence, ground water contamination from the refinery beyond boundary can be ruled out. The ground water contamination due to refinery activities in the Keshawe village is not at all possible."</u> Further it was also observed <u>"that the poor sanitation around the hand pumps in Keshawe village around BTP area and the presence of Iron in the tube well water produces synergetic impact on the odour. Similarly, the installation of septic tanks and Khatahs are responsible for poor quality w.r.t odour."</u> • Presently testing of ground water quality in nearby villages is done quarterly by MoEF&CC approved agency. Reports enclosed. • Complied.
8.	The oily sludge shall be subjected to melting pit for oil recovery and the residues shall be bio-remediated. The sludge shall be stored in the HDPE lined pit along with proper leachate collection system.	<ul style="list-style-type: none"> • HDPE lined RCC pit for storage of hazardous solid waste (Oily Sludge) is in place and mechanized skid process has been deployed for better recovery of oil from oily sludge in place of melting pit. • Residual oily sludge is bio-remediated. • Complied.
9.	The company shall strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP).	<ul style="list-style-type: none"> • All the recommendations mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP) are strictly followed. • Please refer Annexure-2 for detailed status on CREP. • Complied.
10.	The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.	<ul style="list-style-type: none"> • Fire protection facilities as required by OISD standards exist in refinery. • Area within the units and around having the possibility of oil spillage has been paved. • All units, tank farm area and facilities are well connected with a closed underground OWS system to prevent any oil spill. • Knockout drums exist in overhead flaring stack to minimize gaseous emissions during flaring. • Fire protection facilities as required by OISD standards have been provided in new facilities and all the area within the units' battery limits have been paved. • Complied
11.	To prevent fire and explosion at Oil and Gas facility, potential ignition sources should be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.	<ul style="list-style-type: none"> • Distances between various units / equipments including potential ignition sources are as per OISD standards. • OISD standards have been followed for the distances between various units / equipments including potential ignition sources in the new facilities. • Complied
12.	Occupational health surveillance of worker shall	<ul style="list-style-type: none"> • A full-fledged Occupational Health centre is established in

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	be done on a regular basis and records maintained as per the Factory Act.	<p>the Refinery Hospital. Occupational health monitoring of employees is carried out regularly as per the program.</p> <ul style="list-style-type: none"> Occupational health surveillance records are maintained by the refinery hospital as per the Factory Act. Complied
13.	Greenbelt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 30% plant area in consultation with DFO as per CPCB guidelines.	<ul style="list-style-type: none"> Total plot area of the refinery: 887.83 acres. Green belt area in Refinery: 43.8 acres. Green belt area in Refinery Township: 82.19 acres. Total green belt area: 125.99 acres. Since, there is no further land available for tree plantation in Refinery and township hence, an agreement has been done with Forest department on 21.10.2021 for 1,65,000 nos. trees plantation in 180 Hectare land. EC amendment for the same has been carried out. Complied
14.	Environment protection measures suggested in the EIA/ EMP risk assessment report and during the public hearing meeting shall be implemented.	<ul style="list-style-type: none"> Environment protection measures suggested in the EIA/ EMP risk assessment report have been implemented / are being implemented. Public Hearing Points Rise in Respiratory Ailments <ul style="list-style-type: none"> Survey conducted by panel of doctors/paramedics from Government Hospital delegated by Civil Surgeon. No adverse effects / increase in respiratory ailments observed. Stunted Growth of Papaya Plant <ul style="list-style-type: none"> Issue referred to Rajendra Agricultural University, Pusa. In response booklet on "Technology for Growing Papayas in Bihar" received. It says, "viral disease is the major limiting factor in Papaya cultivation in all regions of Bihar and attempts are on to select papaya lines showing strong tolerance to viral diseases." Few hands pump's water have odour in Keshawe Village <ul style="list-style-type: none"> Please refer status of condition no. 7 above. Water overflow from Borrow Pit inundating fields <ul style="list-style-type: none"> Borrow pit overflow does not occur anymore. Medical Camps to be increased in surrounding area <ul style="list-style-type: none"> Medical Camps are being conducted regularly. Complied
15.	The project authorities must strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government and any other statutory body.	<ul style="list-style-type: none"> Stipulations being followed. Complied
16.	No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case	<ul style="list-style-type: none"> Prior approval of ministry is always taken before carrying out any expansion or modification of the plant.

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	of deviations or alternations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry.	Complied
17.	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system, the respective well site should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done.	<ul style="list-style-type: none"> • There is no well site at Barauni refinery. • Stacks and flare of adequate height have been provided in Barauni refinery to control emissions. • Complied
18.	Wastewater shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB.	<ul style="list-style-type: none"> • Adequate waste water drainage and collection facilities exist in refinery. • Appropriate drainage and collection facilities have been provided in new facilities in the MSQ project and are connected with the existing drainage facilities of refinery. • Oily waste water is treated in ETP/BTP and conforms to the CPCB/SPCB standards. • Complied w.r.t MoEF&CC standards.
19.	The overall noise levels in and around the premises shall be limited within the prescribed standards (75 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 EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	<ul style="list-style-type: none"> • The ambient noise levels from existing facilities conform to the standards prescribed under EPA Rules, 1989 / Noise Pollution (Regulation and control) Rules 2000. • For personnel working in the proximity of high noise generating equipments, appropriate PPEs are used, and exposure is controlled through job rotation, education and awareness. • Adequate noise control measures have been taken in new facilities in the project. • No impact has been observed on plant boundary proximity area with the new facilities in the project, and ambient noise levels from new facilities conforms to the standards prescribed under EPA Rules, 1989 / Noise Pollution (Regulation and control) Rules 2000. • Noise level measurements are carried out quarterly by MoEF&CC certified agency. Reports enclosed. • Complied
20.	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 commission of the expansion project, if required. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.	<ul style="list-style-type: none"> • Provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. are strictly complied in existing facilities of refinery, and same have also been strictly complied in the project. • Necessary approvals from Chief Controller- of Explosives, wherever required have been obtained before commission of the project. • Comprehensive On-site and Off-site Disaster Management Plans exist in refinery and are updated regularly as per PNGRB guidelines. • On-site & Off-site mock drills are conducted quarterly and annually respectively. The Off-site drill is conducted with involvement of District Authority. • Complied

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21.	Disposal of hazardous wastes shall be as per the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collections/ treatment/storage disposal of hazardous wastes.	<ul style="list-style-type: none"> Disposal of hazardous wastes is done as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Authorization taken from Bihar State Pollution Control Board for handling of hazardous wastes. Authorization is valid till 29.08.2027. Complied
22.	The project authorities will provide adequate funds as non-recurring and recurring expenditure 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 should not be diverted for any other purposes.	<ul style="list-style-type: none"> Adequate funds provided to implement the conditions stipulated by MoEF&CC In addition to one-time investment in facilities for combating pollution, separate funds are allocated for specific activities such as bio-remediation of sludge, environment monitoring, and studies related to environment etc. Complied
23.	The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water.	<ul style="list-style-type: none"> Rain water harvesting has been implemented at 21 buildings of Barauni Refinery in which water collected from roof top of the refinery is recharged to ground water. Additionally, township surface run-off is routed to three nos. of recharge pits. Complied
24.	The stipulated conditions will be monitored by the concerned Regional Office of this Ministry /Central Pollution Control Board/State Pollution Control Board. A six-monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the Website of the Company.	<ul style="list-style-type: none"> A six-monthly compliance report and the monitored data are submitted regularly. EC Compliance status of various projects is being hosted on https://www.iocl.com/Talktous/SNotices.aspx. Alternatively, one can reach IOCL home page at https://www.iocl.com and thereafter selecting "We're Listening" tab followed by opening "Statutory Notices". Complied
25.	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://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 concerned Regional office of this Ministry.	<ul style="list-style-type: none"> Information published in Hindustan and Hindustan Times on 27th Mar 2008. Complied
26.	A separate environment management cell with full-fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior	<ul style="list-style-type: none"> Barauni Refinery has a full-fledged environment protection cell and a well-equipped dedicated pollution control laboratory. Complied

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	Executive.	
27.	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	<p>Date of financial approval was reported to be 29th April 2008 and the project was capitalized on 31st Dec 2010.</p> <p>• Complied</p>

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Annexure-1**Status and Action Plan for Compliance of Revised Emission and Effluent Standards 2008 at
Barauni Refinery**

Status as on 30.09.2021

Schedule -I: Petroleum Oil Refinery**A. Effluent Discharge**

SN	Standard	BR status and action plan
1	Treated Effluent Quality	No effluent is discharged outside refinery. Treated effluent is totally reused and its quality is maintained as per MINAS. Reports attached separately. Complied

B. Emissions

SN	Standard	BR status and action plan
2	H ₂ S in Fuel Gas	H ₂ S in Fuel Gas is within limits as required under revised standards. Complied
3	SO ₂ Emissions	These parameters are monitored through online stack analyzers. These analyzers are directly connected to CPCB and BSPCB servers. Emissions are under within limit. Reports attached separately. Complied
4	NO _x Emissions	
5	CO Emissions	
6	Particulate Matter (PM) Emissions	Barauni Refinery processes more low Sulphur crude in recent years. Only about 5% high sulfur crude processing takes place. As a result, internal fuel oil quality has been improved w.r.t emission of particulate matter. Further, particulate matter analyzers have been installed in all stacks of refinery and connected to CPCB server since June-16. The online analyzer data available now help us fine tuning fuel firing and optimization of gas mix amongst various furnaces and the controlling the PM parameters within the statutory limit. COMPLIED.
7	Nickel and Vanadium (Ni+V) Emissions	COMPLIED.
8	Sulphur Content in Liquid Fuel	COMPLIED.

9	Continuous Monitoring System for SO₂ & NO_x emissions	Continuous monitoring is done through online analyzers. These analyzers are directly connected to CPCB and BSPCB servers. Complied
10	Opacity of Flue Gas ex FCCU Regenerators	>RFCCU was commissioned at Barauni Refinery along with flue gas scrubbing technology supplied by M/s Belco, USA. In the Belco unit, the flue gas is scrubbed with water & diluted caustic solution (<0.5 % concentration by wt.) to remove SO _x and particulate matter. PM level in flue gas is less than 30 mg/Nm ³ . High volume of condensed water vapor generated during water scrubbing of flue gas escapes through the BELCO stack as whitish plume. Opacity meter under such condition is not considered relevant as it will not be effective due to high moisture content in flue gas. > Further, PM analyzers have been installed in RFCCU stack through which particulate matter ex- RFCCU stack is monitored, which is closely akin to monitoring of opacity in flue gas. Therefore, opacity meter installation at RFCCU is not planned. > Complied .
11	Sulphur Recovery from SRU	SRU at Barauni refinery meets the revised standard. COMPLIED.
12	H₂S emissions from SRU	SRU at Barauni refinery meets the revised standard. COMPLIED.

C. Fugitive Emission

SN	Standard	BR status and action plan
13	Storage tanks with capacity between 4 to 75 m ³ and TVP of more than 10 kpa	Not Applicable.
14	Storage tanks with capacity between 75 to 500 m ³ and TVP of 10 to 76 kpa	Not Applicable.
15	Storage tanks with capacity of more than 500 m ³ and TVP of 10 to 76 kpa	Storage tanks of Crude, MS & SRN have TVP of 10 to 76 kpa. All such tanks are IFRT or EFRT. COMPLIED.

16	Storage tanks with capacity of more than 500 m3 and TVP of more than 76 kpa	Not Applicable
17	Provision of secondary seals in floating roof tanks	All such tanks at Barauni Refinery are equipped with double seal. COMPLIED.
18	Emission control in Rail Tank Wagon/ Road Tank Truck loading for Gasoline and naphtha for VOC reduction	Barauni Refinery complies most of the revised standards for petroleum refineries as notified in Gazette of India on 18th March'08 except vapor recovery system in tank wagon/tank truck. For VOC reduction of 99.5% and emission control to 5 gm/m3 in case of Gasoline and Naphtha loading, VOC recovery system at Loading Gantry would be required. Existing gantry at Barauni refinery does not have adequate space for laying a bigger dia header all along the gantry and other equipment for vapor recovery system. It will also require the shutdown of product loading gantry for 3-4 months to install this facility. Outage of gantry for such a long period cannot be allowable in view of the chances of market dry out of the major petroleum products.
19	Equipment's leak and LDAR programme	COMPLIED.

D. Emission Standards for VOC from Wastewater Collection and Treatment

20	VOC Collection & Treatment System	VOC treatment system as a part of ETP modernization project has been installed and commissioned. COMPLIED.
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Schedule -VI, Part C: Petroleum Oil Refinery

SN	Standard	BR status and action plan
21	Quantum limit for discharge of total effluent	No effluent is discharged outside refinery. Treated effluent is totally reused.
22	Limit of quantity of effluent discharged	



IndianOil
BarauniRefinery

Status as on 31.03.2025

Subject: Status of Environmental Clearance Conditions for MS quality up-gradation and HSD quality up-gradation in Barauni Refinery

Ref: Ministry's clearance letter no J-11011/15/2015 - IA II (I) dated 06.03.2017.

SN	Point	Status
A	Specific Conditions	
i.	M/s IOCL shall comply with standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18 th March, 2008.	<ul style="list-style-type: none">• Please refer Annexure-1 for detailed status for compliance of standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008.• Complied.
ii.	Continuous on-line stack monitoring for SO ₂ , NO _x and CO of all the stacks shall be carried out.	<ul style="list-style-type: none">• Continuous on-line stack analyzers for monitoring of SO₂, NO_x, CO & PM have been installed and connected to CPCB server for 24 nos. of stacks.• Complied.
iii.	The process emissions {SO ₂ , NO _x , HC (Methane & Non-methane)}, VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act, 1986. 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.	<ul style="list-style-type: none">• SO₂, NO_x, CO & PM are monitored with online SO₂, NO_x, CO and PM analyzers.• Process emissions from all units are monitored once in two months except SRU (which is monitored monthly) by MoEF&CC approved external agency M/s Detox Corporation Private Limited. Reports enclosed.• Total SO₂ emissions from existing units are less than the stipulated limit of 815 kg/hr.• Complied.
iv.	Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions	<ul style="list-style-type: none">• Leak detection and repair programme is already in place at Barauni Refinery and same is carried out on quarterly basis.• Preventive maintenance schedule for each unit is in

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	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.	<p>place and same is strictly adhered to.</p> <ul style="list-style-type: none"> • Monitoring of fugitive emission from tank farm area is included in Leak Detection and Repair Programme. Report enclosed. • Hydrocarbon detectors with alarm system are installed in strategic locations in the various process units, tank farm, and other plausible locations • Complied.
v.	SO ₂ emissions after expansion from the plant shall not exceed 815 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. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating shall not be less than 99.9%.	<ul style="list-style-type: none"> • Total SO₂ emission from existing units at BR is less than the stipulated limit of 815 kg/hr. • SRU (Sulphur Recovery Unit) unit (without tail gas treating) consisting of 2 chains of capacity 40 MT/day of Sulphur production each is installed at Barauni Refinery. • As per norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008, existing SRU installed in the refinery should have 98.7% sulphur recovery and Barauni Refinery complies this standard. • New SRU envisaged in upcoming project (capacity expansion) will be installed with overall sulphur recovery efficiency of min 99.9%. • Complied.
vi.	As proposed, 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.	<ul style="list-style-type: none"> • Sulphur balance record is being maintained as a part of Environmental data. • Complied.
vii.	Flare gas recovery system shall be installed.	<ul style="list-style-type: none"> • Flare gas recovery system is installed and operational in the refinery. • Complied.

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viii.	<p>Ambient air quality monitoring stations, [PM10, PM2.5, SO₂, NO_x, H₂S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be deiced based on modeling exercise to represent short term GLCs.</p>	<ul style="list-style-type: none"> • Eight manual (four in Refinery, one in township and three in periphery villages) air quality monitoring stations have been set up. Ambient air quality is checked twice in a week as per revised MoEF&CC standards 2009. Report enclosed. • Three continuous online monitoring stations provided for ambient air quality monitoring covering 8 parameters viz PM 10, PM 2.5, SO₂, NO_x, CO, NH₃, Benzene and Ozone. The stations are also directly connected online with servers at CPCB and Bihar State Pollution Control Board (BSPCB). • Complied.
ix.	<p>The total water requirement from artesian wells after expansion of proposed project shall not exceed 651m³/hr and prior permission shall be obtained from the competent authority.</p>	<ul style="list-style-type: none"> • Fresh water consumption during Oct-2024 to Mar-2025 was 648 m³/hr which is within limit of 651 m³/hr. • Barauni Refinery has received NOC from CGWA on 19.06.2018with validity till 04.06.2020. • Again, renewal of NOC received with validity till 04.06.2026. • Complied.
x.	<p>As proposed, Industrial effluent generation shall not exceed 497 m³/hr after proposed expansion and treated in the integrated effluent treatment plant. The plant shall be based on Zero Liquid Discharge and as proposed RO to be installed within the plant. Treated effluent shall be recycled/reused within the factory premises. Domestic sewage shall be treated in sewage treatment plant (STP).</p>	<ul style="list-style-type: none"> • Industrial effluent generation for 2024-25is 492.38 m³/hr which is within the allowable limit of 497 m³/hr and is treated in the effluent treatment plant of the refinery. • Industrial effluent generation post project shall be maintained within 497 m³/hr. • Zero liquid discharge is being maintained at Barauni Refinery except during heavy rainfall, when excess surface run off may have to be allowed to flow into Refinery owned pit (Burrow Pit) adjacent to refinery premise in the West. • Treated effluent is being reused for following purpose in the refinery: <ul style="list-style-type: none"> ○ Cooling Tower makeup water ○ Fire water make up ○ Coke cutting water ○ Make up water for Eco Ponds ○ Horticulturein Eco park • Domestic sewage is treated in biological treatment plant of the refinery. • Complied.

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xi.	Automatic mechanical Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	<ul style="list-style-type: none"> • Oil catchers have been constructed at following strategic locations of the refinery: <ul style="list-style-type: none"> ○ West of AVU-III ○ West of RFCCU ○ South of DHDT ○ East of Coker A ○ North of Coker A ○ North west corner of Stores ○ Final drain going to Burrow Pit. • Oil containment booms have also been installed at 3 nos of strategic locations in the refinery. • Oil collected/trapped by oil catcher and oil containment booms are transferred to ETP mechanically through gully suckers. • 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.	<ul style="list-style-type: none"> • RCC pit for storage of Oily Sludge is in place and mechanized skid process has been deployed for better recovery of oil from oily sludge in place of melting pit. Presently M/S Viraj clean Sea Enterprises Pvt Ltd. is engaged for this job. • Residual oily sludge is bio-remediated in confined space bioremediation reactor (CBR). • Complied.
xiii.	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESR) based on Public Hearing issues and item wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Ranchi.	<ul style="list-style-type: none"> • Detailed ESR plan attached as Annexure-2. • Complied.
xiv.	Green belt should be developed in 33% of the plot area to mitigate the effect of fugitive emission all around the plant in consultation with DFO as per CPCB guidelines. Thick green belt around factory premises should be ensured.	<ul style="list-style-type: none"> • Total plot area of the refinery: 887.83 acres. • Green belt area in Refinery: 43.8 acres. • Green belt area in Refinery Township: 82.19 acres. • Total green belt area: 125.99 acres. • Since, there is no further land available for tree plantation in Refinery and township, MoU was signed with DFO, Munger and 180 hectares of green belt has been developed at Munger Forest Division. Total 1, 65,000 no. of tree has been planted. • Total Green belt area has been increased to 65% of

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		the total project area. EC amendment for the same has been carried out. Complied
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.	<ul style="list-style-type: none"> • Stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority are being followed. • Complied.
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and 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.	<ul style="list-style-type: none"> • Prior approval of ministry would be taken before carrying out any expansion or modification of the plant if required. • Complied.
iii.	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 stations is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	<ul style="list-style-type: none"> • Eight manual (four in Refinery, one in township and three in periphery villages) air quality monitoring stations have been set up. Ambient air quality is checked twice in a week as per revised MoEF&CC standards 2009. Report enclosed. • Three continuous online monitoring stations provided for ambient air quality monitoring covering 8 parameters viz PM 10, PM 2.5, SO₂, NO_x, CO, NH₃, Benzene and Ozone. The stations are also directly connected online with servers at CPCB and Bihar State Pollution Control Board (BSPCB). • Complied.
iv.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.	<ul style="list-style-type: none"> • Ambient air quality is checked twice in a week in eight manual ambient air quality monitoring stations as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009. • 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	<ul style="list-style-type: none"> • The ambient noise levels from existing facilities conform to the standards prescribed under standards prescribed under Environment (Protection) Act, 1986 Rules.

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	<p>of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules viz. 75 dBA (day time) and 70 dBA (night time).</p>	<ul style="list-style-type: none"> • For personnel working in the proximity of high noise generating equipments, appropriate PPEs are used, and exposure is controlled through job rotation, education and awareness. • Adequate noise control measures also taken in new facilities in the project. • Noise monitoring is done quarterly by external agency. Report enclosed. • Complied.
vi.	<p>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.</p>	<ul style="list-style-type: none"> • Rain water harvesting has been implemented at 21 buildings of Barauni Refinery and township in which water collected from roof top of various buildings is recharged to ground water. Additionally, whole surface run-off of township is also diverted to 3 nos. of recharge pits. • Storm water drain of the refinery has been routed to ETP and storm water is being reused in refinery operation after treatment along with ETP water except during heavy rainfall, when excess surface run off may have to be allowed to flow into Refinery owned pit (Burrow Pit) adjacent to refinery premise in the West. • Complied.
vii.	<p>Training shall be imparted to all employees on Safety and health aspects of chemical handling. Pre- employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemical shall be imparted.</p>	<ul style="list-style-type: none"> • Training is continuously imparted to all employees on chemical handling. • Pre – employment medical examination of all employees are carried out before joining the organization. • Routine periodical medical examination as per statutory requirement is carried out on regular basis. • Complied.
viii.	<p>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, risk mitigation measures and public hearing relating to the project shall be implemented.</p>	<ul style="list-style-type: none"> • Presently Environmental Monitoring of all required parameters in Refinery is carried out periodically. The existing practice shall be extended for the proposed project as per EIA/EMP report. • Recommendations of Quantitative Risk Analysis are being implemented along with project execution.

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ix.	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.	<ul style="list-style-type: none"> • Being done based on the drawn-up schedule as part of CSR. CSR plan is finalized in consultation with mukhiyas of surrounding villages. • Complied
x.	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	<ul style="list-style-type: none"> • Being done based on the drawn-up schedule as part of CSR. • 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.	<ul style="list-style-type: none"> • BR has a full-fledged environment protection cell and a well-equipped dedicated pollution control laboratory established back in 1975. • 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 State Government along with the implementation schedule for all the conditions stipulated herein. The funds to earmark for environment management/pollution control measures shall not be diverted for any other purpose.	<ul style="list-style-type: none"> • In addition to one-time investment in facilities for combating pollution, separate funds are allocated for specific activities such as environment monitoring, operation and maintenance of effluent treatment plant, oil recovery from oily sludge through mechanized skid process and studies related to environment etc. • Being complied.
xiii.	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad / Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	<ul style="list-style-type: none"> • The instant project being environment project was exempted from public hearing. Further, no suggestions were received from Panchayat, ZilaParishad / Municipal Corporation, Urban local Body and the local NGO while processing the proposal. Nevertheless, copy of clearance has been sent to District Magistrate, Begusarai and Municipal Commissioner, Begusarai Nagar Nigam vide letter dated 22.02.2020. Attached as Annexure-3. • Complied
xiv.	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	<ul style="list-style-type: none"> • A six-monthly compliance report and the monitored data are submitted regularly. • EC Compliance status of various projects is being hosted on https://www.iocl.com/Talktous/SNotices.aspx. Alternatively, one can reach IOCL home page at https://www.iocl.com and thereafter selecting "We're Listening" tab followed by opening

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	Clearance and six-monthly compliance status reports shall be posted on the website of the company.	<p>"Statutory Notices".</p> <ul style="list-style-type: none"> • Complied
xv.	The environmental statement for each financial year ending 31 st March in Form-V as its 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.	<ul style="list-style-type: none"> • Environment Statement for each financial year is submitted to Bihar State Pollution Control Board. Same is sent to Regional Office of MoEF&CC. • Complied
xvi.	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 at http://moef.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.	<ul style="list-style-type: none"> • The information regarding accord of Environment clearance for the subject project has been advertised in two local newspapers. Copy enclosed as Annexure-4. • Complied.
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.	<ul style="list-style-type: none"> • The date of final approval of the project is 13.02.2015 and date of commencement is March 2017. • Complied.

Note- Ambient air monitoring, stack monitoring and noise monitoring reports are attached separately

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Status and Action Plan for Compliance of Revised Emission and Effluent Standards 2008 at Barauni Refinery

Schedule -I: Petroleum Oil Refinery

A. Effluent Discharge

SN	Standard	BR status and action plan
1	Treated Effluent Quality	No effluent is discharged outside refinery. Treated effluent is totally reused and its quality is maintained as per MINAS. Reports attached separately. Complied

B. Emissions

SN	Standard	BR status and action plan
2	H ₂ S in Fuel Gas	H ₂ S in Fuel Gas is within limits as required under revised standards. Complied
3	SO ₂ Emissions	These parameters are monitored through online stack analyzers. These analyzers are directly connected to CPCB and BSPCB servers. Emissions are under within limit. Reports attached separately. Complied
4	NO _x Emissions	
5	CO Emissions	

6	Particulate Matter (PM) Emissions	<p>Barauni Refinery processes lower sulphur cruder in recent years. Only about 5% high sulfur crude processing takes place. As a result, internal fuel oil quality has been improved w.r.t emission of particulate matter. Further, particulate matter analyzers have been installed in all stacks of refinery and connected to CPCB server since June-16. The online analyzer data available now help us fine tuning fuel firing and optimization of gas mix amongst various furnaces and the controlling the PM parameters within the statutory limit.</p> <p>COMPLIED.</p>
7	Nickel and Vanadium (Ni+V) Emissions	COMPLIED.
8	Sulphur Content in Liquid Fuel	COMPLIED.
9	Continuous Monitoring System for SO₂ & NO_x emissions	Continuous monitoring is done through online analyzers. These analyzers are directly connected to CPCB and BSPCB servers. Complied
10	Opacity of Flue Gas ex FCCU Regenerators	<p>RFCCU was commissioned at Barauni Refinery along with flue gas scrubbing technology supplied by M/s Belco, USA. In the Belco unit, the flue gas is scrubbed with water & diluted caustic solution (<0.5 % concentration by wt.) to remove SO_x and particulate matter. PM level in flue gas is less than 30 mg/Nm³. High volume of condensed water vapor generated during water scrubbing of flue gas escapes through the BELCO stack as whitish plume. Opacity meter under such condition is not considered relevant as it will not be effective due to high moisture content in flue gas. Further, PM analyzers have been installed in RFCCU stack through which particulate matter ex- RFCCU stack is monitored, which is closely akin to monitoring of opacity in flue gas. Therefore, opacity meter installation at RFCCU is not planned.</p> <p>Complied.</p>
11	Sulphur Recovery from SRU	<p>SRU at Barauni refinery meets the revised standard.</p> <p>COMPLIED.</p>
12	H₂S emissions from SRU	<p>SRU at Barauni refinery meets the revised standard.</p> <p>COMPLIED.</p>

C. Fugitive Emission

SN	Standard	BR status and action plan
13	Storage tanks with capacity between 4 to 75 m3 and TVP of more than 10 kpa	Not Applicable.
14	Storage tanks with capacity between 75 to 500 m3 and TVP of 10 to 76 kpa	Not Applicable.
15	Storage tanks with capacity of more than 500 m3 and TVP of 10 to 76 kpa	Storage tanks of Crude, MS & SRN have TVP of 10 to 76 kpa. All such tanks are IFRT or EFRT. COMPLIED.
16	Storage tanks with capacity of more than 500 m3 and TVP of more than 76 kpa	Not Applicable
17	Provision of secondary seals in floating roof tanks	All such tanks at Barauni Refinery are equipped with double seal. COMPLIED.

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18	Emission control in Rail Tank Wagon/ Road Tank Truck loading for Gasoline and naphtha for VOC reduction	Barauni Refinery complies most of the revised standards for petroleum refineries as notified in Gazette of India on 18th March'08 except vapor recovery system in tank wagon/tank truck. For VOC reduction of 99.5% and emission control to 5 gm/m3 in case of Gasoline and Naphtha loading, VOC recovery system at Loading Gantry would be required. Existing gantry at Barauni refinery does not have adequate space for laying a bigger dia header all along the gantry and other equipments for vapour recovery system. It will also require the shutdown of product loading gantry for 3-4 months to install this facility. Outage of gantry for such a long period cannot be allowable in view of the chances of market dry out of the major petroleum products.
19	Equipments leak and LDAR programme	COMPLIED.

D. Emission Standards for VOC from Wastewater Collection and Treatment

20	VOC Collection & Treatment System	VOC treatment system as a part of ETP modernization project has been installed and commissioned. COMPLIED.
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Schedule -VI, Part C: Petroleum Oil Refinery

SN	Standard	BR status and action plan
21	Quantum limit for discharge of total effluent	No effluent is discharged outside refinery. Treated effluent is totally reused.
22	Limit of quantity of effluent discharged	



रिफाइनरीज प्रभाग
Refineries Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
बराउनी रिफाइनरी, डाकघर : बराउनी ऑयल रिफाइनरी,
जिला : बेगूसराय, बिहार - 851 114

Indian Oil Corporation Limited

Barauni Refinery, P.O. : Barauni Oil Refinery,
Distt. : Begusarai, Bihar - 851 114

वेबसाइट : www.iocl.com

ई-मेल : baraunirefinery@indianoil.in

दूरभाष : 06243-240159 / 240110

फैक्स : 06243-240150 / 240278

ISO : 9001, 14001 & OHSAS : 18001 Certified Refinery



Ref.No.: TS/HSE/2020/02/1146.

Date: 22.02.2020

To,

District Magistrate,
Begusarai, Bihar

Sub: Copy of EC received by IOCL, Barauni Refinery for record

Dear Sir,

A copy of Environmental Clearance from MoEF&CC, received by IOCL, Barauni Refinery via F. No. J-11011/15/2015-IA-II (I), for the project for MS quality up-gradation & HSD quality up-gradation in Barauni Refinery at District - Begusarai, Bihar by M/s IOCL, is attached for your kind perusal and record.

Thanking you,

Yours faithfully,

(S K Bhanu)

DEPUTY GENERAL MANAGER (HSE)

Encl: As above.

Am
22-2-20

Barauni Refinery - In harmony with nature

पंजीकृत कार्यालय : जी-9, अली यावर जंग मार्ग, बान्द्रा (पूर्व), मुम्बई-400 051, महाराष्ट्र (भारत)
Regd. Office : G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai-400 051, Maharashtra (India)
CIN - L 23201 MH 1959 GOI 011388

Am



रिफाइनरीज प्रभाग
Refineries Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
बरोनी रिफाइनरी, ब्रह्मपुर : बरोनी ऑयल रिफाइनरी,
जिला : बेगूसराय, बिहार - 851 114

Indian Oil Corporation Limited
Barauni Refinery, P.O. : Barauni Oil Refinery,
Distt. : Begusarai, Bihar - 851 114
वेबसाइट : www.iocl.com

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दूरभाष : 06243-240159 / 240110

फैक्स : 06243-240150 / 240278

ISO : 9001, 14001 & OHSAS : 18001 Certified Refinery



Ref.No.: TS/HSE/2020/02/114

Date : 22.02.2020

To,

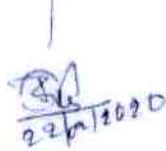
Municipal Commissioner,
Begusarai Nagar Nigam
Begusarai, Bihar

Sub: Copy of EC received by IOCL, Barauni Refinery for record

Dear Sir,

A copy of Environmental Clearance from MoEF&CC, received by IOCL, Barauni Refinery via F. No. J-11011/15/2015-IA-II (I), for the project for MS quality up-gradation & HSD quality up-gradation in Barauni Refinery at District - Begusarai, Bihar by M/s IOCL, is attached for your kind perusal and record.

Thanking you,


22/2/2020

Encl: As above.

Yours faithfully,


(S.K. Bhanu)
DEPUTY GENERAL MANAGER (HSE)

Barauni Refinery - In harmony with nature

पंजीकृत कार्यालय : जी-9, अली यावर जंग मार्ग, बान्द्रा (पूर्व), मुम्बई-400 051, महाराष्ट्र (भारत)
Regd. Office : G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai-400 051, Maharashtra (India)
CIN - L 23201 MH 1959 GOI 011388



Copy of advertisement regarding receipt of Environment Clearance in two local newspapers

HINDUSTAN TIMES, PATNA
WEDNESDAY, MAY 17, 2017

hind

Triple talaq a matter of faith for 1,400 yrs: Sibal

MAIN COURT Likens divorce law to belief about Ram's birthplace

Bhadra Sinha
b.sinha@hindustantimes.com

NEW DELHI: The All India Muslim Personal Law Board (AIMPLB) on Tuesday defended triple talaq in the Supreme Court, saying it was being practised for 1,400 years and was a matter of faith just like Ram Lalla's birthplace.

The board brought up the long-pending dispute over building a temple to Lord Ram in Ayodhya, which Hindus believe is his birthplace, before a five-judge constitution bench which is hearing petitions demanding scrapping of the controversial divorce practice.

Several Muslim women have told the court the custom was biased and against gender justice.

"Triple talaq is not a question of equity and good conscience but of faith. Can't bring constitutional morality into it," board's lawyer and senior Congress leader Kapil Sibal said.

He also said while Hindu law protected all customs "in Muslim law they say customs violate Constitution".

In a Hindu majority state, Muslims, who were a minority, should be protected.

Several Muslim women have told the court the custom was biased and against gender justice. The Centre backs the petitioners, saying the practice was unconstitutional and against equality.



• Kapil Sibal

Sharia was personal law and not subject to fundamental rights, Sibal said about the Islamic legal and moral code.

"Triple talaq is there since 887. Who are we to say that this is un-Islamic. Muslims are practicing it for last 1,400 years. It is a matter of faith. Hence, there was no question of constitutional morality and equity," Sibal said.

"If I have faith that Lord Ram was born at Ayodhya, then it's a matter of faith and there is no question of constitutional morality."

Sibal told the multi-faith bench led by Chief Justice JS Khehar that the source of triple talaq could be found in Hadith and that it came into being after the time of Prophet Muhammad.

The Centre told the court, which is holding day today hearing in the case, on Monday it would bring a matrimonial law for Muslims to fill a legal vacuum should it strike down triple talaq.

SHARIA WAS PERSONAL LAW AND NOT SUBJECT TO FUNDAMENTAL RIGHTS, SIBAL SAID ABOUT THE ISLAMIC LEGAL AND MORAL CODE

Triple talaq is the lone controversial way Sunni Muslim men in India can get a divorce. It allows a man to end a marriage by uttering the word talaq thrice in quick succession.

Attorney general Mukul Rohatgi said it wasn't the court's job to interpret the Quran and it should consider the constitutional validity of triple talaq and not restrict itself to examining whether the custom was fundamental to practicing the faith.

If the government brings in a new law it could mean the start of a process to overhaul Muslim personal laws in India that are now guided by a 1937 Sharia code. India has separate sets of personal laws for each religion governing marriage, divorce, succession, adoption and maintenance.

The country's top law officer disagreed with the court that the government should first address whether triple talaq was "essential to religion or not", saying the it was not an ecclesiastical court.

(With agency inputs)

Victim kin allege death in custody, block NH 30

Mukesh K Mishra
m.k.mishra@hindustantimes.com

PATNA:irate over alleged custodial death of a labourer, his family members blocked National Highway (NH) 30 near the bypass and disrupted movement of traffic for many hours on Tuesday. They also damaged windowpanes of several vehicles and raised slogans against the police, demanding immediate arrest of the cops involved in his killing.

The deceased, Chote Lal Bind, 30, had died during treatment at Patna Medical College Hospital (PMCH) on Monday. However, his family alleged that Bind was killed in police custody.

Bind was arrested from Begampur area under Bypass police station on charge of consuming liquor on May 11.

Laxman Devi, wife of Bind, alleged that her husband was murdered in police custody. "There were no injury marks on his body when he was arrested by the Bypass police on May 11. But, when we saw his body on Monday, it wore injury marks on



his face, which proved that he was tortured and killed in police custody during interrogation," she said.

The road blockade was lifted after senior police officers reached there and assured to take action against the guilty policemen.

Station house officer (SHO), Bypass police station, Rajendra Prasad said the cause of the death would be known only after getting the postmortem report.

The SHO, however, said, Bind died in course of treatment at the PMCH on Monday.

Ajay Kumar
a.kumar@hindustantimes.com

MUZAFFARPUR: Muzaffarpur north of Patna on Friday against a victim who had paramour, for they against him.

The FIR was a police statement evening again and her sev hatching a co cate her husb in a false mur leading the po Sharma,

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tered after S Lalita Devi i senior superi Vivek Kumar ing for releas

Saraiya pc Santosh Mishtoner, said Ki ily members

page 4

Housing

tary, cabinet secretariat, Brijesh Mehrotra said there was a shortage of about 1.87 crore houses for economically weaker sections in the country.

Under the policy, state agencies engaged in construction of houses and development of plots,

including BSHB, urban local bodies and planning authorities, would have to allocate 50% of the plots and houses for EWS and LIG sections in all projects involving 4000 square metres of land and more.

"Of the total allocation, 50% will be earmarked for EWS and

rest for LIG

Mehrotra.

"As per U

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I-T raids

Yadav is the deputy chief minister of Bihar.

Union minister Ravi Shankar Prasad had alleged that these transactions were case of 'quid pro quo' as they dated to the period when Lalit Prasad was the railway minister, and dared Bihar chief minister Nitish Kumar to take action against him. He had claimed one such land deal involving Lalit and his family members was in Bihar when he died.

set back to the powerful regional satrap who was disqualified from Parliament and banned from contesting elections after he was convicted of corruption in 2013 in one of the biggest scams in Bihar.

However, shortly after Lalit's tweet, RJD spokesperson Manoj Jha appeared to have launched a damage control exercise, saying the reference to "new alliance partners" was an allusion to how the BJP had picked up the income-tax department and CBI as its partners to harness political

Nitish

when he broke his silence over the alleged acquisition of assets worth Rs 1,000 crore by RJD chief Lalit Prasad and his family, through shell companies at throwaway prices.

The matter related to the company affairs department and the Centre was competent to initiate action, if there was documentary evidence to warrant an inquiry, he had said in the presence of Prasad's son and deputy CM Tejendra Prasad Yadav after the conclusion of his weekly Lok Sabha session.

maintenance for five years.

The six districts are Vaishali, Muzaffarpur, Sitamarhi, Sheohar, East Champaran and West Champaran.

Jaghar said the company has almost completed its task. "Work on only six roads remains to be completed. Under the prevailing law and order condition, it will be difficult for us to continue our work," he said. Meanwhile, an NHPC official said the two engineers had some dispute with a local contractor over payment against the work done.

IndianOil

CORP - L 23201 MH 1926 QGT 011308
Refineries Division - Barauni Refinery

PUBLIC NOTICE

It is to bring to kind notice of all concerned that Barauni Refinery has received Environment Clearance for MS Quality Upgradation & HSD Quality Upgradation Project vide Ministry's clearance letter no. J-11011/15/2015 - (A II (I) dated 06.03.2017. The copy of the Environment Clearance letter is available with Bihar State Pollution Control Board and may also be seen at website of the Ministry at <http://moef.nic.in>

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IndianOil
Barauni Refinery

Status as on 31.03.2025

Subject: Status of Environmental Clearance Conditions for Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited at Barauni, District Begusarai (Bihar)- Environmental Clearance - reg.

Ref: Ministry's clearance letter no J-11011/15/2015 - IA-II (I) dated 15.02.2019 and 04.06.2020

SN	Point	Status
11	Terms and Conditions	
a)	Third party assessment for the environmental damage, if any, and differential impacts on environmental parameters due to excess crude processing (during the periods 2009-10, 2010-11, 2012-13, 2013-14, 2015-16, & 2016-17) shall be carried out by NEERI or by any other agency of repute, in a fixed time frame and the report shall be submitted to the ministry.	<ul style="list-style-type: none">• Study has been completed by M/s NEERI Nagpurin Jan 2020 and report submitted to MoEF&CC on 30.01.2020.• As per report no adverse impact of excess crude processing is observed and same has been accepted by MoEF&CC (Ref: Minutes of the 17th meeting of theExpert Appraisal Committee (Industry-2 sector) held during 25-27 February, 2020, Agenda 17.15)• Complied
b)	Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board as required.	<ul style="list-style-type: none">• With Ref. No.ROB(A+W)-1474/20/1084 dated 05.04.2022 permission from BSPCB, under Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, available with validity till 04.04.2027.• Complied
c)	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	<ul style="list-style-type: none">• Presently no effluents discharged outside refinery.• Complied
d)	Necessary authorization required under the Hazardous and Other Wastes	<ul style="list-style-type: none">• Authorization from BSPCB available with validity till 29.08.2027.

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	(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.	<ul style="list-style-type: none"> • Complied
e)	To control source and the fugitive emissions, suitable pollution 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.	<ul style="list-style-type: none"> • BELCO scrubber is installed in RFCCU for effluent scrubbing as a pollution control device. • Gaseous emission is dispersed through stacks of adequate height as per CPCB/SPCB guidelines for existing stacks and will be implemented in new units as well. • Complied
f)	The National Emission Standards for the Petroleum Oil Refinery issued by the Ministry vide G.S.R.186(E) dated 18 th March, 2008, as amended from time to time, shall be followed.	<ul style="list-style-type: none"> • Please refer Annexure-1 for detailed status for compliance of standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008. • Complied
g)	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R.820 (E) dated 9 th November, 2012, as amended from time to time, shall be followed.	<ul style="list-style-type: none"> • Petrochemical units have not been constructed and compliance will be updated to include new units. • Complied
h)	Total fresh water requirement shall not exceed 24000 cum/day to be met from ground water through artesian wells. Necessary prior permission in this regard shall be obtained from the concerned regulatory authority.	<ul style="list-style-type: none"> • Presently, Barauni Refinery has necessary authorization from CGWA for 15624 m³/day. During, Oct 24 to Mar 25 average fresh water consumption was 15552 m³/day. • Prior permission will be taken from CGWA for enhancement of this limit to 24000 m³/day before project completion. • Complied
i)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	<ul style="list-style-type: none"> • A separate storm water channel is there in the refinery which is reused for refinery operation post treatment. • Complied
j)	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.	<ul style="list-style-type: none"> • Hazardous chemicals have been stored in tanks, tank farm, drums etc. All class A petroleum storage tanks has been provided with Rim Seal Fire protection system. • Complied

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k)	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.	<ul style="list-style-type: none"> Spent catalyst generated in RFCC unit is sent to cement industry for re-processing/co-processing. Pet coke is sold to authorized user. No ash is generated at Barauni Refinery. Complied
l)	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.	<ul style="list-style-type: none"> Compliance is already being done and will be expanded to include new units. Complied
m)	Regular monitoring of Volatile Organic Compounds shall be carried out at vulnerable points.	<ul style="list-style-type: none"> Monitoring of Volatile Organic Compounds is being done quarterly and will be increased to include new units. Complied
n)	Oily sludge shall be collected for oil recovery and the residue shall be bio-remediated.	<ul style="list-style-type: none"> Oily sludge is collected in 4 nos. Pits for oil recovery. Residual oily sludge is bio-remediated in Confined Space Bioreactor (CBR). Complied
o)	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional office of the Ministry. Outcome from the report to be implemented for conservation scheme.	<ul style="list-style-type: none"> Water study for entire refinery has been carried out by FICCI and final report submitted in Oct`2022. Phase wise implementation of recommendations is being undertaken. Complied
p)	Oil caters/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.	<ul style="list-style-type: none"> Oil catchers have been constructed at 7 strategic locations of the refinery Oil containment booms have also been installed at 3 nos of strategic locations in the refinery. Oil collected/trapped by oil catcher and oil containment booms are transferred to ETP mechanically through gully suckers. The same facility will also be provided in the new units. Complied
q)	The company shall undertake waste minimization measures as below: -	

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	<p>(i) Metering and control quantities of active ingredients to minimize waste.</p> <p>(ii) Reuse of by-products from the process as raw materials or as raw substitutes in other processes.</p> <p>(iii) Use of automated filling to minimize spillage.</p> <p>(iv) Use of Close Feed system into batch reactors.</p> <p>(v) Venting equipment through vapour recovery system.</p> <p>(vi) Use of high-pressure hoses for equipment clearing to reduce wastewater generation.</p>	<p>All critical/important process lines have flow meters installed.</p> <p>All excess/byproduct gases generated are used as fuel gas. Any oil drained is routed to ETP for recovery and is reprocessed in AVUs/Coker.</p> <p>In OM&S Gantry, automated filling is done with process interlocks in place to avoid spillage.</p> <p>Batch reactors process occurs only in Coker unit. In this unit closed and automated feed system is in place.</p> <p>ETP has a VOC recovery system. Recovered vapour is passed through activated charcoal bed before venting.</p> <p>High pressure (hydrojet) is used to clean vessels, exchangers & pipelines when required.</p> <p>• Complied</p>
r)	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.	<p>• Total plot area of the refinery: 887.83 acres.</p> <p>• Green belt area in Refinery: 43.8 acres.</p> <p>• Green belt area in Refinery Township: 82.19 acres.</p> <p>• Total green belt area: 125.99 acres.</p> <p>• Since, there is no further land available for tree plantation in Refinery and township hence, an agreement has been done with Forest department on 21.10.2021 for 1,65,000 nos. trees plantation in 180 Hectare land. EC amendment for the same has been carried out.</p> <p>• Complied</p>
s)	All the commitments made to the public during hearing/consultation shall be satisfactorily implemented.	<p>• All the recommendations of public hearing have been complied.</p> <p>• Complied</p>
t)	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.	<p>• Detailed ESR plan attached as Annexure-2.</p> <p>• Being complied</p>
u)	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	<p>• DG set is not used during normal refinery operation. It is used only in case of complete power failure; hence monitoring data is not available. Stack monitoring will be done whenever DG set will be in</p>

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	provided to DG set for controlling the noise pollution.	<p>line.</p> <ul style="list-style-type: none"> Stack height modification job completed. Acoustic enclosure job completed. Complied.
v)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	<ul style="list-style-type: none"> Noted for compliance. Fire station has been established in the refinery for protection of possible fire hazards.
w)	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.	<ul style="list-style-type: none"> 24 nos. of existing stacks are installed with online analyzers connected to the servers. All upcoming new stacks will also be provided with online analyzers. Web camera with night vision is installed in the channel/drain to Burrow pit. For continuous monitoring of effluent, online analyzer has been installed. For flow meter, installation job is completed. Complied.
x)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	<ul style="list-style-type: none"> Pre – employment medical examination of all employees are carried out before joining the organization. Routine periodical medical examination as per statutory requirement is carried out on regular basis. Complied
y)	Process safety and risk assessment studies shall be carried out using advanced models and the mitigating measures shall be undertaken accordingly.	<ul style="list-style-type: none"> For process safety and risk assessment, studies like HAZOP, QRA are carried out mandatorily before commissioning of any new process unit. Liquidation of recommendations of these studies is done in time bound manner. Complied
11.1 Generic Conditions		
i.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and/or any other statutory authority.	<ul style="list-style-type: none"> Stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority are being followed. Complied.



ii.	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 the 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.	<ul style="list-style-type: none"> • Noted for compliance. • Prior approval of ministry would be taken before carrying out any expansion or modification of the plant if required.
iii.	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB), ensuring that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	<ul style="list-style-type: none"> • Five nos. of offline ambient air quality monitoring stations (four in refinery and one in township) and three nos. of continuous ambient air quality monitoring station has been provided at strategic locations at Barauni Refinery for monitoring of ambient air quality. • 03 Nos of additional ambient air monitoring stations installed in periphery villages of Refinery. • Ambient air quality is checked twice in a week in five nos. of offline ambient air quality monitoring stations as per MoEF&CC standards 2009. Report enclosed. • Complied.
iv.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16 th November, 2009 shall be complied with.	<ul style="list-style-type: none"> • Ambient air quality is checked twice in a week in five nos. of offline ambient air quality monitoring stations as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009. • Complied.
v.	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 the Environment (Protection) Act, 1986.	<ul style="list-style-type: none"> • The ambient noise levels from existing facilities conform to the standards prescribed under standards prescribed under Environment (Protection) Act, 1986 Rules. Reports enclosed. • For personnel working in the proximity of high noise generating equipments, appropriate PPEs are used, and exposure is controlled through job rotation, education and awareness. • Adequate noise control measures shall be taken in new facilities in the project.



vi.	The company shall harvest rainwater from the roof tops of the buildings to recharge ground water and to utilize the same for different industrial operations within the plant.	<ul style="list-style-type: none"> • Rain water harvesting has been implemented at 21 buildings of Barauni Refinery and township in which water collected from roof top of various buildings is recharged to ground water. Total surface run-off of township is also being used for ground water recharge. • Storm water drain of the refinery has been routed to ETP and storm water is being reused in refinery operation after treatment along with ETP water except during heavy rainfall, when excess surface run off may have to be allowed to flow into Refinery owned pit (Burrow Pit) adjacent to refinery premise in the West. • In future rainwater harvesting for rooftops of building will be done as per requirement.
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.	<ul style="list-style-type: none"> • Training is continuously imparted to all employees on chemical handling. • Pre – employment medical examination of all employees are carried out before joining the organization. • Routine periodical medical examination as per statutory requirement is carried out on regular basis. • The same will be done in future also.
viii.	The company shall comply with all 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, risk mitigation measures and public hearing shall be implemented.	<ul style="list-style-type: none"> • Presently Environmental Monitoring of all required parameters in Refinery is carried out periodically. The existing practice shall be extended for the proposed project as per EIA/EMP report.
ix.	The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administrations and other stake holders. Also, eco-developmental measures shall be undertaken for overall improvement of the environment.	<ul style="list-style-type: none"> • Being done based on the drawn-up schedule as part of CSR. CSR plan is finalized in consultation with mukhiyas of surrounding villages. • Being complied.

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x.	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environment Management and Monitoring functions.	<ul style="list-style-type: none"> • BR has a full-fledged environment protection cell and a well-equipped dedicated pollution control laboratory. • Complied
xi.	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 Changes 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.	<ul style="list-style-type: none"> • In addition to one-time investment in facilities for combating pollution, separate funds are allocated for specific activities such as environment monitoring, operation and maintenance of effluent treatment plant, oil recovery from oily sludge through mechanized skid process and studies related to environment etc. • Complied.
xii.	A copy of the clearance letter shall be sent by the project 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.	<ul style="list-style-type: none"> • A copy of the clearance letter has been submitted to concerned Panchayat, Zila Parishad. Enclosed as Annexure-3. • Complied
xiii.	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.	<ul style="list-style-type: none"> • A six-monthly compliance report and the monitored data are submitted regularly. Will be done for this EC as well. • EC Compliance status of various projects is being hosted on https://www.iocl.com/Talktous/SNotices.aspx. Alternatively, one can reach IOCL home page at https://www.iocl.com and thereafter selecting "We're Listening" tab followed by opening "Statutory Notices". • Complied
xiv.	The environmental statement for each financial year ending 31 st 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	<ul style="list-style-type: none"> • Environment Statement for each financial year is submitted to Bihar State Pollution Control Board and MoEF&CC. Same is also sent to Regional Office of MoEF&CC by e-mail and hosted at the website https://www.iocl.com/Talktous/SNotices.aspx. • Complied

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	shall also be sent to the respective Regional offices of MoEF&CC by e-mail.	
xv.	<p>The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and the copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.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.</p>	<ul style="list-style-type: none"> • The information regarding accord of Environment clearance for the subject project has been advertised in two local newspapers. Copy enclosed as Annexure-4. • Complied.

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Status and Action Plan for Compliance of Revised Emission and Effluent Standards 2008 at Barauni Refinery		
Schedule -I: Petroleum Oil Refinery		
A. Effluent Discharge		
SN	Standard	BR status and action plan
1	Treated Effluent Quality	No effluent is discharged outside refinery. Treated effluent is totally reused and its quality is maintained as per MINAS. Reports attached separately. Complied
B. Emissions		
SN	Standard	BR status and action plan
2	H ₂ S in Fuel Gas	H ₂ S in Fuel Gas is within limits as required under revised standards. Complied
3	SO ₂ Emissions	These parameters are monitored through online stack analyzers. These analyzers are directly connected to CPCB and BSPCB servers. Emissions are under within limit. Reports attached separately. Complied
4	NO _x Emissions	
5	CO Emissions	
6	Particulate Matter (PM) Emissions	Barauni Refinery processes more low Sulphur crude in recent years. Only about 5% high sulfur crude processing takes place. As a result, internal fuel oil quality has been improved w.r.t emission of particulate matter. Further, particulate matter analyzers have been installed in all stacks of refinery and connected to CPCB server since June-16. The online analyzer data available now help us fine tuning fuel firing and optimization of gas mix amongst various furnaces and the controlling the PM parameters within the statutory limit. COMPLIED.
7	Nickel and Vanadium (Ni+V) Emissions	COMPLIED.
8	Sulphur Content in Liquid Fuel	COMPLIED.
9	Continuous Monitoring System for SO ₂ & NO _x emissions	Continuous monitoring is done through online analyzers. These analyzers are directly connected to CPCB and BSPCB servers. Complied



10	Opacity of Flue Gas ex FCCU Regenerators	>RFCCU was commissioned at Barauni Refinery along with flue gas scrubbing technology supplied by M/s Belco, USA. In the Belco unit, the flue gas is scrubbed with water & diluted caustic solution (<0.5 % concentration by wt.) to remove SOx and particulate matter. PM level in flue gas is less than 30 mg/Nm ³ . High volume of condensed water vapor generated during water scrubbing of flue gas escapes through the BELCO stack as whitish plume. Opacity meter under such condition is not considered relevant as it will not be effective due to high moisture content in flue gas. > Further, PM analyzers have been installed in RFCCU stack through which particulate matter ex- RFCCU stack is monitored, which is closely akin to monitoring of opacity in flue gas. Therefore, opacity meter installation at RFCCU is not planned. > Complied.
11	Sulphur Recovery from SRU	SRU at Barauni refinery meets the revised standard. COMPLIED.
12	H₂S emissions from SRU	SRU at Barauni refinery meets the revised standard. COMPLIED.

C. Fugitive Emission

SN	Standard	BR status and action plan
13	Storage tanks with capacity between 4 to 75 m ³ and TVP of more than 10 kpa	Not Applicable.
14	Storage tanks with capacity between 75 to 500 m ³ and TVP of 10 to 76 kpa	Not Applicable.
15	Storage tanks with capacity of more than 500 m ³ and TVP of 10 to 76 kpa	Storage tanks of Crude, MS & SRN have TVP of 10 to 76 kpa. All such tanks are IFRT or EFRT. COMPLIED.
16	Storage tanks with capacity of more than 500 m ³ and TVP of more than 76 kpa	Not Applicable
17	Provision of secondary seals in floating roof tanks	All such tanks at Barauni Refinery are equipped with double seal. COMPLIED.

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18	Emission control in Rail Tank Wagon/ Road Tank Truck loading for Gasoline and naphtha for VOC reduction	Barauni Refinery complies most of the revised standards for petroleum refineries as notified in Gazette of India on 18th March'08 except vapor recovery system in tank wagon/tank truck. For VOC reduction of 99.5% and emission control to 5 gm/m3 in case of Gasoline and Naphtha loading, VOC recovery system at Loading Gantry would be required. Existing gantry at Barauni refinery does not have adequate space for laying a bigger dia header all along the gantry and other equipments for vapour recovery system. It will also require the shutdown of product loading gantry for 3-4 months to install this facility. Outage of gantry for such a long period cannot be allowable in view of the chances of market dry out of the major petroleum products.
19	Equipments leak and LDAR programme	COMPLIED.
D. Emission Standards for VOC from Wastewater Collection and Treatment		
20	VOC Collection & Treatment System	VOC treatment system as a part of ETP modernization project has been installed and commissioned. COMPLIED.
Schedule -VI, Part C: Petroleum Oil Refinery		
SN	Standard	BR status and action plan
21	Quantum limit for discharge of total effluent	No effluent is discharged outside refinery. Treated effluent is totally reused.
22	Limit of quantity of effluent discharged	

Am

F. No.J-11011/15/2015-IA-II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

Indira Paryavaran Bhawan
Jor Bagh Road, N Delhi - 3
Dated: 15th February, 2019

To,

M/s Indian Oil Corporation Limited,
Barauni Refinery,
District **Begusarai** (Bihar)

Sub: Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited at Barauni, District Begusarai (Bihar) - Environmental Clearance - reg.

Ref: Online Proposal No.IA/BR/IND2/28027/2015 dated 2nd February, 2019.

Sir,

This has reference to your online proposal No.IA/BR/IND2/28027/2015 dated 2nd February, 2019 along with the EIA/EMP report containing public hearing proceedings for the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited in a total area of 3592921sqm at Barauni, District Begusarai (Bihar).

3. The details of the existing/proposed products are as under:-

S. No.	Product/By-product	Existing (TMTPA)	Proposed (TMTPA)	Total (TMTPA)
1	LPG	318	169.1	487.1
2	Poly Propylene	0	203	203
3	Naphtha	83.4	35.3	118.7
4	MS (BS-VI)	1351.6	372.4	1724.0
5	Aviation Turbine Fuel	204.0	(-)0.8	203.2
6	Superior Kerosene	370.0	0	370.0
7	HSD (BS-VI)	2787.1	1833.9	4621.0
8	Fuel Oil	46.9	(-) 45.9	1.0
9	Bitumen	74.0	0	74.0
10	Carbon Black Feed Stock	0	0	0
11	Raw Pet Coke (LS)	154.0	(-) 30.0	124.0
12	Raw Pet Coke (HS)	0	184.0	184.0
13	Sulfur	21.7	34.3	56.0
14	Fuel & Loss	591	243.0	834
Total		6000	3000	9000

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06-06-019 Page 1 of 7

मुख्य

ग्राम पंचायत राज राक्षय

मदर प्रस्थान प्रेममरा

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F. No.J-11011/15/2015-IA-II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

Indira Paryavaran Bhawan
Jor Bagh Road, N Delhi - 3
Dated: 15th February, 2019

To,
M/s Indian Oil Corporation Limited,
Barauni Refinery,
District **Begusarai** (Bihar)

Sub: Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited at Barauni, District Begusarai (Bihar) - Environmental Clearance - reg.

Ref: Online Proposal No.IA/BR/IND2/28027/2015 dated 2nd February, 2019.

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6	Superior Kerosene	370.0	0	370.0
7	HSD (BS-VI)	2787.1	1833.9	4621.0
8	Fuel Oil	46.9	(-) 45.9	1.0
9	Bitumen	74.0	0	74.0
10	Carbon Black Feed Stock	0	0	0
11	Raw Pet Coke (LS)	154.0	(-) 30.0	124.0
12	Raw Pet Coke (HS)	0	184.0	184.0
13	Sulfur	21.7	34.3	56.0
14	Fuel & Loss	591	243.0	834
Total		6000	3000	9000

सुदी 28 राब
6/4/2019
सरपंच

राम कर्णवती, वैधवाही-बकावतुप
प.प. - बलकट-बैतुसराज


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Annexure-2

**Details of CER Projects of Barauni Refinery
Status as on 31.03.2025**

S.N	Activity/ Project details	Approved Amount (Rs in lacs)	Expenditure Amount (Rs in lacs)
1	Construction of Boundary Wall, Internal Road and provision of street lights in the Burrow Pit area of Barauni Refinery	1232	739.32
2	Construction of 04(Four) Nos of classrooms in Middle School Govindpur located in the vicinity of Refinery	65	62.57
3	Manure Management Project with Sudha Dairy in Technical Support by National Dairy Development Board (NDDB), Anand	113	112.50
4	Construction of 6-Bed Burn Ward in the Sadar Hospital Begusarai	386	77.52
5	Provision of Medical Grade Oxygen Cylinders with flow meter and disosable masks & pulse oxymeters for providing treatments to COVID patients by Begusarai District Administration	10	10.39
6	Establishment of 01(One) Nos of PSA based Oxygen Generation Unit of capacity 450 M3/Hour with refilling capacity at Barauni Refinery under Corporate Environmental Responsibility	991	819.53
7	Establishment of PSA based medical-grade Oxygen Generation Plant at Govt Hospital, Teghra for COVID treatment facilities under CER Initiative of Barauni Refinery	143	82.08
8	Setting up of 50-Bed Pediatric Care Unit at Sadar Hospital Begusarai and Hospital	752	390.25
9	Provision of 03 (Three) Nos of Ambulances to Sadar Hospital Begusarai under CER initiative of Barauni Refinery	224	177.36
10	Installation of electrical poles and street lights on the road from Barauni Refinery Township to Township BMP Gate areas under the CER initiative of Barauni Refinery	333	81.25
11	Development of Green Belt outside the Barauni Refinery Township premises along NH-31	397	252.40
12	Construction of Cross Drains in Keshawe Village to provide support to the villagers in order to avoid any water-logging inside the village.	614	514.70
13	Development of Gandhi Stadium in Begusarai under the CER initiative of Barauni Refinery'	240	125.81
14	Setting up of Smart Classes facilities in Rashtrakavi Ramdhari Singh Dinkar College of Engineering Begusarai under CER initiative of Barauni Refinery	31	30.70



15	Provision & Installation of Air Conditioners in different healthcare facilities (Sub-Divisional Hospital, PHC & CHC) in Begusarai District under the CER initiative of Barauni Refinery	13	7.44
16	Provision of Taekowandoo infrastructure in Begusarai	19	16.65
17	Installation of 02(Two) Nos of High Mast Light at Jhamatia Ganga Ghat in Begusarai under the Corporate Environment Responsibility (CER) initiative of Barauni Refinery	27	7.56
	Total Expenditure till date	5590	3508.07

Note: Projects as identified above are tentative only and subjected to change based on the approval from District Administration as per CER policy in due course of time.

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CSR Project details for the FY2024-25		
Sl No.	Name of Project	Expenditure (Rs Lacs) (01.04.2024 to 31.03.2025)
1	Installation & setting up of 125 Nos of Solar High Mast Lights in Jale in Darbhanga District of Bihar	112.66
2	TruNAT machines in 4 Nos of TB Centres in Begusarai District	58.24
3	Installation & setting up of 125 Nos of Solar High Mast Lights in Korha in Katihar	112.64
4	Installation for 07 Nos of RO Plants in Khagaria District	22.51
5	Gyanodaya Scholarship Scheme	39.36
6	Barauni Refinery Shri Krishna Singh Chhatravritti Yojana	39.75
7	Barauni Refinery Dinkar Uchch Shiksha Sahayata Yojana	17.00
8	Construction of pay and use Sulabh Toilet at Sitamarhi	200.14
9	Organizing Health camps in 20 Villages	26.75
10	Food basket for TB Patients under PMTBMA	33.12
11	Promoting Menstrual Hygiene and Sanitary Napkins in in targeted locations of Begusarai district.	37.09
12	Proposal for the Installation of 15 Health ATM Kiosk Digital Machines under CSR for TB Patient Care in Begusarai.	61.95
13	PM intern Yojana	0.08
14	Installation of Blood Separator Machine in Sadar Hospital under CSR in Begusarai	30.50
15	Installation of Anaesthesia Workstation in Sadar Hospital under CSR in Begusarai	50.40
16	Installation of 03 Ultrasound machines in Sadar Hospital under CSR in Begusarai	63.00
	Total Expenditure	905.21

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Annexure-3



पर्यावरण विभाग
Refineries Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
एन.ए. सिंगपुरी, गुवागट, न.ए.ए. जंगल सिंगपुरी
गुवागट, बड़गंगा, बिहार - 851114

Indian Oil Corporation Limited

Barauni Refinery P.O., Barauni, Patna Refinery

Dist. Begusarai, Bihar - 851114

Website: www.iocl.co.in

E-mail: baraunirefinery@iocl.co.in

Phone: 06243 240159/240160

Fax: 06243 240150/240176

ISO 9001:2001 & OHSAS 18001 Certified Company



Ref.No.: TS/HSE/2020/02/1145

Date: 12.02.2020

To,
Municipal Commissioner
Begusarai Nagar Nigam
Begusarai, Bihar

Sub: Copy of EC received by IOCL, Barauni Refinery for record

Dear Sir,

A copy of Environmental Clearance from MoEF&CC, received by IOCL, Barauni Refinery via F. No. J-11011/15/2015-IA-II (I), for the project for **Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units** is attached for your kind perusal and record.

Thanking you.

Yours faithfully,

(M A Choudary)
GENERAL MANAGER (TS & HSE)

Encl As above

Recd
12/02/2020

Rm

12/02/20



विकासशील प्रभाग
Refineries Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
राजकीय विकास, इकोनॉमिक प्रगति, विकास
विकास, विकास, विकास, विकास

Indian Oil Corporation Limited

Barauni Refinery PO - Barauni Refinery

Dist - Begusarai, Bihar - 85 0001

Website - www.iocl.co.in

E-Mail - barauni@iocl.co.in

Phone - 06243 240159/240161

Fax - 06243 240150/240177

ISO 9001:2002 & ISO 14001:2004 Certified Company

Ref.No.: TS/HSE/2020/02/11111

Date : 12.02.2020

To,
Shri Arvind Kumar Verma, IAS
District Magistrate-cum-Collector
Begusarai, Bihar

Sub: Copy of EC received by IOCL, Barauni Refinery for record

Dear Sir,

A copy of Environmental Clearance from MoEF&CC, received by IOCL, Barauni Refinery via F. No. J-11011/15/2015-IA-II (I), for the project for **Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units** is attached for your kind perusal and record

Thanking you.

Yours-faithfully,

(M A Choudary)

GENERAL MANAGER (TS & HSE)

Encl: As above

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Copy of advertisement regarding receipt of Environment Clearance in two local newspapers

Hindustan Times Page no.6 Patna Edition dated 20.02.2019

FORMER CM JAGANNATH MISHRA IS ALSO OCCUPYING 41 KRANTI MARG RESIDENCE.

THE HC ALSO STRUCK DOWN THE RESOLUTION OF BIHAR'S BUILDING CONSTRUCTION DEPARTMENT AS IT ALSO SUFFERED

...age such an important visit as that of the Sandi crown prince?" the prime minister asked.

"We have been fighting against terrorism for the past 15 years. How will Pakistan benefit from such incidents?"

"Which law in the world allows everyone to become a judge and jury?" Questioning whether India "wants to resolve the issue through military", Khan said, "This has never been a successful measure."

...hibit the use of funds and spaces for holding activities by the banned Students Islamic Movement of India (SIMI), allegedly involved in a number of terrorist activities in the country.

In a notification, the Union home ministry said the ban imposed on SIMI was extended for five more years under the Unlawful Activities (Prevention) Act, 1967 on January 31.

"Now, therefore, in exercise of the powers conferred by section

...shall be exercised also by state governments and Union territory administrations in relation to the above said unlawful association," it said.

Section 7 is related to powers to prohibit the use of funds of an unlawful association and section 8 specifies the powers to ban the use of locations by an unlawful organisation.

The ministry said if SIMI's unlawful activities were not curbed immediately, it would

...propagating, inciting communal riots and escalating secessionist ideas. It listed 58 cases in which SIMI members were "involved".

The ministry said the outfit has been polluting the minds of people by creating communal disharmony, undertaking activities prejudicial to the integrity and security of India.

The Centre is also of the opinion that it is necessary to declare SIMI an unlawful association with immediate effect because of its activities, it said.

...shall be exercised also by state governments and Union territory administrations in relation to the

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Act 2002, the Authorized Officer
re per details given below against
the event of Security Interest. It
covers in respect of Loan/advance
recovery of the secured debts due
thereon, as recoveries if any
is
Authorized Officer PNB,
Bundara.

Reserve Price (EMD)	Date and Time of Auction
₹ 30,70,000/-	27.03.2019
₹ 3,07,000/-	11.00 a.m.
₹ 10,000/-	to 03.00 p.m.
₹ 2,18,00,000/-	27.03.2019
₹ 21,80,000/-	11.00 a.m.
₹ 10,000/-	to 03.00 p.m.
₹ 2,80,00,000/-	27.03.2019
₹ 28,00,000/-	11.00 a.m.
₹ 10,000/-	to 03.00 p.m.

IndianOil
(REFINERIES DIVISION)
BARAUNI REFINERY
P.O.: Barauni Oil Refinery, Dist. Begusarai - 851114, Bihar.
(A GOVT. OF INDIA UNDERTAKING)
NOTICE
It is to bring to kind notice of all concerned that Barauni Refinery has received clearance for "Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units vide ministry's clearance letter no. J-11011/15/2015-IA-II(i) dated 15.02.2019". The estimated project cost is Rs. 8287 Crore. Detailed copy of Environment clearance letter is available with BSPCB website & may also be seen at website of ministry at <http://moef.nic.in>.
B/N/NOTICE/2018-2019

**TRIBAL COOPERATIVE MARKETING DEVELOPMENT
FEDERATION OF INDIA LTD. (TRIFED)**
(Ministry of Tribal Affairs, Govt. of India)
NCUI Building, 2nd Floor, 3, Siri Institutional Area,
August Kranti Marg, New Delhi-110016
Tel.: 011-26968247, 26569064, 26560117
Fax: 001-11-26966149
Email: trifed.mpddivision@gmail.com
Website: www.trifed.in

**EXPRESSION OF INTEREST FOR APPOINTMENT
OF PROJECT MANAGEMENT CONSULTANCY
(PMC) FOR TRIFOOD**

PCT ARAVALI GYPSUM AND MINERALS INDIA LIMITED
(A Govt. of India Undertaking) Mira Ratna - II Company
Mangru Singh Raja Marg, Patna, Jodhpur (Rajasthan)
Phone No. 0291-2544392, Website: www.lgmil.res.in

NOTICE INVITING TENDER
Online/Offline tenders under Two-Bid system are invited by JGS invited in (1) Core Drilling job at Karm Gypsum Mines (2) Preparation of Mining Plan of Lime Stone Mines located at Noharhary H.P./3 Transportation of Packed Gypsum Powder to Lucknow (U.P.) and nearby areas (3) Auction of various scrap items located at our various discards/stockpiles on 'as is where is' basis. Full details can be seen on website www.lgmil.nic.in. Any amendment/corrigendum will be posted on the website of the company.
GENERAL MANAGER

Nalanda UNIVERSITY
Rajgir, Dist. Nalanda, Bihar-801116
Tender Notice No.: NJ/Adm/11/2018-19/03 Dated 20th February 2019
Nalanda University is an institution of National Importance under the Ministry of External Affairs, and was established by an act of Parliament of India. It is a prestigious and international institution in East Asia with students and teachers from India and abroad. Following tenders are invited from authorized and reputed AGENCIES:
1. Tender for Housekeeping Services - Last date 12.03.2019
2. Tender for Horticulture Services - Last date 12.03.2019
For further details please visit www.nalandauniv.edu.in/tenders.
Registrar

BHARAT COKING COAL LIMITED
(A Mini Ratna Company)
(A subsidiary of Coal India Limited)
Ref. No: GM/KA-IV/Survey/18-19/4423 Date: 11.02.2019
E-TENDER NOTICE
Open E-Tender invited vide GM/KA-IV/Survey/18-19/4423 Dated: 11.02.2019 for the work of "Construction of 12 Nos. Isolation stopping in IV (Bot) (2/7 panel) of AKWN Colliery of Katras Area. Estimated cost: Rs. 12,65,886.00, EMD: Rs. 18,000.00 Time of completion: 100 days. The tender documents can be downloaded from 26.02.2019 to 12.03.2019. All prospective bidders are advised to visit website <https://coalindiatenders.gov.in> for further details and to participate against this tender. Full details of this tender are also available on website "eprocure.gov.in".
Sd/-
Area Survey Officer, Katras Area

**GENERAL SERVICES ADMIN. D
SECTOR - 4 B.S.**
TENDER

Punjab National Bank invites e-tender following Work:
CIVIL, FURNISHING, MODUL
WORK, LIGHT FITTINGS & F
BOKARO, SECTOR - 4, B.S. CT
Work is Rs. 52.60 lacs, EMD: R
Tender download is from 19.02
downloading tender document
submission is 12.03.2019 till
12.03.2019 till 1400 hrs.
For details, visit our website - pnbindia.biz
Any corrigendum/clarification
shall be released only at our
and <https://pnbindia.biz>
Date: 18.02.2019
Place: Bokaro

Bank of India BOI
Relationship beyond Banking

SARFAESI Act, 2002
Whereas, The undersigned being the not
Securitisation and Reconstruction of Financial
Act, 2002 and in exercise of powers conferred
Securitisation and Reconstruction of Financial
Act, 2002

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**GOVERNMENT OF INDIA
OFFICE OF THE COMMISSIONER
CENTRAL GOVERNMENT STORES AND SUPPLIES PATNA**

**1ST FLOOR, C.R. PATNA (ANNEXE)
BIRCHAND PATEL PATNA PATNA-800001**

Tender Notice for Disposal of goods

Sealed Tenders are invited by the Commissioner, COST & CK, Patna-I to sell out old, surplus, obsolete and economically unserviceable items as per Annexure-I "AS IS WHERE IS & WHAT IS BASIS" lying at ground floor, Central Revenue Building (Annexe), Birchand Patel Patna, Patna-800001.

The detailed terms and conditions along with Annexure-I may be obtained either from the Assistant Commissioner (Legal), Central Goods and Service Tax and Central Excise and Customs-Chairman disposal Committee, Patna, or may be downloaded from the departmental website, <http://cgstnchillzone.sib.nic.in> or <http://cgspatna.sib.nic.in>.

The last date for submission of the bids is 14.03.2019 at 15:00. The bids will be opened by a committee on



रेलवे भर्ती बोर्ड

राज्यीय बंगाल, मुजफ्फरपुर - 842003 (बिहार)

Website: www.railwaysbpo.gov.in, E-Mail: rbmpb-bihar@nic.in
 Phone No: 0621-2213405 Fax No: 0621-2231167

निविदा सूचना क्र. 1/2019, मुज.ई-निविदा/778/2019 (आरपी ई टेंडर) दिनांक 18.02.2019
 अनुसार, लखने में बौद्ध मठ परिसर में कार्य की व्यवस्था की जायेगी। निम्नलिखित कार्य की विधि
 अनुसंधान एवं निविदा द्वारा करने वाले निविदाकर्ता को भारतीय रेल को अवगत कराना होगा। निम्नलिखित कार्य
 की ई-निविदा क्र. 1/2019 में दर्शाए गए अनुसार है :-

क्र.सं.	विवरण	किंमत
1	कार्य का नाम	लखनऊ, 1/2019, मुजफ्फरपुर में भारतीय रेल के लिए एक नए मठ परिसर में कार्य करने के लिए एक नए 24 घंटे की रिजर्वेशन कागज।
2	कार्य का अनुमानित मूल्य	₹ 3075,527.84
3	नया बिना की जाने वाली कार्य की राशि	₹ 21,40,000.00
4	निविदा परामर्श की राशि	₹ 2000.00 (पासीव बैंक में होनी चाहिए)
5	गारंटी राशि	24 घंटे
6	निविदा प्रस्तावक कार्य एवं सूचना की दिनांक एवं कार्य	निविदा प्रस्तावक कार्य की दिनांक एक नए कार्य : 13.03.2019 12.00 बजे तक निविदा सूचना की दिनांक एक नए कार्य : दिनांक 13.03.2019 में 12.30 बजे की जाएगी

[illegible]

बिहार विद्यालय परी



अपी

बिहार विद्यालय परीक्षा समिति
माध्यमिक परीक्षा, 2019 की सैद्धान्तिक
2019 से आरम्भ होकर दिनांक
होगी। छात्र/ छात्राओं की प्रतिभा,
शैक्षिक प्रदर्शन को प्रतिष्ठित करने
आयोजन हेतु सरकार दृढ़ संकल्प
कर अपने मावी पीढ़ी को स्वच्छ एवं
नाहील उपलब्ध कराना सरकार की।

नै बिहार के सभी परीक्षार्थियों
करते हुए परीक्षार्थियों, अभिभावकों,

DETOX CORPORATION PVT.LTD.- LAB DIVISION**Analysis Results For the Month of February- 2025**

Company Name		IOCL-Barauni Refinery	
Sample Type		IFO SAMPLE ANALYSIS REPORT	
Sampling Date:		08.02.2025	
Location:		Crude Oil Tank	
Sr. No	Parameters	Unit	Concentration
1	Sulphur Content	%wt	0.72
2	Nickel	ppm	0.28
3	Vanadium	ppm	0.25
Report are meant for your guidance and should not be used for Advertisement , Evidence or Litigation			
Analysed By:		Approved By:	

END

DETOX CORPORATION PVT.LTD.- LAB DIVISION						
Analysis Results for the Month of February-2025						
Company Name			IOCL-Barauni Refinery			
Sample Type			Water	Water	Water	Water
Sample Quantity			10 L	10 L	10 L	10 L
Date of Sampling			06.02.2025	06.02.2025	13.02.2025	13.02.2025
Analysis Period			10.02.2025 to 17.02.2025	10.02.2025 to 17.02.2025	17.02.2025 to 24.02.2025	17.02.2025 to 24.02.2025
SL. No.	PARAMETER	UNIT	Location			
			Borrow pit down Stream	Borrow pit Up Stream	Borrow pit down Stream	Borrow pit up Stream
1	Temperature	°C	25.5	25.3	25.5	25.4
2	Colour	Hazen	BDL(<5.00)	BDL(<5.00)	BDL(<5.00)	BDL(<5.00)
3	Odour	-	Disagreeable	Disagreeable	Disagreeable	Disagreeable
4	Taste	-	-	-	-	-
5	pH	-	7.48	7.01	7.15	7.10
6	Turbidity	NTU	1.40	1.38	1.50	1.42
7	Conductivity	µs/cm	1560.0	1480.0	1420.0	1380.0
8	Total Hardness (as CaCO ₃)	mg/L	540.0	490.0	520.0	500.0
9	Calcium Hardness (as CaCO ₃)	mg/L	346.0	342.0	352.0	290.0
10	Magnesium Hardness (as CaCO ₃)	mg/L	194.0	148.0	168.0	210.0
11	M-Alkalinity (as CaCO ₃)	mg/L	296.0	287.0	334.0	298.0
12	BOD (3 days at 27°C)	mg/L	10.0	8.0	10.0	8.0
13	COD	mg/L	30.0	20.0	30.0	10.0
14	Ammonical Nitrogen (as NH ₃ -N)	mg/L	5.6	5.2	6.0	4.8
15	Total Kjeldahl Nitrogen TKN (as NH ₃ -N)	mg/L	5.60	5.20	6.00	4.80
16	Sulphides (as S)	mg/L	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)
17	Sodium (as Na)	mg/L	36.00	32.00	38.00	30.00
18	Potassium (as K)	mg/L	3.8	3.6	5.1	4.6
19	Total Dissolved Solids (TDS)	mg/L	950.0	880.0	860.0	850.0
20	Total Suspended Solids (TSS)	mg/L	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)
21	Oil and Grease	mg/L	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)
22	Dissolved Oxygen	mg/L	5.80	5.60	5.40	5.20
23	Chloride (as Cl ⁻)	mg/L	132.0	130.0	128.0	120.0
24	Nitrate (as NO ₃)	mg/L	3.90	3.50	3.80	3.72
25	Sulphate (as SO ₄ ²⁻)	mg/L	110.00	112.00	126.00	100.00
26	Total Silica (as SiO ₂)	mg/L	3.90	3.50	4.50	3.90
27	Phosphate (as PO ₄ ³⁻)	mg/L	4.78	4.62	5.70	4.40
28	Fluoride (as F ⁻)	mg/L	0.15	0.12	0.16	0.14
29	Iron (as Fe)	mg/L	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
30	Lead (as Pb)	mg/L	BDL(<0.006)	BDL(<0.006)	BDL(<0.006)	BDL(<0.006)
31	Phenolic compounds (as C ₆ H ₅ OH)	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
32	Nickel (as Ni)	mg/L	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)
33	Arsenic (as As)	mg/L	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)
34	Zinc (as Zn)	mg/L	BDL(<0.021)	BDL(<0.021)	BDL(<0.021)	BDL(<0.021)
35	Mercury (as Hg)	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
36	Cadmium (as Cd)	mg/L	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)
37	Selenium (as Se)	mg/L	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)
38	Cyanide (as CN ⁻)	mg/L	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)
39	Hexavalent Chromium (as Cr ⁶⁺)	mg/L	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)
40	Total Chromium (as Cr)	mg/L	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)
41	Copper (as Cu)	mg/L	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)
42	Vanadium (as V)	mg/L	BDL(<0.09)	BDL(<0.09)	BDL(<0.09)	BDL(<0.09)
43	Phosphorous (as P)	mg/L	0.22	0.14	0.42	0.36
44	Benzen	mg/L	ND	ND	ND	ND
45	Benzo(a)pyrene	mg/L	ND	ND	ND	ND
46	Aluminium as Al	mg/L	BDL(<0.007)	BDL(<0.007)	BDL(<0.007)	BDL(<0.007)
47	Free Residual Chlorine as FRC	mg/L	BDL(<0.1)	BDL(<0.1)	BDL(<0.1)	BDL(<0.1)
48	Manganese as (Mn)	mg/L	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
49	Pesticides	µg/L	ND	ND	ND	ND
50	Polychlorinated Biphenyls	mg/L	ND	ND	ND	ND
51	PAH	mg/L	ND	ND	ND	ND
52	Tri-halomethanes	mg/L	ND	ND	ND	ND
53	Total coliform	MPN/100 ml	Absent	Absent	Absent	Absent
54	E. Coli	MPN/100 ml	Absent	Absent	Absent	Absent
BQL =Below Quantification Limit						
Analysed By:				Approved By:		
END						

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DETOX CORPORATION PVT.LTD.- LAB DIVISION						
Analysis Results for the Month of February-2025						
Company Name			IOCL- Barauni Refinery			
Sample Type			Water	Water	Water	Water
Sample Quantity			10 L	10 L	10 L	10 L
Date of Sampling			19.02.2025	19.02.2025	26.02.2025	26.02.2025
Analysis Period			22.02.2025 to 01.03.2025	22.02.2025 to 01.03.2025	03.03.2025 to 10.03.2025	03.03.2025 to 10.03.2025
SL. No.	PARAMETER	UNIT	Location			
			Borrow pit down Stream	Borrow pit Up Stream	Borrow pit down Stream	Borrow pit up Stream
1	Temperature	°C	25.4	25.2	25.6	25.5
2	Colour	Hazen	BDL(<5.00)	BDL(<5.00)	BDL(<5.00)	BDL(<5.00)
3	Odour	-	Disagreeable	Disagreeable	Disagreeable	Disagreeable
4	Taste	-	-	-	-	-
5	pH	-	7.52	6.98	7.10	7.06
6	Turbidity	NTU	1.50	1.40	1.60	1.50
7	Conductivity	µs/cm	1520.0	1460.0	1400.0	1350.0
8	Total Hardness (as CaCO ₃)	mg/L	530.0	494.0	510.0	480.0
9	Calcium Hardness (as CaCO ₃)	mg/L	340.0	338.0	348.0	282.0
10	Magnesium Hardness (as CaCO ₃)	mg/L	190.0	156.0	162.0	198.0
11	M-Alkalinity (as CaCO ₃)	mg/L	290.0	280.0	330.0	296.0
12	BOD (3 days at 27°C)	mg/L	8.0	6.0	8.0	6.0
13	COD	mg/L	20.0	10.0	20.0	10.0
14	Ammonical Nitrogen (as NH ₃ -N)	mg/L	5.0	4.8	5.9	4.2
15	Total Kjeldahl Nitrogen TKN (as NH ₃ -N)	mg/L	5.00	4.80	5.90	4.20
16	Sulphides (as S)	mg/L	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)
17	Sodium (as Na)	mg/L	32.00	28.00	31.00	29.00
18	Potassium (as K)	mg/L	3.6	3.2	4.8	4.2
19	Total Dissolved Solids (TDS)	mg/L	912.0	876.0	840.0	810.0
20	Total Suspended Solids (TSS)	mg/L	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)
21	Oil and Grease	mg/L	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)	BDL(<4.0)
22	Dissolved Oxygen	mg/L	5.60	5.20	5.20	5.00
23	Chloride (as Cl ⁻)	mg/L	128.0	126.0	126.0	110.0
24	Nitrate (as NO ₃ ⁻)	mg/L	3.80	3.20	3.72	3.60
25	Sulphate (as SO ₄ ²⁻)	mg/L	100.00	108.00	120.00	96.00
26	Total Silica (as SiO ₂)	mg/L	3.80	3.40	4.40	3.80
27	Phosphate (as PO ₄ ³⁻)	mg/L	4.72	4.60	5.62	4.20
28	Fluoride (as F ⁻)	mg/L	0.10	0.11	0.15	0.12
29	Iron (as Fe)	mg/L	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
30	Lead (as Pb)	mg/L	BDL(<0.006)	BDL(<0.006)	BDL(<0.006)	BDL(<0.006)
31	Phenolic compounds (as C ₆ H ₅ OH)	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
32	Nickel (as Ni)	mg/L	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)
33	Arsenic (as As)	mg/L	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)
34	Zinc (as Zn)	mg/L	BDL(<0.021)	BDL(<0.021)	BDL(<0.021)	BDL(<0.021)
35	Mercury (as Hg)	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
36	Cadmium (as Cd)	mg/L	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)	BDL(<0.003)
37	Selenium (as Se)	mg/L	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)
38	Cyanide (as CN ⁻)	mg/L	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)
39	Hexavalent Chromium (as Cr ⁶⁺)	mg/L	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)	BDL(<0.03)
40	Total Chromium (as Cr)	mg/L	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)	BDL(<0.008)
41	Copper (as Cu)	mg/L	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)	BDL(<0.004)
42	Vanadium (as V)	mg/L	BDL(<0.09)	BDL(<0.09)	BDL(<0.09)	BDL(<0.09)
43	Phosphorous (as P)	mg/L	0.20	0.10	0.40	0.30
44	Benzen	mg/L	ND	ND	ND	ND
45	Benzo(a)pyrene	mg/L	ND	ND	ND	ND
46	Alumnium as Al	mg/L	BDL(<0.007)	BDL(<0.007)	BDL(<0.007)	BDL(<0.007)
47	Free Resdiaul Chlorine as FRC	mg/L	BDL(<0.1)	BDL(<0.1)	BDL(<0.1)	BDL(<0.1)
48	Manganese as (Mn)	mg/L	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
49	Pesticides	µg/L	ND	ND	ND	ND
50	Polychlorinated Biphenyls	mg/L	ND	ND	ND	ND
51	PAH	mg/L	ND	ND	ND	ND
52	Tri-halomethanes	mg/L	ND	ND	ND	ND
53	Total coliform	MPN/100 ml	Absent	Absent	Absent	Absent
54	E. Coli	MPN/100 ml	Absent	Absent	Absent	Absent
BQL =Below Quantification Limit						
Analysed By:			Approved By:			
END						

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DETOX CORPORATION PVT. LTD.- LAB DIVISION

Analysis Results for the Month of February-2025

Company Name			IOCL-Barauni Refinery	
Sample Type			Water	Water
Sample Quantity			10 L	10 L
Date of Sampling			08.02.2025	08.02.2025
Analysis Period			10.02.2025 to 18.02.2025	10.02.2025 to 18.02.2025
SL. No.	PARAMETER	UNIT	Location	
			Drinking Water: (QC Lab)	Drinking Water Township: (Kendriy Vidhvalava)
1	Temperature	°C	25.6	25.6
2	Colour	Hazen	BDL(<5.00)	BDL(<5.00)
3	Odour	-	Agreeable	Agreeable
4	Taste	-	Agreeable	Agreeable
5	pH	-	6.58	6.56
6	Turbidity	NTU	BDL(<1.0)	BDL(<1.0)
7	Conductivity	µs/cm	680.0	590.0
8	Total Dissolve Solid - TDS	mg/L	410.0	355.0
9	Total Suspended Solids (TSS)	mg/L	BDL(<4.0)	BDL(<4.0)
10	Oil and Grease	mg/L	BDL(<4.0)	BDL(<4.0)
11	Dissolved Oxygen	mg/L	5.6	4.8
12	Total Hardness	mg/L	180.0	170.0
13	Calcium Hardness (as CaCO ₃)	mg/L	110.0	90.0
14	Magnesium Hardness (as CaCO ₃)	mg/L	70.0	80.0
15	M-Alkalinity (as CaCO ₃)	mg/L	210.0	206.0
16	COD	mg/L	BDL(<2.0)	BDL(<2.0)
17	BOD (3 days at 27°C)	mg/L	BDL(<2.0)	BDL(<2.0)
18	Chloride (as Cl ⁻)	mg/L	34.0	30.6
19	Nitrate (as NO ₃)	mg/L	1.20	1.26
20	Total Silica (as SiO ₂)	mg/L	0.18	0.16
21	Phosphate (as PO ₄ ³⁻)	mg/L	0.22	0.26
22	Sulphate (as SO ₄ ²⁻)	mg/L	11.8	10.06
23	Sulphides (as S)	mg/L	BDL(<0.03)	BDL(<0.03)
24	Ammonical Nitrogen (as NH ₃ -N)	mg/L	BDL(<1.0)	BDL(<1.0)
25	Total Kjeldahl Nitrogen TKN (as NH ₃ -N)	mg/L	BDL(<1.0)	BDL(<1.0)
26	Fluoride (as F ⁻)	mg/L	BDL(<0.05)	BDL(<0.05)
27	Iron (as Fe)	mg/L	BDL(<0.01)	BDL(<0.01)
28	Sodium (as Na)	mg/L	5.10	4.2
29	Potassium (as K)	mg/L	2.8	2.6
30	Manganese (as Mn)	mg/L	BDL(<0.01)	BDL(<0.01)
31	Lead (as Pb)	mg/L	BDL(<0.006)	BDL(<0.006)
32	Phenolic compounds (as C ₆ H ₅ OH)	mg/L	BDL(<0.001)	BDL(<0.001)
33	Nickel (as Ni)	mg/L	BDL(<0.008)	BDL(<0.008)
34	Arsenic (as As)	mg/L	BDL(<0.003)	BDL(<0.003)
35	Zinc (as Zn)	mg/L	BDL(<0.021)	BDL(<0.021)
36	Mercury (as Hg)	mg/L	BDL(<0.001)	BDL(<0.001)
37	Cadmium (as Cd)	mg/L	BDL(<0.003)	BDL(<0.003)
38	Selenium (as Se)	mg/L	BDL(<0.004)	BDL(<0.004)
39	Cyanide (as CN ⁻)	mg/L	BDL(<0.03)	BDL(<0.03)
40	Hexavalent Chromium (as Cr ⁶⁺)	mg/L	BDL(<0.03)	BDL(<0.03)
41	Total Chromium (as Cr)	mg/L	BDL(<0.008)	BDL(<0.008)
42	Copper (as Cu)	mg/L	BDL(<0.004)	BDL(<0.004)
43	Vanadium (as V)	mg/L	BDL(<0.09)	BDL(<0.09)
44	Phosphorous (as P)	mg/L	0.18	0.16
45	Benzen	mg/L	ND	ND
46	Benzo(a)pyrene	mg/L	ND	ND
47	Alumnium (as Al)	mg/L	BDL(<0.007)	BDL(<0.007)
48	Free Resdial Chlorine as FRC	mg/L	BDL(<0.1)	BDL(<0.1)
49	Pesticides	µg/L	ND	ND
50	Polychlorinated Biphenyls	mg/L	ND	ND
51	PAH	mg/L	ND	ND
52	Tri-halomethanes	mg/L	ND	ND
53	Total coliform	MPN/100 ml	Absent	Absent
54	E. Coli	MPN/100 ml	Absent	Absent

BQL =Below Quantification Limit

Analysed By: Jemis,Chandani,Vipul,Nikhil

Approved By: Sejal Patel

END



GO Green Mechanisms Pvt. Ltd.																					
Analysis Results For the Month of November-2024																					
Parameter	RPM (<10)	RPM (<2.5)	SO ₂	NO ₂	NH ₃	Pb	CO *	CO **			Ozone *	Ozone **			HC	Benzene	H ₂ S	Benzo(a) pyrene	Arsenic	Nickel	Mercaptan
Unit	µg/m ³ 100	µg/m ³ 60	µg/m ³ 80	µg/m ³ 80	µg/m ³ 400	µg/m ³ 1	mg/m ³ 4	mg/m ³ 2			µg/m ³ 180	µg/m ³ 100			ppm NS	µg/m ³ 5	µg/m ³ NS	ng/m ³ 1	ng/m ³ 6	ng/m ³ 20	ppb NS
Name of Location	-	-	-	-	-	-	1 Hour	S-1	S-2	S-3	Avg.	1 Hour	S-1	S-2	S-3	Avg.	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(ppb)
ME OFFICE	76.5	36.3	11.4	14.5	17.3	0.3	0.9	1.0	1.0	1.0	1.0	22.3	23.5	21.9	20.7	22.1	BQL	BQL	BQL	BQL	21.8
CONTROL	72.5	36.0	11.2	16.1	18.0	0.3	0.9	0.9	1.0	0.9	0.9	23.6	23.4	21.0	23.6	22.7	BQL	BQL	BQL	BQL	21.6
STATION	73.6	36.0	10.9	15.3	18.1	0.2	0.9	0.9	0.9	0.9	0.9	23.0	20.9	23.0	22.3	22.1	BQL	BQL	BQL	BQL	22.7
BTP	74.6	35.6	10.5	14.7	16.6	0.3	1.1	1.0	0.8	1.1	1.0	32.0	23.2	24.7	22.4	23.4	BQL	BQL	BQL	BQL	20.7
AVERAGE	74.3	36.0	11.0	15.2	17.5	0.3	0.97	0.9	0.9	1.0	1.0	25.21	22.8	22.7	22.3	22.6	BQL	BQL	BQL	BQL	21.7
BR REFINERY TOWNSHIP	60.2	28.1	8.8	11.1	14.7	0.1	0.3	0.3	0.3	0.3	0.3	24.1	19.1	20.0	21.9	20.3	BQL	BQL	BQL	BQL	18.5
BIHAT VILLAGE	59.2	26.8	7.2	10.7	13.3	0.1	0.2	0.2	0.2	0.3	0.2	25.8	24.1	25.3	26.0	25.1	BQL	BQL	BQL	BQL	14.9
BINODPUR VILLAGE	58.4	22.0	8.0	12.0	13.3	0.1	0.2	0.3	0.2	0.2	0.2	20.0	22.0	23.1	22.7	22.6	BQL	BQL	BQL	BQL	20.6
RACHIA HIVILLAGE	59.7	22.1	7.5	11.4	14.0	0.1	0.2	0.3	0.3	0.3	0.3	21.1	20.8	20.3	24.4	21.8	BQL	BQL	BQL	BQL	17.8
IT SIDE OF	59.37	24.73	7.88	11.31	13.81	0.11	0.26	0.27	0.26	0.26	0.27	22.76	21.51	22.18	23.72	22.47	BQL	BQL	BQL	BQL	17.98

BQL - Below Quantification Limit; Avg. - Average; NS- Not Specified

(**) Each monitoring day, divided into three shifts of 8 hourly sampling, with each day monitoring commencing from Shift-1, thereby completing the 24-hourly schedule on the subsequent days with Shift-III.

Norms- As per national Ambient Air Quality Standards

RPM (<10), RPM (<2.5), SO₂, NO₂, NH₃, CO, Ozone and H₂S has been analysed at site lab

S-1 (Shift -1) : 6 A.M. - 14 P.M.

S-2 (Shift -2) : 14 P.M. - 22 P.M.

S-3 (Shift-3) : 22 A.M. - 6 A.M.

Analysed By

Approved By

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GO Green Mechanisms Pvt. Ltd.

Parameter	RPM (<10)	RPM (<2.5)	SO ₂	NO ₂	NH ₃	Pb	CO *	CO **			Ozone *	Ozone **			HC	Benzene	H ₂ S	Benzo(a) pyrene	Arsenic	Nickel	Mercaptan
Unit	µg/m ³ 100	µg/m ³ 60	µg/m ³ 80	µg/m ³ 80	µg/m ³ 400	µg/m ³ 1	mg/m ³ 4	mg/m ³ 2	mg/m ³ 2	µg/m ³ 180	µg/m ³ 100	µg/m ³ 100	µg/m ³ 100	ppm	µg/m ³ 5	µg/m ³ NS	µg/m ³ NS	ng/m ³ 1	ng/m ³ 6	ng/m ³ 20	ppb
Name of Location							1 Hour	S-1	S-2	S-3	Avg.	1 Hour	S-1	S-2	S-3	Avg.	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(ppb)
TIME OFF	68.9	32.6	10.3	12.3	14.2	0.3	1.1	0.9	1.1	1.1	1.0	26.4	21.3	25.3	23.4	23.3	BQL	BQL	BQL	BQL	30.1
CONTROL	75.3	37.2	9.5	16.2	14.6	0.3	1.1	0.9	0.7	1.2	1.0	25.9	21.3	21.3	31.4	24.7	BQL	BQL	BQL	BQL	19.5
STATION	74.2	40.2	13.4	16.7	18.7	0.3	1.1	1.0	1.1	1.2	1.1	12.4	21.3	16.2	24.3	25.7	BQL	BQL	BQL	BQL	20.3
BTP	63.8	32.2	8.9	12.2	14.6	0.3	1.0	1.0	0.5	1.2	0.9	19.6	28.6	16.2	24.3	23.0	BQL	BQL	BQL	BQL	25.3
AVERAGE	70.6	35.6	10.5	14.4	15.5	0.3	1.07	1.0	0.9	1.1	1.0	21.08	23.1	23.6	25.9	24.2	BQL	BQL	BQL	BQL	23.8
BR																					
REFINE																					
RY	54.3	25.3	8.1	12.6	13.4	0.1	0.1	0.3	0.3	0.2	0.3	25.9	15.6	18.6	17.3	17.2	BQL	BQL	BQL	BQL	24.3
TOWNS																					
HIP																					
BIHAT																					
VILLAGE	52.0	24.3	6.5	10.2	13.4	0.3	0.2	0.2	0.3	0.3	0.3	24.6	22.3	31.5	22.3	25.4	BQL	BQL	BQL	BQL	22.3
BINODP																					
UR																					
VILLAGE	63.2	27.6	7.2	9.8	12.3	0.1	0.3	0.2	0.3	0.3	0.2	22.3	25.2	22.3	21.3	22.9	BQL	BQL	BQL	BQL	26.1
RACHIA																					
HI																					
VILLAGE	56.9	17.6	5.6	9.4	14.2	0.1	0.3	0.3	0.2	0.4	0.3	19.6	17.6	24.3	24.3	22.1	BQL	BQL	BQL	BQL	17.6
IT SIDE OF	56.60	23.70	6.85	10.50	13.33	0.15	0.24	0.24	0.26	0.28	0.26	23.10	20.18	24.18	21.30	21.88	BQL	BQL	BQL	BQL	22.58

BQL - Below Quantification Limit; Avg. - Average; NS- Not Specified

(**) Each monitoring day, divided into three shifts of 8 hourly sampling, with each day monitoring commencing from Shift-I, thereby completing the 24-hourly schedule on the subsequent days with Shift-III.

Norms- As per national Ambient Air Quality Standards

RPM (<10), RPM (<2.5), SO₂, NO₂, NH₃, CO, Ozone and H₂S has been analysed at site lab

S-1 (Shift -1) : 6 A.M. - 14 P.M.

S-2 (Shift -2) : 14 P.M. - 22 P.M.

S-3 (Shift -3) : 22 A.M. - 6 A.M.

Analysed By

Approved By

END

Amr

Detox Corporation Pvt. Ltd.

Analysis Result for the Month of February, 2025

Company Name		IOCL-Barauni Refinery													
Sample Type		Stack Emission													
Sr.No	Source Name	Date of Sampling	Stack Height	Stack Diameter	Cross Section area (m ²) at sampling	Temperature (°C) (°K)		Gas velocity(m/s)	Flow Rate(Nm ³ /s)	CO ₂ (%)	O ₂ (%)	CO (ppm)	CO(%)	HC (ppm)	H ₂ S (mg/Nm ³)
1	AVU - I	05.02.2025	42	2.46	4.750506	215	490	10.15	29.32	5.34	10.6	15.2	0.00	13.4	BQL
2	AVU - II	06.02.2025	42	2.46	4.750506	210	490	11.7	33.80	5.6	11.2	16.5	0.00	11.45	BQL
3	AVU - III														
4	CRU														
5	NSU														
6	COKER - A	11.02.2025	41.53	3.13	7.6905665	179	485	11.2	52.92	6.1	11.54	18.2	0.00	8.15	BQL
7	COKER - B														
TPS Combined Stack															
8	BOILER - I														
8.1	DUCT - A														
8.2	DUCT - B														
9	BOILER - II	04.02.2025	80.00	3.20	8.04	195.00	445.00	9.50	51.15	6.35	11.15	13.75	0.00	12.30	BQL
9.1	DUCT - A														
9.2	DUCT - B														
10	BOILER - III														
10.1	DUCT - A														
10.2	DUCT - B														
11	BOILER - IV														
11.1	DUCT - A														
11.2	DUCT - B														
12	BOILER - V	01.02.2025	80.00	3.20	8.04	210.00	490.00	11.50	56.23	8.80	10.26	15.30	0.00	10.30	BQL
12.1	DUCT - A														
12.2	DUCT - B														
New Units															
13	RFCCU														
14	HGU-1														
15	DHDTU	07.02.2025	50.00	2.20	3.80	197.00	742.00	9.76	14.89	6.50	8.50	19.20	0.00	8.21	BQL
16	GT - I	12.02.2025	60.00	3.00	7.07	194.00	469.00	9.75	43.77	6.70	12.20	19.80	0.00	10.40	BQL
17	GT - II	12.02.2025	60.00	3.00	7.07	195.00	452.00	9.56	44.53	5.80	11.10	20.60	0.00	8.90	BQL
18	SRU	08.02.2025	60.00	1.50	1.77	215.00	190.00	9.30	25.76	5.70	8.30	22.55	0.00	13.20	BQL
19	NHDT														
20	PRIME G, 803														
21	BOILER-6	01.02.2025	80.00	3.20	8.04	192.00	435.00	10.21	56.22	6.20	12.20	18.20	0.00	10.70	BQL
22	HGU -2	28.02.2025	60.00	1.45	6.60	170.00	442.00	9.12	40.58	7.10	11.60	17.19	0.00	11.12	BQL
23	New PRIME G														
24	New NHT/CCR														
25	930 Indirect														

Note: PM, SO₂, NO_x, CO, CO₂, O₂, HC and H₂S has been Analysed at Site lab

BQL = Below Quantification Limit

Analysed By

Approved By

END

Alm

Detox Corporation Pvt. Ltd.

Analysis Result for the Month of February, 2025

Company Name		IOCL-Barauni Refinery															
Sample Type		Stack Emission															
Sr.No	Source Name	Fuel (% of Gas Firing)	PM (mg/Nm³)	PM (kg/day)	SO2 (mg/Nm³)	SO2 (kg/day)	NOx (mg/Nm³)	NOx (kg/day)	CO (mg/Nm³)	CO (kg/day)	Ni (mg/Nm³)	V (mg/Nm³)	Limit (mg/Nm3)				
													PM	SO2	NOx	CO	Ni+V
1	AVU - I	40	40.05	101.46	476.10	1206.25	192.59	487.95	17.4	44.12	BQL	BQL	64	1036	410	180	5
2	AVU - II	40	38.01	111.00	482.00	1407.68	175.11	511.41	18.9	55.20	BQL	BQL	64	1036	410	180	5
3	AVU - III	60	-	-	-	-	-	-	-	-	-	-	46	706	390	170	5
4	CRU	85	-	-	-	-	-	-	-	-	-	-	23	295	365	157	5
5	NSU	85	-	-	-	-	-	-	-	-	-	-	23	295	365	157	5
6	COKER - A	80	22.16	101.32	62.77	287.02	98.15	448.82	20.8	95.34	BQL	BQL	28	377	370	160	5
7	COKER - B	80	-	-	-	-	-	-	-	-	-	-	28	377	370	160	5
TPS Combined Stack																	
8	BOILER - I																
8.1	DUCT -A	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
8.2	DUCT - B	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
9	BOILER - II	23	35.81	158.25	456.06	2015.43	180.21	796.42	15.8	69.61	BQL	BQL	79	1317	427	188	5
9.1	DUCT -A	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
9.2	DUCT - B	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
10	BOILER - III																
10.1	DUCT -A	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
10.2	DUCT - B	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
11	BOILER - IV																
11.1	DUCT -A	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
11.2	DUCT - B	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
12	BOILER - V	23	39.14	190.18	479.43	2329.23	169.11	821.61	17.53	85.16	BQL	BQL	79	1317	427	188	5
12.1	DUCT -A	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
12.2	DUCT - B	23	-	-	-	-	-	-	-	-	-	-	79	1317	427	188	5
New Units																	
13	RFCCU	NA	-	-	-	-	-	-	-	-	-	-	100	1700	450	400	5
14	HGU-1	75	-	-	-	-	-	-	-	-	-	-	48	739	392	171	5
15	DHDT	100	8.04	10.34	47.30	60.87	161.57	207.90	22.0	28.30	BQL	BQL	10	50	350	150	5
16	GT - I	NA	45.05	170.37	648.07	2450.72	196.72	743.93	22.7	85.78	BQL	BQL	100	1700	450	200	5
17	GT - II	NA	49.10	188.92	682.93	2627.47	179.08	688.97	23.6	90.80	BQL	BQL	100	1700	450	200	5
18	SRU	NA	32.54	72.44	517.9	1152.90	134.92	300.31	25.8	57.50	BQL	BQL	NA	NA	350	150	NA
19	NHDT,801	100	-	-	-	-	-	-	-	-	-	-	5	50	250	100	5
20	PRIME G , 803	100	-	-	-	-	-	-	-	-	-	-	5	50	250	100	5
21	BOILER-6	23	36.36	176.61	471.3	2289.33	171.51	833.16	20.8	101.28	BQL	BQL	40	665	327	138	5
22	HGU -2	85	13.56	47.54	116.2	407.29	186.06	652.37	19.7	69.05	BQL	BQL	15	235	273	112	5
23	New PRIME G	100	-	-	-	-	-	-	-	-	-	-	5	50	250	100	5
24	New NHT/CCR	100	-	-	-	-	-	-	-	-	-	-	5	50	250	100	5
25	930 Indject	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Note: PM, SO2, Nox, CO, CO2, O2, HC and H2S has been Analysed at Site lab																	
BQL= Below Quantification Limit																	
Analysed By									Approved By								
END																	

IOCL - BARAUNI REFINERY										
Detox Corporation Pvt. Ltd.										
METEOROLOGICAL OBSERVATIONS AT BR COMPLEX										
LOCATION: TIME OFFICE										
(RECORDED ON THE DAYS OF AAQM)										
(MONTH: February , 2025)										
Date of Monitoring	Temperature (DEG C)		Atmospheric Pressure (mm Hg)		Relative Humidity (%)		Wind Speed Speed (Km/h)	Predominant Wind Direction (FROM)	Rainfall (mm)	
	MAX	MIN	MAX	MIN	MAX	MIN				
	32.5	20.5	754.3	750.6	65.3	58.2	7.24	SE	0.0	
	31.2	21.5	752.6	749.3	60.3	59.6	11.3	SSW	0.0	
03.02.2025	33.3	21.6	752.6	750.3	62.3	58.6	10.2	SSE	0.0	
06.02.2025	32.5	22.5	753.2	751.3	65.2	60.3	5.68	SE	0.0	
10.02.2025	30.2	20.6	755.3	752.4	63.5	59.6	12.3	SSE	0.0	
13.02.2025	31.2	22.5	750.2	750.2	65.3	58.4	11.6	SE	0.0	
17.02.2025	33.5	21.6	755.6	751.3	64.3	56.3	6.54	SSW	0.0	
20.02.2025	34.2	20.3	758.6	752.3	62.5	55.2	11.2	ESE	0.0	
24.02.2025										
27.02.2025										

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Detox Corporation Pvt. Ltd.
Analysis Result for the Month of February-2025
TABLE - 1: Field and DCS Control Room
Company Name:- IOCL Barauni Refinery
Sample Type: Noise

ANNEXURE-6

S.No	Locations	DAY			NIGHT			DATE OF MONITORING
		Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)	
1	AVU-I- FIELD CONTROL ROOM	53.2	71.3	61.4	38.6	56.3	47.2	03.02.2025
2	AVU-II- FIELD CONTROL ROOM	56.2	72.4	61.8	40.3	61.2	53.2	03.02.2025
3	AVU-III- FIELD CONTROL ROOM	60.3	71.3	63.8	42.2	63.8	56.2	03.02.2025
4	AVU-I, II/ COKER DDCS CONTROL ROOM	50.3	73.8	64.3	39.1	55.2	48.5	03.02.2025
5	AVU- III/ COKER DDCS CONTROL ROOM	51.3	71.2	63.7	40.3	62.7	52.9	04.02.2025
6	COKER-A FIELD CONTROL ROOM	46.9	67.3	57.3	37.6	63.8	57.6	04.02.2025
7	COKER-B FIELD CONTROL ROOM	36.5	45.6	43.8	38.2	45.6	47.3	18.02.2025
8	CRU FIELD CONTROL ROOM	50.2	62.3	63.8	38.6	61.7	49.8	04.02.2025
9	BXP CONTROL ROOM	51.3	70.3	61.8	32.4	62.8	49.2	04.02.2025
10	RFCCU FIELD CONTROL ROOM	49.6	53.8	50.1	39.8	69.3	58.3	05.02.2025
11	DHDT FIELD CONTROL ROOM	53.4	65.4	58.6	40.2	60.7	51.6	05.02.2025
12	HGU-1 FIELD CONTROL ROOM	49.1	62.8	54.6	41.2	58.3	50.1	05.02.2025
13	HGU-2 FIELD CONTROL ROOM	37.6	48.6	42.7	39.8	58.6	52.1	05.02.2025
14	SRU FIELD CONTROL ROOM	48.6	61.2	54.3	40.4	60.1	52.7	05.02.2025
15	MSQ CONTROL ROOM	45.3	64.2	57.2	38.9	63.7	51.3	05.02.2025
16	OM & S CONTROL ROOM	48.6	68.3	59.3	42.3	57.3	52.2	07.02.2025
17	CRUDE OIL STATION	42.3	71.5	63.2	45.2	68.2	51.2	07.02.2025
18	FINISHED PRODUCT CONTROL ROOM	53.9	69.8	59.5	41.7	60.7	52.3	07.02.2025
19	LPG CONTROL ROOM	42.6	70.2	62.7	38.6	60.8	56.8	07.02.2025
20	ETP FIELD CONTROL ROOM	52.3	69.5	62.7	42.2	62.8	52.8	11.02.2025
21	UTILITY CONTROL ROOM	46.3	68.6	63.4	41.6	61.5	55.3	08.02.2025
22	OLD DM PLANT CONTROL ROOM	50.1	69.5	59.4	42.3	59.6	52.3	08.02.2025
23	TPS-CONTROL ROOM	48.3	71.4	64.5	38.9	62.5	51.9	06.02.2025
24	TPS FIELD CONTROL ROOM	46.8	70.5	62.2	42.5	59.3	50.3	06.02.2025
25	BOILER 6 CONTROL ROOM	47.2	68.9	61.5	47.2	60.3	50.1	06.02.2025
26	RO DM PLANT CONTROL ROOM	43.7	69.0	60.4	42.6	62.7	55.3	08.02.2025
27	BXP DM PLANT CONTROL ROOM	41.3	70.4	58.6	43.3	62.3	51.9	08.02.2025
28	INSIDE THE MECHANICAL WORKSHOP	43.8	68.6	61.4	36.8	63.8	56.2	08.02.2025
29	QUALITY CONTROL LABORATORY	42.1	71.4	64.2	35.4	61.9	54.8	11.02.2025
30	M & I BUILDING	50.2	66.2	62.4	40.6	59.8	53.8	08.02.2025
31	CENTRAL STORES	43.8	61.8	64.8	38.7	56.3	48.6	08.02.2025
32	FIRE STATION	46.5	72.4	63.4	36.7	55.2	47.6	08.02.2025
33	FIRE WATER PUMP HOUSE	50.3	64.2	57.2	44.6	51.8	46.6	08.02.2025
34	INSTRUMENTATION BUILDING	51.3	65.8	56.1	36.4	58.6	52.2	08.02.2025
35	ELECTRICAL PLANNING BUILDING	41.3	67.2	57.6	35.5	61.7	51.3	08.02.2025
36	MSQ CONTROL ROOM	40.4	70.4	65.1	36.8	55.2	49.6	12.02.2025
37	NHT CCR FIELD CONTROL ROOM	42.3	71.5	63.4	40.3	51.3	47.6	12.02.2025
38	NEW PRIMEG+FIELD CONTROL ROOM	43.5	68.9	60.1	46.5	61.7	54.6	12.02.2025

Checked by:

FOR DETOX CORPORATION PVT.LTD

Authorized Signatory:

Sign :

Name: Snehal Gohil

Designation: Assistant Manager

Detox Corporation Pvt. Ltd.
Analysis Result for the Month of February-2025
TABLE - 2: HIGHLY NOISE AREA
Company Name:- IOCL Baraunt Refinery
Sample Type: Noise

S.No.	Locations	DAY			NIGHT			DATE OF MONITORING
		Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)	
1	AVU-I NEAR FURNANCE F-02	57.3	80.3	70.2	52.3	71.6	62.3	04.02.2025
2	AVU-I NEAR FURNANCE F-03	55.6	82.6	71.2	51.6	72.3	66.2	04.02.2025
3	AVU-II NEAR FURNANCE F-02	58.3	84.6	75.2	49.3	72.5	67.2	04.02.2025
4	AVU-II NEAR FURNANCE F-03	60.1	79.3	68.2	52.3	70.2	63.2	04.02.2025
5	AVU-III NEAR FURNANCE F-01	57.3	78.6	61.3	56.2	69.2	62.3	04.02.2025
6	AVU-III NEAR FURNANCE F-02	60.2	80.3	73.2	52.8	65.3	61.8	04.02.2025
7	AVU-III NEAR FURNANCE F-03	62.5	81.9	72.2	53.6	62.5	60.3	04.02.2025
8	COKER-A PUMP NEAR P-06 A/B	61.5	82.3	73.5	51.8	68.2	60.3	04.02.2025
9	COKER-A NEAR FURNANCE	56.2	82.3	68.9	53.6	64.6	61.3	05.02.2025
10	LRU COMPRESSOR 1st FLOOR PLATFORM	59.3	81.4	69.2	56.8	63.2	58.6	07.02.2025
11	LRU COMPRESSOR GROUND FLOOR	57.3	80.2	70.2	58.2	71.3	59.6	08.02.2025
12	LRU SUCTION KOD BESIDE COMPRESSOR (08-P-013 A/B)	55.2	76.3	62.3	56.2	68.2	70.5	07.02.2025
13	LRU BOTTOM FRACTIONATORS PUMP (07-P-008 A/B)	61.8	85.2	74.6	51.9	61.8	64.5	07.02.2025
14	COKER - B REACTOR FEED PUMP	43.8	46.2	41.3	32.5	39.8	36.9	18.02.2025
15	COKER-B FURNACE GROUND FLOOR	36.5	40.2	42.2	36.2	42.3	38.5	18.02.2025
16	COKER-B FURNACE FIRST FLOOR	37.5	41.3	38.9	31.2	42.3	38.2	18.02.2025
17	COKER - B OLD PUMP	32.5	40.9	35.6	35.8	45.2	35.6	18.02.2025
18	CRU RECYCLE GAS COMPRESSOR	62.3	73.5	68.3	58.3	66.2	62.3	12.02.2025
19	RECCU COMPRESSOR HOUSE	58.2	78.6	70.2	56.9	68.2	58.6	12.02.2025
20	HGU 01 COMPRESSOR HOUSE	56.3	80.2	72.3	54.9	70.3	64.2	13.02.2025
21	DHDT COMPRESSOR HOUSE	58.2	75.6	68.9	58.6	71.2	60.2	13.02.2025
22	BXP AIR COMPRESSOR HOUSE	61.4	76.9	67.9	60.2	62.3	60.3	13.02.2025
23	MSQ COMPRESSOR HOUSE	57.2	77.8	70.2	55.2	68.9	52.3	12.02.2025
24	FIRE PUMP HOUSE Sector-7	58.6	81.2	72.2	54.3	68.2	56.2	11.02.2025
25	TPS AIR COMPRESSOR- INSIDE	59.3	78.6	70.2	54.6	67.2	58.2	06.02.2025
26	TPS AIR COMPRESSOR- OUTSIDE	60.4	75.6	65.2	57.6	62.8	60.3	06.02.2025
27	TPS NEAR BOILER 1	61.7	76.9	70.1	61.3	63.9	60.2	06.02.2025
28	GT-1	62.2	79.6	69.3	62.2	64.9	59.3	06.02.2025
29	GT-2	63.5	80.3	73.2	60.2	69.2	63.2	06.02.2025
30	MSQ NITROGEN PLANT	58.6	80.2	70.3	61.7	71.5	63.5	12.02.2025
31	OLD NITROGEN PLANT	55.3	81.3	69.3	65.5	70.2	64.2	12.02.2025
32	FLUE GAS RECOVERY COMPRESSOR	56.3	82.2	62.3	53.8	71.5	60.2	12.02.2025
33	RUP PUMP HOUSE	61.2	79.6	70.2	56.7	69.2	61.3	11.02.2025
34	NEW AERATOR AIR BLOWER	57.8	80.3	71.3	60.2	66.2	52.6	11.02.2025
35	OLD AERATOR AIR BLOWER	57.6	77.2	68.3	58.3	63.8	56.4	11.02.2025
36	NEW PRIMEG+COMPRESSOR HOUSE	66.5	82.2	69.3	53.8	69.5	54.6	12.02.2025
37	NHT CCR COMPRESSOR HOUSE	61.3	79.6	74.6	46.8	68.6	58.2	14.02.2025
38	NHT CCR SOUTH -WEST CORNER	57.2	77.6	70.3	49.5	66.3	60.2	14.02.2025
39	NEAR NHT CCR EYE WASH SHOWER NO.79	53.8	75.2	69.8	51.3	68.4	62.7	14.02.2025
40	NEW PRIMEG+FEED PUMP 904-PM-09	56.9	79.2	71.1	52.3	67.5	62.4	14.02.2025

Checked by:

FOR DETOX CORPORATION PVT.LTD
 Authorized Signatory:
 Sign: _____
 Name: Snehaj Goniil
 Designation: Assistant Manager

Handwritten signature

Detox Corporation Pvt. Ltd.

FALSE

Parameter	RPM (<10)	RPM (<2.5)	SO ₂	NO ₂	NH ₃	Pb	CO *	CO **				Ozone *	Ozone **				HC	Benzene	H ₂ S	Benzo(a) pyrene	Arsenic	Nickel	Mercaptan
Unit	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³	mg/m ³				µg/m ³	µg/m ³				ppm	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	ppb
Norms	100	60	80	80	400	1	4	2				180	100				NS	5	NS	1	6	20	NS
Name of Location	-	-	-	-	-	-	1 Hour	S-1	S-2	S-3	Avg.	1 Hour	S-1	S-2	S-3	Avg.	(ppm)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(ng/m ³)	(ppb)
ME OFFI	76.6	38.4	12.5	16.8	17.6	0.3	0.8	1.1	0.9	1.1	1.0	21.6	22.4	22.3	21.5	22.1	BQL	BQL	BQL	BQL	BQL	BQL	20.5
ONTROL	66.2	31.0	11.3	16.1	17.3	0.2	1.0	0.8	1.0	0.9	0.9	22.8	23.5	23.7	24.6	23.9	BQL	BQL	BQL	BQL	BQL	BQL	22.0
STATION	75.4	35.6	11.6	16.4	20.5	0.2	1.0	1.0	0.9	1.0	1.0	25.7	23.5	23.7	23.6	23.6	BQL	BQL	BQL	BQL	BQL	BQL	22.7
BTP	77.2	36.2	11.4	14.4	17.8	0.3	1.1	1.1	0.8	1.1	1.0	19.7	22.7	25.9	22.5	23.7	BQL	BQL	BQL	BQL	BQL	BQL	19.7
AVERAGE	73.9	35.3	11.7	15.9	18.3	0.3	0.98	1.0	0.9	1.1	1.0	22.45	23.0	23.9	23.0	23.3	BQL	BQL	BQL	BQL	BQL	BQL	21.2
BR REFINE RY TOWNS HIP	62.4	30.2	10.6	14.7	14.2	0.1	0.4	0.4	0.4	0.4	0.4	22.9	18.4	24.0	21.4	21.3	BQL	BQL	BQL	BQL	BQL	BQL	18.6
BIHAT VILLAG E	63.8	31.4	11.2	11.5	13.1	0.1	0.3	0.2	0.2	0.3	0.3	25.4	24.9	25.8	28.0	26.2	BQL	BQL	BQL	BQL	BQL	BQL	17.0
BINODP UR VILLAG E	60.4	27.4	8.5	13.2	14.2	0.1	0.2	0.2	0.2	0.2	0.2	21.0	21.8	17.9	23.4	21.0	BQL	BQL	BQL	BQL	BQL	BQL	20.2
RACHIA HI VILLAG E	56.6	20.4	8.8	12.8	15.0	0.1	0.3	0.3	0.2	0.2	0.2	19.6	22.6	25.9	23.0	23.8	BQL	BQL	BQL	BQL	BQL	BQL	20.6
FT SIDE OF	60.80	27.35	9.77	13.03	14.12	0.11	0.31	0.29	0.28	0.29	0.29	22.26	21.92	23.39	23.97	23.09	BQL	BQL	BQL	BQL	BQL	BQL	19.10

S-1 (Shift -1) : 6 A.M. - 14 P.M.
S-2 (Shift -2) : 14 P.M. - 22 P.M.
S-3 (Shift-3) : 22 A.M. - 6 A.M.

Analysed By

Approved By

END

Detox Corporation Pvt. Ltd.
Analysis Result for the Month of February -2025
TABLE - 3: BOUNDARY OF THE REFINERY AREA
Company Name:- IOCL Barauni Refinery
Sample Type: Noise

S.No.	Locations	DAY			NIGHT			DATE OF MONITORING
		Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)	
1	GATE NO.1	54.3	82.1	68.2	46.2	68.2	48.3	13.02.2025
2	BIO-TREATMENT PLANT GATE	52.3	70.2	67.2	44.3	64.9	51.2	14.02.2025
3	BIO-TREATMENT CONTROL ROOM	46.2	69.2	58.6	41.8	68.2	52.2	14.02.2025
4	OIL INDIA GATE (NEAR GOVINDPUR VILLAGE)	38.6	70.8	56.2	39.5	70.2	51.3	15.02.2025
5	GATE NO.10	38.3	71.2	54.6	39.2	67.2	46.8	13.02.2025
6	RFCCU SITE CLOSE TO THE BOUNDARY	41.3	81.3	56.2	41.3	59.5	47.3	13.02.2025
7	SRU SITE CLOSE TO THE BOUNDARY INSIDE PLANT	40.5	82.3	52.6	42.5	67.8	61.2	13.02.2025
8	SRU SITE CLOSE TO THE BOUNDARY OUT SIDE PLANT	43.5	69.5	58.6	46.2	68.2	62.3	13.02.2025
9	CISF COLONY	39.8	72.6	57.6	38.6	65.5	60.1	15.02.2025
10	NEAR BORROW PIT	39.5	80.2	52.5	37.4	64.9	58.3	15.02.2025
11	NEAR IOCL PETROL PUMP	38.1	78.2	56.8	35.6	62.2	49.8	14.02.2025

Checked by:

FOR DETOX CORPORATION PVT.LTD

Authorized Signatory:

Sign :

Name: Snehal Gohil
 Designation: Assistant Manager