STATUS OF COMPLIANCE TO CONDITIONS OF ENVIRONMENTAL CLEARANCES ACCORDED TO GAIL PATA

FOR THE PERIOD OCTOBER 2023 TO MARCH 2024

GAIL (INDIA) LIMITED
PATA PETROCHEMICAL COMPLEX

HSE & ENVIRONMENT DEPARTMENT
GAIL, PATA

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Environment Clearances accorded to GAIL (India) Limited, Pata as on 31st March, 2024 are as follows:

A. Letter No. J-11011/22/90-IA-II, Dated-30/03/1992 for GAIL, **Pata Petrochemical Project.**
B. Letter No. J-11011/29/96-IA-II (I), Dated 16/01/1997 for **LPG Recovery Facility**.
C. Letter No. J-11011/237/2003-IA-II (I), Dated 19/04/2004 for **LLDPE Debottlenecking Project.**
D. Letter No. J-11011/143/2004 – IA II (I), Dated 12/01/2005 for **HDPE Expansion & 5th Furnace Project.**
E. Letter No. J-11011/595/2010-IA II (I), Dated 23/05/2012 for **Expansion of Petrochemical Complex project.**
F. Letter No. J-11011/595/2010-IA(II)I, Dated 16/10/2020 for **Polypropylene Expansion Project**

Name of the Project: GAIL, Pata Petrochemical Project **Project Code:** NIL
Clearance Number: J-11011/22/90-IA-II, Dated 30/03/1992
Period of Compliance: October 2023 to March 2024

Sr. No.	Condition no.	Conditions	Compliance Status
1.	i.	The Project Authority must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	All the stipulations made by the State Pollution Control Board and the State Government are adhered to. Compliance to conditions of Consent to Operate have been sent to the Uttar Pradesh Pollution Control Board.
2.	ii.	Any expansion of the plant either with the existing product mix or new products can be taken up only with the prior approval of this Ministry	Any expansion of the plant is taken up only after obtaining prior approval of the Ministry. GAIL Pata has been accorded 6 ECs for different expansions as mentioned above (A, B, C, D, E & F).
3.	iii.	The project Authority must submit comprehensive EIA report for the proposed activity along with any future activity proposed / approved by this Ministry within one month.	Comprehensive EIA study was done by NEERI for the proposed plant in July 1991. Report of the study was submitted to MoEF&CC.
4.	iv.	Rehabilitation of the families whose land has been acquired for the above petrochemical complex etc. should be handled in association with the State Government authorities as	The rehabilitation package has been developed by GAIL Pata in association with the State Government Authorities and same has been implemented as per statutory norms / guidelines.

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Condition no.	Conditions	Compliance Status
		per their statutory norms / guidelines.	
5.	v.	The gaseous emissions from various process units should conform to the standard prescribed by the concerned authorities from time to time. At no time the emission level should go beyond the stipulated standards. In the event of the 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 measures are rectified to achieve the desired efficiency.	The gaseous emissions from various process units are monitored through advanced monitoring techniques and conform to the standard prescribed by the statutory authorities. Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is sent to CPCB and UPPCB through web based system. Mitigatory control methods have been adopted at design stage in order to reduce the load of gaseous emissions from process units. However, it is pertinent to mention here that GAIL, Pata uses Natural gas as fuel, which is one of the cleanest fuel available.
6 (a).	vi (a).	Six ambient air quality monitoring stations should be set up in the downwind direction as well as where maximum ground level concentration of NOx and HC is anticipated in consultation with State Pollution Control Board. Monitoring should be continuous for SO_2, NO_x, HC and CO in at least three sites as indicated in the EIA report submitted to the Ministry. Monitoring network should be designed taking into account land use pattern, location of stacks, meteorological and topographical features including the modelling exercise / calculations.	Five fixed real time ambient air quality monitoring station and Two nos. third party ambient air quality monitoring stations (within and outside the premises) have been setup. In addition, 1 No. Mobile Van having real time ambient air quality monitoring station is also in use for monitoring of ambient air quality. Monitoring of ambient air quality is continuous for SO_2, NO_2, Total Hydrocarbons, CO, PM_{10}, $PM_{2.5}$ and Benzene at five fixed real time ambient air quality monitoring stations and one mobile van. The ambient air quality monitoring stations are installed by considering location of existing stacks, wind direction, air modelling studies carried out by NEERI during EIA studies and other topographical features. Ambient air monitoring stations are regularly inspected by the UPPCB officials during their visits and no observations have been made till date with respect to locations/sampling points.

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Sr. No.	Condition no.	Conditions	Compliance Status
6 (b).	vi (b).	All the stacks of the plant must be provided with automatic stack emission monitoring equipment. Stack emission and ambient air quality data must be submitted to State Pollution Control Board once in three months and this ministry in six months along with statistical analysis.	All the stacks of the plant are equipped with automatic stack emission monitoring equipment i.e. Online Continuous Emission Monitoring System (OCEMS). Presently the stacks are also connected to CPCB and UPPCB servers for continuous online monitoring of parameters viz. CO, SO_2, NO_x and PM. Data of stack emission and ambient air for the period October 2023 to March 2024, monitored by MoEF&CC approved and NABL accredited third party is enclosed as Annexure-1.
7 (a).	vii (a).	Fugitive emissions should be controlled and regularly monitored and data recorded.	Fugitive emissions are monitored and controlled through Leak Detection and Repair program as per OISD-GDN-224.
7 (b).	Vii (b).	Fugitive emission of HC from storage tanks should be controlled through proper tank design and subsequent preventive measures as mentioned below and maintenance schedules. i) Provision of floating roof tanks for volatile products. ii) Replacement of gland packing of pumps by means of mechanical seals; and iii) Use of submerged filling in product loading gantries.	The steps taken to control fugitive emissions at GAIL Pata include: i) Floating roof tanks have been provided for volatile products like GHU Light Cut, GHU Fuel Oil, Hexane, Hexene-1 & Cyclo Hexane. ii) All the pumps have been provided with mechanical seals for pumping C2C3, Ethylene, C4 Mix, Butene-1, Propylene, Naphtha, MFO, Hexane & Cyclo Hexane. iii) Submerged filling is used in liquid product loading gantries.
8.	viii.	Low NO_x burners should be used to limit NO_x emissions.	Low NO_x burners are used in all the Furnaces and Boilers.
9.	ix.	Flare system should be designed for smokeless burning with adequate steam for all normal venting and flaring.	Flare system is designed for smokeless burning with adequate steam for all normal venting and flaring. Flare stacks have also been provided with adequate heights to ensure effective dispersion of emissions.
10.	x.	Loading / Unloading and transportation of products may be restricted to daytime	Loading / Unloading of LHC is carried out in accordance with PESO approval.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Condition no.	Conditions	Compliance Status
		periods. Loading facilities should have vapour return circuits.	Loading facilities for liquid products are provided with vapour return circuits.
11.	xi.	There should be no change in the stack design, without the approval of the State Pollution Control Board. Alternate pollution control system and proper design in the stack should be provided to take care of excess emissions due to failure in any system of the plant.	It is confirmed that so far there has been no need for any change in the stack design. All the stacks have been suitably designed to be able to take care of excess emissions due to failure in any system of the plant. Height of all the stacks in the complex is as per standard height of more than 30 meters.
12.	xii.	An all-weather station for wind speed & direction, temperature and rainfall should be installed within the petrochemical premises.	2 nos. all weather stations for monitoring of wind speed & direction, temperature, rainfall and relative humidity have been installed.
13.	xiii.	Exploitation of ground water in the area should be carried as per the recommendations contained in the report of the Central Ground Water Board on Hydro-geological investigations.	The water consumption for the plant is met through Canal water (Etawah Branch of Lower Ganga Canal system through Burhadana Distributory). There is no exploitation of ground water in the complex.
14.	xiv.	Treatment and disposal facilities for liquid effluent should be completed along with commissioning of process units. Sufficient surface aerators with proper spacing in the aeration basin of the activated sludge extended aeration units should be provided to maintain desired DO concentration of more than 1.0 mg/L.	Waste Water Treatment plant having 2 nos. 150 m^3/hr capacity chains is functional and treating combined (domestic + industrial) effluents from various process units. Based on the design organic load, four nos. 30 HP aerators are provided in the aeration basin, which help in maintaining DO concentration of more than 1.0 mg/L.
15.	xv.	The project authorities must recycle the wastewater to the maximum extent possible. The final treated effluent should conform to the prescribed MINAS standards.	Maximum recycle of treated effluent is done for use of water in horticulture purposes. The final treated effluent conforms to the prescribed standards.
16.	xvi.	Complete recycling of wastewater under normal	Maximum recycle of Waste water is done for use in horticulture purpose. Two

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Sr. No.	Condition no.	Conditions	Compliance Status
		operation through irrigation applications; green belt maintenance, firefighting etc. may be planned for aiming at zero discharge. In case of failure of ETP, effluent should be collected and stored in Guard Pond(s) for a minimum of 7 days and should not be disposed off unless the treatment facilities are restarted and desired efficiency is achieved.	number guard ponds of 33,600 m^3 capacity have been provided to deal with any emergency situations for 7 days.
17.	xvii.	Disposal in the Sengar River should be at a depth along riverbed for better mixing. During lean flow periods of the river and ETP under normal operation, the treated effluent after reuse for green belt development and firewater make up should be discharged in Sengar River through a closed pipeline at controlled rate depending on the river flow.	A part of treated effluent is recycled for horticulture purpose and the balance treated effluent is discharged to Sengar river through 8 km long closed pipeline at the end of which is specially designed diffuser arrangement along stream bed to ensure thorough mixing. During lean flow period, controlled discharge of treated effluent is ensured.
18.	xviii.	Performance studies of each of the effluent / Sewage treatment plant should be undertaken at regular intervals. Also proper maintenance schedule of polishing lagoon be planned and implemented.	Regular performance of the wastewater treatment plant is monitored by checking samples at intermittent units. De-silting of guard pond is done on regular basis.
19.	xix.	Sludge recirculation to aeration basin from final clarifier should be planned for maintaining the desired MLSS concentration.	The WWTP has been designed for recirculation of sludge in aeration tank. Extended Aeration mode of treatment is adapted from the various forms of activated sludge processes. Desired MLSS concentration as designed is maintained.
20.	xx.	Adequate number of effluent quality monitoring stations should be set up in consultation with U.P. Pollution Control Board. Final effluent discharge should be	Effluent quality monitoring station has been set up at final discharge point. Continuous online monitoring of the effluent parameters like pH, BOD, COD, TSS, TOC & Flow is done at the final discharge point and data is transmitted

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Sr. No.	Condition no.	Conditions	Compliance Status
		daily monitored for BOD, suspended solids, phenol, sulphide and Oil & Grease. Wastewater should also be analysed regularly for other parameters listed in MINAS and stipulated by the State & Central Pollution Control Board. The effluent monitored data along with its statistical analysis and interpretation in the form of a report should be submitted to this ministry regularly once in six months and to the State Pollution Control Board once in three months.	to CPCB and UPPCB on real time basis through web based server systems. In addition, final effluent discharge is monitored daily for pH, COD, BOD, TSS, Phenol, Sulfide and Oil & Grease by NABL accredited inhouse laboratory. Further, wastewater quality monitoring is also regularly being carried out by Third Party monitoring agency. Effluent quality data for the period October 2023 to March 2024 monitored by MoEF&CC approved and NABL accredited third party is enclosed as Annexure-2.
21.	xxi.	Monitoring of noise levels should be regularly carried out to assess the efficiency of maintenance schedules undertaken to reduce noise levels and noise protection measures.	Noise levels are regularly monitored on monthly basis. Remedial actions and maintenance schedules for equipment are ensured to maintain noise levels as per prescribed standards.
22.	xxii.	The project authorities must prepare a well-designed scheme for solid waste disposal based on comprehensive EIA study and submit the same to this Ministry within six months. Ground water near solid waste disposal site as well as around petrochemical complex should be regularly monitored and data recorded.	Solid waste disposal scheme based on comprehensive EIA study has already been submitted to the ministry. There is no solid waste disposal site within the complex, however, ground water quality within and outside the complex is regularly monitored.
23.	xxiii.	A green belt development plan should be finalized and submitted to this ministry within six months for approval. The width of green belt adequate to attenuate noise, H_2S and HC from Fugitive Sources etc. Storage dumping yards should also be brought under plantation. As	Green belt development Plan has already been submitted to the ministry. Presently 210 Hectares of peripheral green belt/area has been developed in the premises. Project laydown areas are also taken up for plantation. Regular maintenance and plantation of tree saplings in and around the plant complex is done and also mass tree plantation programs are organized.

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Sr. No.	Condition no.	Conditions	Compliance Status
		and when necessary, sludge disposal sites should be reclaimed for growing trees.	There is no sludge disposal site inside the plant battery limit.
24.	xxiv.	A detailed risk analysis report based on maximum credible accident analysis should be carried out within a period of six months of the issue of this letter of approval. This study apart from other factors should also consider the following: a) Stability Condition 'F' b) Fire and hazard impact zone should not cross the plant boundaries under worst possibilities. Based on this, a Disaster management plan should be prepared and after approval by the concerned nodal agency, the same must be submitted to this ministry by December 1992.	Detailed Risk analysis for Petrochemical Complex & expansions plant has been carried out. Emergency Response and Disaster Management Plan (ERDMP) of GAIL Pata Plant has been developed through PNGRB accredited agency M/s Certification Engineers International Limited and implemented at GAIL, Pata and valid up till 04.04.2025. Copy of ERDMP has been submitted to PNGRB & other district authorities.
25.	xxv.	The Storage tank and sphere must conform to the stipulations made by the chief inspector of factories, controller of explosives etc. wherever required, it should be supplemented by OISD Codes.	Storage tanks and sphere are designed based on applicable OISD GDN-118 and are having valid approval of chief inspector of factories and statutory body (PESO).
26.	xxvi.	During site preparations, care should be taken to stabilize the sites before onset of monsoon. Further, during the construction phase, necessary and adequate steps should be taken to provide sanitation facilities and noise protection devices and fuel to the workers. The petrol and diesel run machinery should be maintained as per standards.	All necessary precautions are taken during site preparation and construction phase.
27.	xxvii.	A separate Environmental Management Cell with	A full-fledged Environmental Management Cell is in place to undertake

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<table>
<tr><th>Sr. No.</th><th>Condition no.</th><th>Conditions</th><th>Compliance Status</th></tr>
<tr><td></td><td></td><td>suitably qualified staff to carry out various functions should be set up under the control of Senior Executive who will report directly to the head of the organization.</td><td>environment and sustainable development related functions.</td></tr>
<tr><td>28.</td><td>xxviii.</td><td>The project authority must set up a separate laboratory facility for collection and analysis of samples under the supervision of competent technical personnel who will directly report to the Chief Executive.</td><td>Full-fledged Laboratory set up exists in the plant premises under the supervision of competent technical personnel. The Laboratory is NABL accredited.</td></tr>
<tr><td>29.</td><td>xxix.</td><td>The project authorities must take adequate steps to ensure that the movement of raw materials and products would not disturb smooth flow of traffic in the area and would avoid towns.</td><td>Raw material for the petrochemical project is Natural Gas, received through cross country HVJ Pipeline. Also dedicated freight route and tanker parking areas have been developed for tankers and trucks, engaged in carrying products from the plant premises.</td></tr>
<tr><td>30 (1).</td><td>xxx (1).</td><td>The funds earmarked for the environmental protection measures should not be diverted for other purposes and year wise expenditure should be reported to this ministry.</td><td>Dedicated funds are earmarked for the environmental protection measures. Details of expenditure on environmental protection measures at GAIL Pata is as below:
<table>
<tr><th>Description</th><th>FY 2023-24 (Rs.)</th></tr>
<tr><td>Treatment and disposal of waste</td><td>7,60,12,662</td></tr>
<tr><td>Depreciation and maintenance cost of equipments used in pollution control</td><td>2,31,91,026</td></tr>
<tr><td>External services for environmental management</td><td>29,02,961</td></tr>
<tr><td>External certification of management systems</td><td>5,84,052</td></tr>
<tr><td>Cost of Personnel for general environmental management activities</td><td>12,49,85,005</td></tr>
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Sr. No.	Condition no.	Conditions	Compliance Status
			Extra expenditures for installing cleaner technologies: 33,47,406 Other environmental costs: 8,77,54,229 Total: **31,87,77,341**
30 (2).	xxx (2).	The Ministry or any other competent authority may stipulate any further conditions after reviewing the comprehensive impact assessment report prepared by project authorities or due to any change in the pollution scenario" of the area in question.	The condition is noted for needful compliance and implementations.
30 (3).	xxx (3).	The Ministry may revoke clearance if implementation of the condition is not satisfactory.	The condition is noted and suitable compliance to all the conditions is ensured.
30 (4).	xxx (4).	The above condition will be enforced interalia along with Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, and Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments.	It is always ensured that the above conditions are enforced interalia along with Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, and Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments as applicable.

Name of the Project: LPG Recovery Facility **Project Code:** NIL
Clearance Number: J-11011/29/96-IA.II (I) Dated 16/01/1997
Period of Compliance: October 2023 to March 2024

Sr. No.	Condition No.	Conditions	Compliance Status
31	i.	The project authority must strictly adhere to the terms and conditions stipulated by the Ministry while granting environmental clearance to the petro-chemical complex vide O.M. No. J-11011/22/90-IA.II dated 30.03.1992.	Compliance to the conditions of environmental clearance granted to the petrochemical complex vide O.M. No. J-11011/22/90-IA.II dated 30.03.1992 is provided at Sr. No. 1 to 30 above.

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Sr. No.	Condition No.	Conditions	Compliance Status
32	ii.	The project authority must strictly comply with the stipulations made by state pollution control board and state government.	All the stipulations made by the State Pollution Control Board and the State Government are adhered to. Compliance to conditions of Consent to Operate have been sent to the Uttar Pradesh Pollution Control Board.
33	iii.	Any expansion of the plant can be taken up only with prior approval of this ministry.	Any expansion of the plant is taken up only after obtaining prior approval of the Ministry. GAIL Pata has been accorded 6 ECs for different expansions as mentioned above (A, B, C, D, E & F).
34	iv.	The hazardous wastes including residual solvents, spent activated carbon, ETP sludge etc. shall be handled as per hazardous wastes (Management and Handling) rules, 1989 and necessary approval from UPPCB in this regard must be obtained.	All hazardous wastes generated at the complex are handled as per the provisions laid under the latest Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016. GAIL Pata has been accorded Consolidated Consent and Authorization from Uttar Pradesh Pollution Control Board vide Authorization No. 191217/UPPCB/ KanpurDehat (UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025. All the hazardous wastes generated are disposed as per the directions mentioned in the authorization.
35	v.	Handling, Manufacturing, storage and transportation of hazardous chemicals must be carried out in accordance with the manufacture, storage and import of hazardous chemicals rules, 1989 as amended in October, 1994. Necessary approvals from Chief controller of explosives/ Chief inspector of factories must be obtained as per regulations.	All applicable provisions of the manufacture, storage and import of hazardous chemicals rules, 1989 as amended in October, 1994 are suitably followed. All necessary approvals from Petroleum & Explosives Safety Organization /Chief inspector of factories have been obtained and are in place.
36	vi.	The project authorities must setup adequate facilities for collections and analysis of samples (air, water and noise parameters), monitoring of environmental quality	Five fixed real time ambient air quality monitoring station and Two portable third party ambient air quality monitoring stations (within and outside the premises) have

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Condition No.	Conditions	Compliance Status
		parameters and carry out time bound action plans related to environmental management and pollution control.	been setup. In addition, 1 No. Mobile Van having real time ambient air quality monitoring station is also in use for monitoring of ambient air quality. In addition, Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is transmitted to CPCB and UPPCB through web based system. Noise levels are also regularly monitored in ambient as well as work zone areas. Continuous online monitoring of the effluent parameters like pH, BOD, COD, TSS, TOC & Flow is done at the final discharge point and data is transmitted to CPCB and UPPCB on real time basis through web based server systems. In addition, final effluent discharge is monitored daily for pH, COD, BOD, TSS, Phenol, Sulfide and Oil & Grease by NABL accredited inhouse laboratory. Further, wastewater quality monitoring is also regularly being carried out by MoEF&CC approved and NABL accredited Third Party monitoring agency. A full-fledged NABL accredited Laboratory set up exists in the plant premises under the supervision of competent technical personnel.
37	vii.	The fund earmarked for the environmental protection measures shall not be diverted for other purposes and year wise expenditure reported to this ministry of proper monitoring of the project implementation.	The dedicated funds are earmarked for the environmental protection measures. Details of year wise expenditure on environmental protection measures are regularly reported to the ministry.
38	viii.	Six-monthly progress report on the implementation status of environmental conditions mentioned above must be submitted to ministry / CPCB and State Pollution Control Board	Six-monthly progress report on the implementation status of environmental conditions is regularly submitted to the Regional Offices of MoEF&CC & CPCB and to the UPPCB.

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Sr. No.	Condition No.	Conditions	Compliance Status
		regularly. The project will be monitored intralia by ministry's regional office at Lucknow.	

Name of the Project: LLDPE Debottlenecking Project
Project Code: UP-IND-62-164- 2004
Clearance Number: J-11011/237/2003-IA.II (I) Dated 19/04/2004
Period of Compliance: October 2023 to March 2024

Sr. No.	Cond. No.	Conditions	Compliance Status
Specific Conditions:			
39	(i)	The gaseous emissions (SO_2, NO_x and HC, HCI, Cl_2) from the various process units shall conform to the standards prescribed under Environment (Protection) Act, 1986 or norms stipulated by the SPCB's whichever is more stringent. At no time, the emission level shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.	The gaseous emissions from various process units are monitored through advanced monitoring techniques and conform to the standard prescribed under Environment (Protection) Rules, 1986 and amendments thereof for Petrochemical industry. Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is transmitted to CPCB and UPPCB through web based system. Mitigatory control methods have been adopted at design stage in order to reduce the load of gaseous emissions from process units. It is always ensured that in any such event of failure of pollution control system(s), the respective unit is not restarted until the control measures are rectified to achieve the desired efficiency. It is pertinent to mention that GAIL Pata uses Natural gas as a fuel, which is one of the cleanest fuel available.
40	(ii)	Adequate number of ambient air quality monitoring stations shall be set up in consultation with SPCB, based on the occurrence of maximum ground level concentration and downwind direction of wind. The monitoring network shall be decided based on modelling exercise to represent short term GLCs. Continuous online stack monitoring	Five fixed real time ambient air quality monitoring station and Two third party portable ambient air quality monitoring stations (within and outside the premises) have been setup. In addition, 1 No. Mobile Van having real time ambient air quality monitoring station is also in use for monitoring of ambient air quality. The ambient air quality monitoring stations

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		equipment shall be installed for all the stacks in the petrochemical plant. The company shall install low NOx burners in cracker furnaces.	are installed by considering location of existing stacks, wind direction, air modelling studies carried out during EIA studies and other topographical features. Ambient air monitoring stations are regularly inspected by the UPPCB officials during their visits and no observations have been made till date with respect to locations/sampling points. All the stacks of the plant are equipped with automatic stack emission monitoring equipment i.e. Online Continuous Emission Monitoring System (OCEMS). Low NOx burners have also been installed in all furnaces and boilers.
41	(iii)	For control of fugitive emissions, the company shall provide for a main flare system and an auxiliary flare system, and route all Unsaturated hydrocarbons to the flare system. The flare system shall be designed for smokeless burning. All the pumps and other equipment, where there is a likelihood of hydrocarbon leakages shall be provided with LEL indicators, and also provide for immediate isolation of such equipment, in case of a leakage. The product loading gantry shall be connected to the product sphere in closed circuit through the vapour arm connected to the tanker. Data on fugitive emissions shall be regularly monitored and records maintained.	The complex has been provided with a main flare system and an auxiliary flare system. The Flare system is designed for smokeless burning with adequate steam for all normal venting and flaring. LEL indicators & open path gas detection system have been provided in storage and process areas for detection of any hydrocarbon leakages. The product loading gantry is connected to the product sphere in closed circuit through the vapour arm connected to the tanker for all liquid products. Fugitive emissions are monitored and controlled through Leak Detection and Repair (LDAR) program as per OISD-GDN-224.
42	(iv)	The wastewater generated (2864 m^3/d) shall be treated in the wastewater treatment plant. The treated wastewater, meeting the norms, shall be used for green belt development within the plant premises, or discharged into Sengar river, about 8 km. away in a closed	The wastewater generated is treated in the wastewater treatment plant. Part of the treated wastewater, meeting the norms, is used for horticulture purpose and balance water is discharged to Sengar river through an 8 kms long closed pipeline at the end of which a

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		pipeline through a well-designed diffuser. The company shall undertake measures to maximize recycling of treated wastewater and work towards achieving zero discharge.	specially designed diffuser is installed to ensure thorough mixing. Towards the measures for maximizing recycling of treated wastewater and achieving zero discharge, GAIL Pata has started implementation of ZLD project.
43	(v)	The non-hazardous solid waste generated (spent alumina and silica gel) shall be sold to approved parties. For management of the hazardous solid wastes (3.85 TPD of ETP sludge and tar), the company shall install an incinerator for tar, design a landfill for sludge, and explore bioremediation of the sludge.	The non-hazardous solid waste generated (spent alumina and silica gel) is sold to recyclers. GAIL Pata has been accorded Consolidated Consent and Authorization from Uttar Pradesh Pollution Control Board vide Authorization No. 191217/UPPCB/ KanpurDehat(UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025. In view of this, Sludge and tar waste are being disposed through approved TSDF as prescribed by Uttar Pradesh Pollution Control Board.
44	(vi)	All the recommendations of the Charter on Corporate Responsibility for Environmental Protection (CREP) for the petrochemical sector shall be strictly implemented.	The recommendations of the Charter on Corporate Responsibility for Environmental Protection (CREP) for the petrochemical sector are already implemented and regularly followed.
45	(vii)	Green belt of adequate width and density shall be provided to mitigate the effects of fugitive emission all around the plant. A minimum of 25% of the area shall be developed as green belt with local species in consultation with the DFO, and as per CPCB's guidelines.	Green belt of adequate width and density has been provided all around the plant to mitigate the effects of fugitive emission. Presently 36% area of the premises has been developed as peripheral green belt/area with native species. Project laydown areas are also taken up for plantation. Regular maintenance and plantation of tree saplings in and around the plant complex is done and also mass tree plantation programs are organized.
46	(viii)	The company shall obtain necessary approval for drawl of groundwater from the concerned State agency.	The water consumption for the plant is met through Canal water (Etawah Branch of Lower Ganga Canal system through Burhadana Distributory). There is no drawl of ground water in the complex.

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Sr. No.	Cond. No.	Conditions	Compliance Status
47	(ix)	The company shall undertake rainwater-harvesting measures to harvest the rain water for their own utilization as well as to recharge the groundwater table.	Rain Water harvesting measures have been implemented in all the major buildings at GAIL, Pata for recharging of ground water table. In addition, a natural pond inside the premises is used for rain water harvesting for utilization of water from the pond as per requirement.
48	(x)	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers and Employees is done on a regular basis (6 monthly basis for workers and on annual basis for employees) and records maintained as per the Factories Act and OISD-GDN-166.

Sr. No.	Cond. No.	Conditions	Compliance Status
General Conditions			
49	(i)	The project authorities shall strictly adhere to the stipulations made by the Uttar Pradesh State Pollution Control Board and the State Government.	All the stipulations made by the State Pollution Control Board and the State Government are adhered to. Compliance to conditions of Consent to Operate has been sent to the Uttar Pradesh Pollution Control Board.
50	(ii)	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the respective unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	The condition is noted and complied as per prescribed limit.
51	(iii)	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.	Any expansion of the plant is taken up only after obtaining prior approval of the Ministry. GAIL Pata has been accorded 6 ECs for different expansions as mentioned above (A, B, C, D, E & F).

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
52	(iv)	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on 3rd October 1994 and 6th January 2000. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives. Fire Safety Inspectorate etc. shall be obtained wherever applicable.	All applicable provisions of the manufacture, storage and import of hazardous chemicals rules, 1989 as amended on 3rd October 1994 and 6th January 2000 are suitably followed. All necessary approvals from Petroleum & Explosives Safety Organization, Chief inspector of factories and Fire safety inspectorate have been obtained and are in place.
53	(v)	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management & Handling) Rules 1989 as amended in January 2000, wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/treatment/ Storage / disposal of hazardous wastes.	All the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the latest Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 are strictly complied with. GAIL Pata has been accorded Consolidated Consent and Authorization from Uttar Pradesh Pollution Control Board vide Authorization No. 191217/UPPCB/ KanpurDehat(UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025.
54	(vi)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	All sources of noise generation have been provided with suitable noise control measures including acoustic hoods, silencers, enclosures etc. as applicable to maintain overall noise levels in and around the plant area within the standards. Noise levels are regularly monitored in ambient and work zone areas to ensure that noise levels are within prescribed standards.
55	(vii)	A separate Environment Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	A full-fledged Environmental Management Cell is in place to undertake environment and sustainable development related functions. Full-fledged NABL accredited Laboratory set up also exists in the plant premises under the supervision of competent technical personnel.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
56	(viii)	The project authorities shall provide adequate funds both recurring and non-recurring, to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Adequate dedicated funds are earmarked for the environmental protection measures and to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government.
57	(ix)	The implementation of the project vis-à-vis environmental action plans shall be monitored by Ministry's Regional Office at Lucknow/State Pollution Control Board /Central Pollution Control Board. A six monthly compliance status report shall be submitted to monitoring agencies.	Six-monthly compliance status report on the implementation status of environmental conditions is regularly submitted to the Regional Offices of MoEF&CC & CPCB and to the UPPCB.
58	(x)	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 State Pollution Control Board / Committee and may also be seen at website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local 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 Ministry's Regional office at Lucknow.	The matter was suitably advertised in the local newspapers that are widely circulated in the region as per requirement.

Name of the Project: HDPE Expansion & 5th Furnace Project
Project Code: UP-67/173-2005
Clearance Number: J-11011/143/2004 – IA II (I) Dated 12/01/2005
Period of Compliance: October 2023 to March 2024

Specific Conditions:

Sr. No.	Cond. No.	Conditions	Compliance Status
59	(i)	All the measures detailed in the EMP shall be taken to control the	The point/stack and fugitive gaseous emissions have been controlled by

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		point/stack and fugitive gaseous emissions from the proposed facilities namely, Gas Cracker Furnace (GCF) and process and storage units etc. for ensuring that the ambient air quality around Pata due to the expansion is maintained at the predicted 24 hourly average maximum concentration levels and shall not exceed for the worst scenario predicted for SO_2 (12 $\mu g/m^3$); NO_x (25 $\mu g/m^3$) and CO (2 mg/m^3).	adopting mitigatory control methods at design stage in order to reduce the load of gaseous emissions from process units. Also the point/stack and fugitive gaseous emissions from various process units are monitored through advanced monitoring techniques and conform to the standards prescribed under Environment (Protection) Rules, 1986 and amendments thereof for Petrochemical industry and norms stipulated by the UPPCB. In addition, Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is transmitted to CPCB and UPPCB through web based system.
60	(ii)	The location of the three existing ambient air quality monitoring stations along with the mobile unit shall be reviewed in consultation with SPCB, based on the occurrence of maximum ground level concentration and downwind direction of wind. The monitoring protocol shall ensure continuous monitoring of all the parameters.	Five fixed real time ambient air quality monitoring station and Two third party portable ambient air quality monitoring stations (within and outside the premises) have been setup. In addition, 1 No. Mobile Van having real time ambient air quality monitoring station is also in use for monitoring of ambient air quality. Monitoring of ambient air quality is continuous for SO_2, NO_2, Total Hydrocarbons, CO, PM_{10}, $PM_{2.5}$ and Benzene/VOC at five fixed real time ambient air quality monitoring stations and one mobile van. The ambient air quality monitoring stations are installed by considering location of existing stacks, wind direction, air modelling studies carried out during EIA studies and other topographical features. Ambient air monitoring stations are regularly inspected by the UPPCB officials during their visits and no observations have been made till date with respect to locations/sampling points.

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
61	(iii)	The practice of acoustic plant design shall be adopted to limit noise exposure for personnel to an 8 hr time weighted average of 90 db (A).	All required measures have been undertaken during design stage of plant to limit noise exposure for personnel as per prescribed standards.
62	(iv)	For control of fugitive emissions, the company shall provide for a main flare system and an auxiliary flare system, and route all unsaturated hydrocarbons to the flare system. The flare system shall be designed for smokeless burning. All the pumps and other equipment where there is a likelihood of HC leakages shall be provided with LEL indicators and also provide for immediate isolation of such equipment, in case of a leakage. The company shall adopt Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions.	The complex has been provided with a main flare system and an auxiliary flare system. The Flare system is designed for smokeless burning with adequate steam for all normal flaring. LEL indicators & open path gas detection system have been provided in storage, process areas and main flare KODs for detection of any hydrocarbon leakages. The product loading gantry is connected to the product sphere in closed circuit through the vapour arm connected to the tanker for all liquid products. Fugitive emissions are monitored and controlled through Leak Detection and Repair (LDAR) program as per OISD-GDN-224.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
63	(v)	The product loading gantry shall be connected to the product sphere in closed circuit through the vapours arm connected to the tanker. Data on fugitive emissions shall be regularly monitored and records maintained.	The product loading gantry is connected to the product sphere in closed circuit through the vapour arm connected to the tanker for liquid products. Fugitive emissions are monitored and controlled through Leak Detection and Repair (LDAR) program as per OISD-GDN-224.
64	(vi)	The company shall ensure that no halogenated organic is sent to the flares. If any of the halogenated organic are present then the respective streams may be incinerated, if there are no technically feasible or economically viable reduction/recovery options. Any stream containing organic carbon, other than halogenated shall be connected to proper flaring system, if not to a recovery device or an incinerator.	No halogenated organics are present in any of the streams in this natural gas based petrochemical complex.
65	(vii)	All new standards/norms that are being proposed by the CPCB for petrochemical plants shall be applicable for the proposed expansion unit. The company shall conform to the process vent standards for organic chemicals including non-VOCs and all possible VOCs i.e. TOCs standard and process vent standards for top priority chemicals. The company shall install online monitors for VOC measurements. Action on the above should be taken during the detailed design stage of the NCC and intimate to this Ministry.	Environment monitoring including work area environment w.r.t to Non-VOCs and VOCs monitoring is done through In-house Laboratory and approved third party on a regular basis as per CPCB standards. Online LEL indicators & open path gas detection system have been provided in storage, process areas and main flare KODs for detection of any hydrocarbon leakages.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
66	(viii)	The waste water generated (3184 m^3/d) shall be treated in comprehensive waste water treatment plant. As reflected in the EIA /EMP report, the company shall maximize the recycling of treated effluent and treated effluent after conforming to the proposed standards should be used for green belt development. The remaining treated effluent should be discharged into Sengar River about 08 kms away from the plant in a closed pipeline through a well-defined diffuser at a point where dispersion of effluent is rapid and ensures minimum impact on the aquatic ecology.	The wastewater generated is treated in the wastewater treatment plant. Part of the treated wastewater, meeting the norms, is used for horticulture purpose and balance water is discharged to Sengar river through 8 km long closed pipeline at the end of which is specially designed diffuser arrangement along stream bed to ensure thorough mixing.
67	(ix)	The company shall obtain necessary approval from the State Irrigation Department to meet the additional water requirement from the existing canal network.	Necessary approval from the State Irrigation Department has been obtained vide agreement no DG738976, dated 02/05/2017.
68	(x)	The solid waste will be generated in the form of 5 TPA of molecular sieve once in five year and Tar. The company shall incinerate Tar or use it for road making and design a landfill for disposal of molecular sieve.	GAIL Pata has been accorded Consolidated Consent and Authorization from Uttar Pradesh Pollution Control Board vide Authorization No. 191217/UPPCB/ KanpurDehat(UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025. All the waste generated are suitably disposed in environment friendly manner as recommended in Hazardous Waste Authorisation.
69	(xi)	Green belt shall be provided to mitigate the effects of fugitive emissions all around the plant in a minimum of 25% of the plant area in consultation with DFO as per CPCB guidelines.	Green belt of adequate width and density has been provided all around the plant to mitigate the effects of fugitive emission. Presently 36% area of the premises has been developed as peripheral green belt/area with native species. Regular plantation of tree saplings in and around the plant complex is done and also mass tree plantation programs are organized.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
70	(xii)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers and Employees is done on a regular basis (6 monthly basis for workers and on annual basis for employees) and records maintained as per the Factories Act and OISD-GDN-166.
71	(xiii)	The Company shall implement all the recommendations made in the EIA /EMP report and risk assessment report.	All the recommendations made in the EIA /EMP report and risk assessment report are being suitably complied.

Sr. No.	Cond. No.	Conditions	Compliance Status
General Conditions:			
72	(i)	The project authorities must strictly adhere to the stipulations made by the Uttar Pradesh State Pollution Control Board and the State Government.	All the stipulations made by the State Pollution Control Board and the State Government are adhered to. Compliance to conditions of Consent to Operate have been sent to the Uttar Pradesh Pollution Control Board.
73	(ii)	No further expansion or modernization in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Any expansion of the plant is taken up only after obtaining prior approval of the Ministry. GAIL Pata has been accorded 6 ECs for different expansions as mentioned above (A, B, C, D, E & F).
74	(iii)	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	The gaseous emissions from various process units are monitored through advanced monitoring techniques and conform to the standard prescribed by the statutory authorities. Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is transmitted to CPCB and UPPCB through web based system. Mitigatory control methods have been adopted at design stage in order to reduce the load of gaseous emissions from process units. It is pertinent to mention here that GAIL, Pata uses Natural gas as fuel, which is one of the cleanest fuel available.
75	(iv)	The overall noise levels in and around the plant area should be kept	All sources of noise generation have been provided with suitable noise

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	control measures including acoustic hoods, silencers, enclosures etc. as applicable to maintain overall noise levels in and around the plant area within the standards. Noise levels are regularly monitored in ambient and work zone areas to ensure that noise levels are within prescribed standards.
76	(v)	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 project.	All applicable provisions of the manufacture, storage and import of hazardous chemicals rules, 1989 as amended on 3rd October 1994 and 6th January 2000 are suitably followed. All necessary approvals from Petroleum & Explosives Safety Organization have been obtained and are in place.
77	(vi)	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collections/treatment/ storage/ disposal of hazardous wastes.	All the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the latest Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 are strictly complied with. GAIL Pata has been accorded Hazardous waste authorization for collections / treatment / Storage / disposal of hazardous wastes by UPPCB vide letter no. 191217/UPPCB/ KanpurDehat(UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025.
78	(vii)	The project authorities will provide adequate funds both recurring and non-recurring 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.	Adequate dedicated funds are earmarked for the environmental protection measures and to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government.
79	(viii)	The stipulated conditions will be monitored by the Regional Office of this Ministry at Lucknow/Central Pollution Control Board/State	Six-monthly compliance status report on implementation status of the stipulated conditions along with monitored data is regularly submitted

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly.	to the Regional Offices of MoEF&CC & CPCB and to the Uttar Pradesh Pollution Control Board.
80	(ix)	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 Regional office	The matter was suitably advertised in the local newspapers that are widely circulated in the region as per requirement.
81	(x)	The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Suitable information as required was communicated to the concerned agencies.

Name of the Project: Expansion of Petrochemical Complex project **Project Code:** NIL
Clearance Number: J-11011/595/2010-IA II (I), Dated 23/05/2012
Period of Compliance: October 2023 to March 2024

Sr. No.	Cond. No.	Conditions	Compliance Status
SPECIFIC CONDITIONS:			
82	(i)	All the specific conditions and general conditions specified in the environmental clearances letters accorded vide Ministry's letter nos. J-11011//22/90-IA.II (I) dated 30th March, 1992, J-11011/29/96-IA.II (I) dated 16th January, 1997,	All the specific conditions and general conditions specified in the environmental clearances letters accorded are implemented.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		J-11011/237/2003-IA.II (I) dated 19th April, 2004 and J-11011/143/2004-IA.II (I) dated 12th January, 2005 should be implemented.	
83	(ii)	M/s GAIL (India) Limited shall comply with the new standards/norms prescribed for petrochemical industry notified under the Environment (Protection) Rules, 1986.	M/s GAIL (India) Limited is complying with the new standards/norms as prescribed for petrochemical industry notified under the Environment (Protection) Rules, 1986.
84	(iii)	The process emissions (Particulate matter, SO_2, NO_x, HC, CO and VOCs) from various units shall conform to all standards prescribed by CPCB / U.P. Pollution Control Board (UPPCB) from time to time. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emissions shall be monitored regularly.	The gaseous emissions from various process units are monitored through advanced monitoring techniques and conform to the standard prescribed for petrochemical industry notified under the Environment (Protection) Rules, 1986. Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is transmitted to CPCB and UPPCB through web based system. Mitigatory control methods have been adopted at design stage in order to reduce the load of gaseous emissions from process units. It is always ensured that in any such event of failure of pollution control system(s), the respective unit is not restarted until the control measures are rectified to achieve the desired efficiency. However, it is pertinent to mention here that GAIL, Pata uses Natural gas as fuel, which is one of the cleanest fuel available.
85	(iv)	OISD guidelines shall be followed for minimum distance between various units.	Minimum distance between various units is ensured as per the OISD-STD-118.
86	(v)	Low NO_x burner shall be installed to control NO_x emissions.	Low NO_x burners are used in all the Furnaces and Boilers.
87	(vi)	As proposed, vapor recovery system shall be provided for product loading gantry.	The product loading gantry is connected to the product sphere in closed circuit through the vapour arm connected to the tanker.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
88	(vii)	Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S.R. No. 826 (E) dated 16th September, 2009.	Ambient air quality data is collected as per NAAQES standards notified by the Ministry vide G.S.R. No. 826 (E) dated 16th September, 2009.
89	(viii)	In-plant control and monitoring measures for checking fugitive emissions from all the vulnerable sources should be provided. Adequate dust suppression systems with water spray should be provided for storage yard, junction houses. Raw material loading and unloading area should be covered and also provided with water spraying system. Fugitive emissions in the work zone environment, product, raw materials storage area etc. should be regularly monitored and records maintained. The emissions should conform to the limits stipulated by the UPPCB.	Fugitive emissions in all the areas of the plant are monitored and controlled through Leak Detection and Repair (LDAR) program as per OISD-GDN-224. In addition, LEL indicators & open path gas detection system have been provided in storage and process areas for detection of any hydrocarbon leakages. Raw material used in the plant is natural gas which is received through cross country pipeline and remains in closed system and as such there is no requirement of any dust suppression system.
90	(ix)	Steps shall be taken to minimize fugitive emissions. Monitoring of fugitive emissions shall be carried out as per guidelines of CPCB by fugitive emissions detector and report shall be submitted to the Ministry's Regional Office at Lucknow.	Fugitive emissions are monitored and controlled through Leak Detection and Repair (LDAR) program as per guidelines of CPCB and OISD-GDN-224. Summary Report of the LDAR monitoring of Q-3 and Q-4 of FY 2023-24 is enclosed as Annexure-3. All the leaks have been suitably attended.
91	(x)	Continuous ambient air quality monitoring stations for PM10, SO2, NOx, CO, HC and VOCs shall be set up in the petrochemical complex in consultation with CPCB/UPPCB. Unit shall follow CPCB/MoEF calibration protocol for the calibration of continuous stack monitoring and ambient air quality monitoring analyzer installed in all stations. Data of stack monitoring and ambient air shall be displayed on web as well as outside the premises at prominent place for public viewing. The company shall upload the results of monitored data on its	Five fixed continuous ambient air quality monitoring stations have been setup in addition to 1 No. Mobile Van for real time monitoring of SO_2, NO_x, Total Hydrocarbons, CO, PM_{10}, $PM_{2.5}$ and VOCs. All the stacks of the plant are equipped with automatic stack emission monitoring equipment i.e. Online Continuous Emission Monitoring System (OCEMS). Calibration of all the monitoring equipment is carried out as per prescribed protocol. Monitored data is displayed outside the premises at prominent place for public viewing and also uploaded on company's

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MoEF, the respective Zonal Office of CPCB and UPPCB.	website and updated periodically. Data of stack and ambient air monitoring for the period October 2023 to March 2024 is enclosed as Annexure-1.
92	(xi)	A proper leak detection and repair (LDAR) Program shall be prepared and implemented. Focus shall be given for prevention of fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. A preventive maintenance schedule for each unit shall be prepared and adhered to.	Fugitive emissions are monitored and controlled through Leak Detection and Repair (LDAR) program as per OISD-GDN-224. A preventive maintenance schedule for pumps valves etc. exists and the same is adhered to.
93	(xii)	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.	The gaseous emissions from DG sets are dispersed through adequate stack height as per CPCB standards. Also acoustic enclosures are provided to the DG sets to mitigate the noise pollution.
94	(xiii)	Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above permissible limits, effective measures shall be taken immediately.	LEL indicators & open path gas detection system have been provided in storage and process areas for detection of any hydrocarbon leakages.
95	(xiv)	Additional fresh water requirement from canal shall not exceed 1020 m^3/hr and prior permission shall be obtained from the concerned agency. No ground water shall be used.	Necessary approval from the State Irrigation Department has been obtained vide agreement no DG738976, dated 02/05/2017. The water consumption for the plant is completely met through Canal water (Etawah Branch of Lower Ganga Canal system through Burhadana Distributory). No ground water is used in the complex.
96	(xv)	Additional industrial effluent generation due to proposed expansion shall not exceed 64 m^3/hr. Industrial effluents including existing (214 m^3/hr) shall be segregated and treated in the ETP. As proposed, treated effluent (50 m^3/hr) shall be recycled and reused within factory premises. Remaining treated effluent shall be discharged into Sengar River after obtaining	Waste Water Treatment plant having 2 nos. 150 m^3/hr capacity chains is functional for treating combined effluents from various process units. Necessary augmentation to the old ETP Plant has been incorporated with respect to additional waste water generation from the expansion project. Maximum treated water is recycled and reused for horticulture purposes. Balanced treated water is discharged

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		prior permission from the UPPCB and meeting the norms prescribed. Water quality of treated effluent should be monitored regularly. Online TOC analyzer, pH meter and flow meter shall be installed to monitor the treated water quality before discharge into River. As proposed, sewage shall be transferred to aeration tank along with process wastewater.	to Sengar river. Necessary approval from UPPCB has been obtained. The treated water Quality is monitored regularly through Online Water Analyser and the flow meter. Also, parameters of online effluent quality monitoring system are connected with CPCB & UPPCB servers. The sewage water is channelized to the aeration tank of wastewater treatment plant along with Process waste water for further treatment.
97	(xvi)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Separate storm water drain exists. It has been ensured that process effluent and other waste water are not mixed with storm water. Contaminated Storm Water is treated in Waste Water Treatment plant and is passed through guard pond.
98	(xvii)	The company should obtain authorization for collection, storage and disposal of hazardous waste under the hazardous waste (management, handling and trans-boundary movement) rules, 2008 and amended as on date for management of hazardous wastes and prior permission from UPPCB should be obtained for disposal of solid/hazardous waste in TSDF. Measures should be taken for firefighting facilities in case of emergency. Membership of TSDF for hazardous waste disposal should be obtained and submitted to the regional office at Lucknow.	GAIL Pata has been accorded Consolidated Consent and Authorization from Uttar Pradesh Pollution Control Board vide Authorization No. 191217/UPPCB/ KanpurDehat(UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025. All Hazardous wastes are disposed in line with the recommendations of the hazardous waste authorization accorded by the UPPCB. Firefighting facility is in place at GAIL Pata to handle any emergency. GAIL, Pata is also a permanent member of Uttar Pradesh Waste Management Project (membership no. UPWMP-KNP-HzW – CHW-TSDF – 1268) (Copy enclosed as Annexure-4) for utilizing their common hazardous waste treatment storage disposal facility (CHW-TSDF) to dispose hazardous waste safely & securely and has already been submitted to the regional office.
99	(xviii)	Existing captive secured landfill site shall be designed as per CPCB guidelines. A performance evaluation study for the existing	Secured landfill site is not in use. However, a scientific solid waste management facility has been developed for intermediate storage of

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		captive secured landfill site shall be carried out and report shall be submitted to the respective regional office of the MoEF, CPCB and UPPCB within three months. All the recommendations made in the study shall be implemented.	the waste to ensure timely disposal to authorized agencies.
100	(xix)	Piezometer wells shall be installed around secured landfill. Ground water monitoring shall be carried out in every three months and trend analysis shall be carried out and report shall be sent to the CPCB and UPPCB.	Secured landfill site is not in use. However, Piezometer wells are installed for regular sampling and analysis of ground water along with depth by third party environment monitoring agency. Ground water quality monitoring report for the period October 2023 to March 2024, monitored by MoEF&CC approved and NABL accredited third party is enclosed as Annexure-5.
101	xx	Spent catalyst and bottom tank sludge shall be sent to authorized re-processors/ recyclers.	Spent catalysts and Bottom tank sludge are disposed as per recommendations of hazardous waste authorization accorded by UPPCB.
102	(xxi)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in the material handling. Firefighting system should be as per the OISD norms. All the OISD standards shall be followed.	Protection against all Fire Hazards is in place. Firefighting systems are in line as per the OISD-GDN-115 & OISD-GDN-116.
103	(xxii)	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.	Handling, Manufacturing and storage of all hazardous chemicals are carried out in accordance with the manufacture, storage and import of hazardous chemicals rules, 1989 as amended. Also, Transportation of Hazardous Chemicals is carried out as per the Motor Vehicle Act (MVA), 1989.
104	(xxiii)	The company shall undertake following waste minimization measures:- a) Metering and control of quantities of active ingredients to minimize waste.	a) Complied. Metering and control of quantities of active ingredients is done in order to minimize waste generation.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c) Use of automated filling to minimize spillage d) Use of closed Feed system into batch reactors. e) Venting equipment through vapor recovery system f) Use of high pressure hoses for equipment cleaning to reduce wastewater generation.	b) Complied. Byproducts generated are used in process to the extent possible or sold to customers. c) Complied. Automated filling is being done to minimize spillage. d) Not Applicable e) Complied. Loading of all liquid products is carried out through vapor recovery system. f) Complied. Cleaning works are carried out using high pressure hoses.
105	(xxiv)	Green belt shall be developed in 33 % area to mitigate the effects of fugitive emissions all around the plant as per CPCB guidelines in consultation with the local DFO. Thick greenbelt with suitable plant species shall be developed around the proposed distillery to mitigate the odor problem.	Green belt of adequate width and density has been provided all around the plant to mitigate the effects of fugitive emission as well as odour if any. Presently 36% area of the premises has been developed as peripheral green belt/area with native species. Regular plantation of tree saplings in and around the plant complex is done and also mass tree plantation programs are organized.
106	(xxv)	Occupational health surveillance program shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health center shall be strengthened and the regular medical test records of each employee shall be maintained separately.	Occupational Health Surveillance of the workers and Employees is done on a regular basis (6 monthly basis for workers and on annual basis for employees) and records maintained as per the Factories Act and OISD-GDN-166. The first aid facilities in the occupational health center are regularly reviewed and strengthened as per requirement.
107	(xxvi)	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines are implemented.
108	(xxvii)	All the commitments made during the public hearing/ public consultation meeting held on 5th September, 2011 should be satisfactorily implemented and	All the commitments made during the public hearing/ public consultation meeting held on 5th September, 2011 have been suitably implemented.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		adequate budget provision should be made accordingly.	
109	(xxviii)	Company shall prepare project specific environmental manual and a copy shall be made available at the project site for compliance.	Project specific environmental manual and procedures are in place.
110	(xxix)	Company should adopt corporate environment policy as per the Ministry's O.M No J-11013/41/2006-IA.II (I) dated 26th April, 2011 and implemented. Under Corporate Social Responsibility (CSR), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.	Corporate Sustainable Development Policy and site level Environment Policy exists. GAIL has allocated an annual budget of 2 % of the Average Net Profit during the three immediately preceding financial years for Corporate Social Responsibility (CSR) activities, which is effectively used for carefully chosen programs in the field of community development, education, infrastructure, health care, skill development and environment & sanitation. Socially useful programs have been undertaken in GAIL since its inception in and around the areas adjoining its major work centers.
111	(xxx)	Provision shall be made for the housing for construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.	The site has been fully developed and stabilized. All necessary measures are taken in respect of sanitation facilities, hygiene etc. for workers. Mostly Local laborers are deployed to the extent possible.

Sr. No.	Cond. No.	Conditions	Compliance Status
General Conditions			
112	(i)	The project authorities shall strictly adhere to the stipulations made by the U.P Pollution Control Board (UPPCB)	All the stipulations made by the Uttar Pradesh Pollution Control Board are adhered to.
113	(ii)	No further expansion or modifications in the plant shall be	Any expansion of the plant is taken up only after obtaining prior approval of

Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		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 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.	the Ministry. GAIL Pata has been accorded 6 ECs for different expansions as mentioned above (A, B, C, D, E & F).
114	(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.	Five fixed real time ambient air quality monitoring station and Two third party ambient air quality monitoring stations (within and outside the premises) have been setup. In addition, 1 No. Mobile Van having real time ambient air quality monitoring station is also in use for monitoring of ambient air quality. The locations covered by the stations have been fixed considering location of existing stacks, wind direction and other topographical features.
115	(iv)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz 75 dBA (day time) and 70 dBA (night time)	All sources of noise generation have been provided with suitable noise control measures including acoustic hoods, silencers, enclosures etc. as applicable to maintain overall noise levels in and around the plant area within the standards. Noise levels are regularly monitored in ambient and work zone areas to ensure that noise levels are within prescribed standards.
116	(v)	The company shall harvest rainwater from the rooftops 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 water.	Rain Water harvesting measures have been implemented in all the major buildings at GAIL, Pata for recharging of ground water table. In addition, a natural pond inside the premises is used for rain water harvesting for utilization of water from the pond as per requirement.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
116	(vi)	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Training is imparted to the employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees are also undertaken on regular basis.
118	(vii)	The company shall also comply with all the environmental protection measures and safeguards proposed in the document 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.	All the environmental protection measures and safeguards are being complied.
119	(viii)	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.	GAIL has allocated an annual budget of 2 % of the Average Net Profit during the three immediately preceding financial years for Corporate Social Responsibility (CSR) activities, which is effectively used for carefully chosen programs in the field of community development, education, infrastructure, health care, skill development and environment & sanitation. Socially useful programs are undertaken by involving local villages and administration.
120	(ix)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	GAIL Pata regularly undertakes developmental and welfare measures in the project area for overall improvement.
121	(x)	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	A full-fledged Environmental Management Cell is in place to undertake environment and sustainable development related functions. Full-fledged NABL accredited Laboratory set up also exists in the plant premises under the supervision of competent technical personnel.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
122	(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 and Forests as well as the state government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Adequate dedicated funds are earmarked for the environmental protection measures and to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government.
123	(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.	A copy of the clearance letter was sent to the concerned panchayat.
124	(xiii)	The project proponent shall submit six monthly reports on the status of compliance of the stipulated Environmental Clearance including results of monitored data.	Six monthly reports on the status of compliance of the stipulated Environmental Clearance including results of monitored data is regularly submitted.
125	(xiv)	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	The environmental statement for each financial year ending 31st March in Form-V is submitted to the Uttar Pradesh Pollution Control Board. A copy of the same is also uploaded on the website of the company along with the status of compliance of environmental clearance conditions and also sent to the Regional Office of MoEF&CC by e-mail.
126	(xv)	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	The matter was suitably advertised in the local newspapers that are widely circulated in the region as per requirement and a copy of the same

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		with the SPCB/Committee and may also be seen at Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local 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.	was also forwarded to the concerned Regional Office of the Ministry.
127	(xvi)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and the final approval of the project by the concerned authorities and the date of start of the project.	Suitable information as required was communicated to the concerned agencies.

Name of the Project: Polypropylene Expansion Project **Project Code:** NIL
Clearance Number: J-11011/595/2010-IA II (I), Dated 16/10/2020
Period of Compliance: October 2023 to March 2024

Sr. No.	Cond. No.	Conditions	Compliance Status
SPECIFIC CONDITIONS:			
128	(i)	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	All the environmental protection measures and safeguards are being fulfilled.
129	(ii)	As committed by the Project proponent, 75 % of the effluent discharged to the river shall be recovered and reused to reduce the fresh water requirement. The total effluent proposed to discharge to the river is 164 cum/hr, out of which 75 % shall be treated through ETP/RO system and reused in the plant/process. Only the remaining	In compliance to this specific condition, action for implementation of following is under progress: • Augmentation of Existing WWTP Equipment's to enhance the efficiency of the treatment units • To install one no. additional chain of WWTP of capacity 150 m^3/hr. • To install a RO based recycle plant of capacity 450 m^3/hr.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		25 % the effluent shall be sent for river discharge after meeting the prescribe standards.	• To install a ZLD Plant of 18 m^3/hr. to cater to RO reject.
130	(iii)	Total fresh water requirement shall not exceed 2040 cum/hr, proposed to be met from water supply from the Irrigation Department, Etawah Zone. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The fresh water requirement shall be reduced after installation of rainwater harvesting system in the unit/project area.	Necessary permission from the State Irrigation Department is already available vide agreement no. DG738976, dated 02/05/2017 (Copy enclosed as Annexure-6). Additional rainwater harvesting structures are under construction in the upcoming Polypropylene unit/project area.
131	(iv)	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MoEF&CC. Outcome from the report to be implemented for conservation scheme.	Comprehensive water audit of GAIL Pata has been carried out by M/s CII Triveni Water Institute, New Delhi during August 2023. The outcome from the report is under implementation.
132	(v)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Separate storm water drain exists. It is ensured that process effluent and other waste water are not mixed with storm water. Contaminated Storm Water is treated in Waste Water Treatment plant and is passed through guard pond. Action for construction of a new storm water guard pond of capacity 47500 m^3 is under progress.
133	(vi)	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.	Hazardous chemicals being used at GAIL Pata are stored in tanks, tank farms, drums, carboys etc. Flame arresters are provided on tank farm, and solvents are being transferred through pumps. Noted for compliance for new expansion project.
134	(vii)	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	All the generated hazardous wastes are being disposed of as per the directions of Hazardous Waste Authorization accorded from Uttar Pradesh Pollution Control Board vide letter no.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		The ash from boiler shall be sold to brick manufacturers/cement industry.	191217/UPPCB/ KanpurDehat (UPPCBRO)/CTO/both /AURRAIYA/2023, dated 04.12.2023 and is valid up to 31.12.2025. There is no generation of ash from the boilers as natural gas is the source of fuel. Noted for compliance for new expansion project.
135	(viii)	Regular VOC monitoring shall be done at vulnerable points.	VOC monitoring is carried out and controlled through Leak Detection and Repair (LDAR) program as per OISD-GDN-224. Noted for compliance for new expansion project.
136	(ix)	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.	All the generated hazardous wastes are being disposed off as per the directions of Hazardous Waste Authorization accorded by Uttar Pradesh Pollution Control Board vide letter no. 191217/UPPCB/ KanpurDehat (UPPCBRO) /CTO/both /AURRAIYA/ 2023, dated 04.12.2023 and is valid up to 31.12.2025. The oily sludge is stored in HDPE lined pits inside the plant premises before disposal.
137	(x)	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	Oil catchers/oil traps are already available at all possible locations in storm water drainage system inside the factory premises. Noted for compliance for new expansion project.
138	(xi)	The company shall undertake waste minimization measures as below: a. Metering and control of quantities of active ingredients to minimize waste. b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c. Use of automated filling to minimize spillage.	a. Complied. Metering and control of quantities of active ingredients is done in order to minimize waste generation. b. Complied. Byproducts generated are used in process to the extent possible or sold to customers. c. Complied. Automated filling is being done to minimize spillage. d. Not Applicable

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		d. Use of Close Feed system into batch reactors. e. Venting equipment through vapor recovery system. f. Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.	e. Complied. Loading of all liquid products is carried out through vapor recovery system. f. Complied. Cleaning works are carried out using high pressure hoses.
139	(xii)	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	Green belt of adequate width and density has been provided all around the plant premises. More than 33% area of the premises has been developed as peripheral green belt/area with native species. Regular plantation of tree saplings in and around the plant complex is done and also mass tree plantation programs are organized.
140	(xiii)	As proposed, Rs 4.77 crores shall be allocated for Corporate Environment Responsibility (CER) shall be utilized for meeting the commitment of the socio-economic issues and as per the proposed action plan. The CER plan shall be completed within three year of expansion of the project.	An amount of Rs 4.77 crores has been allocated for Corporate Environment Responsibility (CER) and is being utilized for meeting the commitment of the socio-economic issues.
141	(xiv)	The project proponent shall ensure 70% of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development center/provide skill development training to village people.	It is being ensured that maximum employment is provided to the local people as per the applicable law. Necessary skill development center has been established and skill development training is also imparted to village people.
142	(xv)	A separate Environmental Management Cell (having qualified person with Environmental Science/ Environmental Engineering/ specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	A full-fledged Environmental Management Cell is in place to undertake environment and sustainable development related functions. Full-fledged NABL accredited Laboratory set up also exists in the plant premises under the supervision of competent technical personnel.
143	(xvi)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material	Protection against all Fire Hazards is in place. Firefighting systems are in line as per the OISD-GDN-115 & OISD-GDN-116.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		handling. Firefighting system shall be as per the norms.	Noted for compliance for new expansion project.
144	(xvii)	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	Online Continuous Emission Monitoring System has been provided in all the stacks and real time data is transmitted to CPCB and UPPCB through web based system. Continuous online monitoring of the effluent parameters like pH, BOD, COD, TSS, TOC & Flow is done and data is transmitted to CPCB and UPPCB on real time basis through web based server systems. No additional stack is envisaged for expansion project.
145	(xviii)	PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	An occupational health center exists within the complex. Occupational Health Surveillance of the workers and Employees is done on a regular basis (6 monthly basis for workers and on annual basis for employees) and records maintained as per the Factories Act and OISD-GDN-166. The health data is suitably used in deploying the duties of the workers. All workers & employees are provided with required safety kits/mask for personal protection.
146	(xix)	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time shall be followed.	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended is being followed. Noted for compliance for new expansion project.
147	(xx)	Recommendations of mitigation measures from possible accident shall be implemented based on Risk Assessment studies conducted for worst case scenarios using latest techniques.	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines are being implemented suitably.
148	(xxi)	The project proponent shall develop R & D facilities to develop their own technologies for propylene and polypropylene processing.	A dedicated Corporate R&D department exist in GAIL (India) Limited which also caters to the research and development work related to GAIL Pata.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
General Conditions			
149	(i)	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	The condition is noted. Any expansion of the plant is taken up only after obtaining prior approval of the Ministry. Noted for compliance for new expansion project.
150	(ii)	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Energy source for lighting purpose shall be LED based lighting in the upcoming project. Also, Phase wise replacement of incandescent lamps with LEDs is under progress for the existing facility.
151	(iii)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	All sources of noise generation have been provided with suitable noise control measures including acoustic hoods, silencers, enclosures etc. as applicable to maintain overall noise levels in and around the plant area within the standards. Noise levels are regularly monitored in ambient and work zone areas to ensure that noise levels are within prescribed standards. Noted for compliance for new expansion project.
152	(iv)	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-	All relevant measures for improving the socio-economic conditions of the surrounding area along with CER activities are being undertaken by involving local villages and administration.

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		developmental measures including community welfare measures in the project area for the overall improvement of the environment.	
153	(v)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	The dedicated funds are earmarked for the environmental protection measures 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.
154	(vi)	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.	The condition is not applicable, as there were no suggestions/ representations.
155	(vii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	Six monthly reports on the status of compliance of the stipulated Environmental Clearance including results of monitored data is regularly submitted to the Regional Offices of MoEF&CC and CPCB and to the UPPCB and the same is also uploaded on the website of the company.
156	(viii)	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as	The environmental statement for each financial year ending 31st March in Form-V is submitted to the Uttar Pradesh Pollution Control Board. A copy of the same is also uploaded on the website of the company along with the status of compliance of

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Compliance status to conditions of Environment Clearances at GAIL (India) Limited, Pata, U.P.

Sr. No.	Cond. No.	Conditions	Compliance Status
		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.	environmental clearance conditions and also sent to the Regional Office of MoEF&CC by e-mail.
157	(ix)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	The matter was suitably advertised in the local newspapers that are widely circulated in the region as per requirement and forwarded to the concerned Regional Office of the Ministry. Copy of the same is enclosed as Annexure-7.
158	(x)	The project authorities shall inform the Regional Office as well 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.	Noted for compliance.
159	(xi)	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	The condition is noted.

Annexure-1

Stack Monitoring and Ambient Air Quality Monitoring Report for the period October 2023 to March 2024

TABLE-3a: Ambient Air Quality Monitoring Results –AAQ- : Inside the Complex- PC-1 AAQMS-03												
Date of Sampling	PM_{10} (µg/m³)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	O3 (µg/m3)	Lead (µg/m3)	Benzene (µg/m3)	Benzo (a) Pyrene (ng/m3)	Arsenic (As), (ng/m3)	Nickel (Ni), (ng/m3)
03.10.2023	72.0	38.4	12.1	17.8	0.42	10.7	2.4	<0.1	2.3	<0.5	<1.0	<5.0
05.10.2023	69.7	38.0	10.8	14.8	0.45	13.9	2.7	<0.1	2.3	<0.5	<1.0	<5.0
09.10.2023	64.6	34.0	12.7	16.9	0.41	14.0	2.8	<0.1	2.3	<0.5	<1.0	<5.0
12.10.2023	70.7	31.3	11.0	20.5	0.42	12.8	2.4	<0.1	2.3	<0.5	<1.0	<5.0
16.10.2023	66.9	36.4	9.2	18.1	0.57	12.3	2.5	<0.1	2.5	<0.5	<1.0	<5.0
19.10.2023	67.2	37.0	18.1	18.6	0.50	12.3	2.2	<0.1	2.5	<0.5	<1.0	<5.0
23.10.2023	72.2	35.7	14.6	15.9	0.52	13.8	2.4	<0.1	2.5	<0.5	<1.0	<5.0
26.10.2023	72.1	32.1	16.8	18.8	0.49	12.8	2.6	<0.1	2.9	<0.5	<1.0	<5.0
30.10.2023	72.4	31.9	11.8	19.4	0.40	11.4	2.8	<0.1	2.3	<0.5	<1.0	<5.0
Min	***64.6***	***31.3***	***9.2***	***14.8***	***0.40***	***10.7***	***2.2***	***<0.1***	***2.3***	***<0.5***	***<1.0***	***<5.0***
Max	***72.4***	***38.4***	***18.1***	***20.5***	***0.57***	***14.0***	***2.8***	***<0.1***	***2.9***	***<0.5***	***<1.0***	***<5.0***
Mean	***69.7***	***35.0***	***13.0***	***17.9***	***0.47***	***12.7***	***2.5***	***<0.1***	***2.4***	***<0.5***	***<1.0***	***<5.0***
98%ile	***72.3***	***38.4***	***17.9***	***20.4***	***0.56***	***14.0***	***2.8***	***<0.1***	***2.8***	***<0.5***	***<1.0***	***<5.0***
NAAQ Standards	**100**	**60**	**80**	**80**	**2**	**400**	**100**	**1**	**5**	**1**	**6**	**20**

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10/11/23

Neelima Dalvi
Technical Manager

Issued By

10/11/23

Shradha Kere
Quality Manager

Source Emission Monitoring: Table 6.1 a

S. No	Name of the Stack	Date Of Sampling	Velocity m/sec	Flue Gas Discharge Quantity Nm^3/hr	Stack gas temperature °C	Particulate Matter (mg/Nm^3)	Sulphur Dioxide (mg/Nm^3)	Oxides of Nitrogen (mg/Nm^3)	Carbon Monoxide (mg/Nm^3)	Oxygen (%)
1	LLDPE-1 -Dowtherm A	11.10.2023	16.23	34702.97	248	4.8	20.5	54.7	17.2	5.9
2	LLDPE-1 -Dowtherm B	11.10.2023	15.94	34473.36	242	4.9	16.7	35.2	20.3	6.8
3	GCU-1- FF-101	19.10.2023	14.54	69585.10	123	4.3	20.5	27.4	24.1	6.2
4	GCU-1- FF-102	13.10.2023	14.55	68051.84	132	3.9	26.9	31.3	19.6	7.4
5	GCU-1- FF-103	13.10.2023	14.07	66466.35	128	4.4	16.0	33.2	21.0	7.2
6	GCU-1- FF-104	13.10.2023	14.65	67837.72	134	5.0	20.5	27.4	23.1	6.9
7	GCU-1- FF-105	13.10.2023	14.91	71005.89	125	4.5	18.0	31.3	21.8	6.7
8	GCU-1- FF-106	19.10.2023	14.44	69254.52	122	3.3	16.7	33.2	20.5	7.3
9	GCU-2- FF-110	20.10.2023	14.76	162400.11	132	2.6	13.5	43.0	21.4	6.5
10	GCU-2- FF-120	04.10.2023	14.95	163691.09	134	2.9	16.7	33.2	22.3	7.4
11	GCU-2- FF-130	04.10.2023	14.82	161474.02	136	2.4	24.4	35.2	19.5	6.9
12	Power Plant-1- UB-1	Shutdown	-	-	-	-	-	-	-	-
13	Power Plant-1- UB-2	Shutdown	-	-	-	-	-	-	-	-
14	Power Plant-1- UB-3	10.10.2023	14.59	275818.87	128	1.2	21.8	56.7	23.5	6.4
15	Power Plant-2- UB-1	09.10.2023	14.86	280218.02	129	1.3	25.0	50.8	22.8	6.8
16	Power Plant-2- UB-2	09.10.2023	14.52	272347.63	131	1.5	21.8	48.9	16.2	7.4
17	HRSG- 1	05.10.2023	15.91	489358.65	165	2.5	26.9	46.9	16.9	7.6
18	HRSG- 2	05.10.2023	15.76	491459.55	159	3.7	23.1	39.1	18.4	7.4
Standards						10/5	50	350/250	150/100	--

Verified By
Neelima Dalvi
Technical Manager

Issued By
Shradha Kere
Quality Manager

TABLE-3a: Ambient Air Quality Monitoring Results –AAQ- : Inside the Complex- PC-1 AAQMS-02

Date of Sampling	PM_{10} (µg/m³)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	O3 (µg/m3)	Lead (µg/m3)	Benzene (µg/m3)	Benzo (a) Pyrene (ng/m3)	Arsenic (As), (ng/m3)	Nickel (Ni), (ng/m3)
02.11.2023	70.6	37.7	11.6	17.0	0.4	10.4	2.4	<0.1	2.8	<0.5	<1.0	<5.0
06.11.2023	66.9	38.0	11.0	14.6	0.3	13.3	2.7	<0.1	2.6	<0.5	<1.0	<5.0
09.11.2023	65.2	32.9	12.2	16.9	0.4	13.5	2.8	<0.1	2.4	<0.5	<1.0	<5.0
13.11.2023	70.7	31.7	10.8	19.9	0.4	12.4	2.4	<0.1	2.8	<0.5	<1.0	<5.0
16.11.2023	64.8	34.9	9.1	18.1	0.5	12.2	2.5	<0.1	2.6	<0.5	<1.0	<5.0
20.11.2023	64.5	35.5	18.1	18.4	0.5	11.8	2.2	<0.1	2.7	<0.5	<1.0	<5.0
23.11.2023	70.0	36.1	14.0	15.2	0.5	13.4	2.3	<0.1	2.5	<0.5	<1.0	<5.0
28.11.2023	71.4	31.1	16.3	19.0	0.4	12.6	2.6	<0.1	2.9	<0.5	<1.0	<5.0
30.11.2023	72.4	31.0	11.9	19.0	0.4	11.5	2.8	<0.1	2.3	<0.5	<1.0	<5.0
Min	***64.6***	***31.3***	***9.2***	***14.8***	***0.3***	***10.7***	***2.2***	***<0.1***	***2.3***	***<0.5***	***<1.0***	***<5.0***
Max	***72.4***	***38.4***	***18.1***	***20.5***	***0.5***	***14.0***	***2.8***	***<0.1***	***2.9***	***<0.5***	***<1.0***	***<5.0***
Mean	***69.7***	***35.0***	***13.0***	***17.9***	***0.4***	***12.7***	***2.5***	***<0.1***	***2.4***	***<0.5***	***<1.0***	***<5.0***
98%ile	***72.3***	***38.4***	***17.9***	***20.4***	***0.5***	***14.0***	***2.8***	***<0.1***	***2.8***	***<0.5***	***<1.0***	***<5.0***
NAAQ Standards	**100**	**60**	**80**	**80**	**2**	**400**	**100**	**1**	**5**	**1**	**6**	**20**

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8/12/23

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Technical Manager

Issued By

8/12/23

Shradha Kere
Quality Manager

Source Emission Monitoring: Table 6.1 a

S. No	Name of the Stack	Date Of Sampling	Velocity m/sec	Flue Gas Discharge Quantity Nm^3/hr	Stack gas temperature ^0C	Particulate Matter (mg/Nm^3)	Sulphur Dioxide (mg/Nm^3)	Oxides of Nitrogen (mg/Nm^3)	Carbon Monoxide (mg/Nm^3)	Oxygen (%)
1	LLDPE-1 -Downtherm A	25.11.2023	16.88	35867.72	251	7.25	21.8	43.0	18.4	6.1
2	LLDPE-1 -Downtherm B	25.11.2023	16.24	34906.74	245	5.80	18.6	39.1	19.6	5.9
3	GCU-1- FF-101	24.11.2023	14.50	68354.49	129	3.55	21.8	35.2	23.5	7.2
4	GCU-1- FF-102	24.11.2023	14.73	68722.80	133	3.72	18.6	33.2	20.4	6.4
5	GCU-1- FF-103	24.11.2023	14.92	69298.94	135	3.98	21.6	33.2	18.4	6.2
6	GCU-1- FF-104	24.11.2023	14.48	68050.24	128	4.86	23.1	35.2	22.4	5.8
7	GCU-1- FF-105	24.11.2023	14.49	68808.14	126	6.48	24.4	29.3	21.3	6.3
8	GCU-1- FF-106	Shutdown	-	-	-	-	-	-	-	-
9	GCU-2- FF-110	23.11.2023	14.89	163757.24	132	2.11	18.6	46.9	20.7	5.8
10	GCU-2- FF-120	23.11.2023	14.97	165456.39	130	2.64	15.4	35.2	21.6	6.4
11	GCU-2- FF-130	30.11.2023	14.82	162170.45	134	2.68	21.8	31.3	20.8	7.1
12	Power Plant-1- UB-1	Shutdown	-	-	-	-	-	-	-	-
13	Power Plant-1- UB-2	30.11.2023	14.69	277033.07	129	1.85	21.8	41.0	20.3	
14	Power Plant-1- UB-3	09.11.2023	14.63	275133.61	130	1.85	21.8	48.9	22.4	7.2
15	Power Plant-2- UB-1	06.11.2023	14.33	270788.32	128	1.72	23.1	41.0	20.3	5.6
16	Power Plant-2- UB-2	06.11.2023	14.68	278850.97	126	1.72	21.8	43.0	15.8	7.3
17	HRSG- 1	08.11.2023	15.49	488957.93	154	1.67	26.3	39.1	17.1	7.4
18	HRSG- 2	08.11.2023	15.61	496074.30	151	3.57	30.8	41.0	17.6	6.5
Standards						10/5	50	350/250	150/100	--

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8/12/23
Neelima Dalvi
Technical Manager

NETEL (INDIA) LIMITED

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8/12/23
Shradha Kore
Quality Manager

TABLE-3a: Ambient Air Quality Monitoring Results –AAQ- : Inside the Complex- PC-2 AAQMS-02

Date of Sampling	PM_{10} (µg/m³)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	O3 (µg/m3)	Lead (µg/m3)	Benzene (µg/m3)	Benzo (a) Pyrene (ng/m3)	Arsenic (As), (ng/m3)	Nickel (Ni), (ng/m3)
04.12.2023	69.8	36.9	12.1	17.2	0.41	10.5	2.4	<0.1	2.2	<0.5	<1.0	<5.0
07.12.2023	69.7	37.2	10.6	14.6	0.45	13.6	2.6	<0.1	2.2	<0.5	<1.0	<5.0
11.12.2023	62.6	34.3	12.3	16.7	0.41	13.8	2.7	<0.1	2.3	<0.5	<1.0	<5.0
14.12.2023	67.8	31.7	10.8	20.1	0.42	12.4	2.4	<0.1	2.3	<0.5	<1.0	<5.0
18.12.2023	66.9	35.3	9.2	17.6	0.55	12.3	2.5	<0.1	2.5	<0.5	<1.0	<5.0
20.12.2023	66.5	36.3	18.0	18.4	0.49	12.2	2.1	<0.1	2.5	<0.5	<1.0	<5.0
22.12.2023	72.9	34.3	14.2	15.2	0.51	13.4	2.3	<0.1	2.5	<0.5	<1.0	<5.0
26.12.2023	70.6	31.8	16.3	18.7	0.47	12.4	2.5	<0.1	2.9	<0.5	<1.0	<5.0
28.12.2023	69.4	30.7	11.4	18.8	0.40	11.3	2.7	<0.1	2.2	<0.5	<1.0	<5.0
Min	***62.6***	***30.7***	***9.2***	***14.6***	***0.40***	***10.5***	***2.1***	***<0.1***	***2.2***	***<0.5***	***<1.0***	***<5.0***
Max	***72.9***	***37.2***	***18.0***	***20.1***	***0.55***	***13.8***	***2.7***	***<0.1***	***2.9***	***<0.5***	***<1.0***	***<5.0***
Mean	***68.5***	***34.3***	***12.8***	***17.5***	***0.46***	***12.4***	***2.5***	***<0.1***	***2.4***	***<0.5***	***<1.0***	***<5.0***
98%ile	***72.5***	***37.2***	***17.7***	***19.9***	***0.54***	***13.7***	***2.7***	***<0.1***	***2.8***	***<0.5***	***<1.0***	***<5.0***
NAAQ Standards	**100**	**60**	**80**	**80**	**2**	**400**	**100**	**1**	**5**	**1**	**6**	**20**

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10/01/24

Neelima Dalvi
Technical Manager

Issued By

10/01/24

Shradha Kere
Quality Manager

Source Emission Monitoring: Table 6.1 a

S. No	Name of the Stack	Date Of Sampling	Velocity m/sec	Flue Gas Discharge Quantity Nm^3/hr	Stack gas temperature ^0C	Particulate Matter (mg/Nm^3)	Sulphur Dioxide (mg/Nm^3)	Oxides of Nitrogen (mg/Nm^3)	Carbon Monoxide (mg/Nm^3)	Oxygen (%)
1	LLDPE-1 -Dowtherm A	20.12.2023	17.34	36504.51	256	5.49	18.6	54.7	17.5	7.2
2	LLDPE-1 -Dowtherm B	20.12.2023	16.84	35852.23	250	5.18	20.5	50.8	19.1	6.9
3	GCU-1- FF-101	15.12.2023	13.60	64103.80	129	3.46	16.7	33.2	22.5	7.1
4	GCU-1- FF-102	15.12.2023	13.60	63628.96	132	3.55	21.8	29.3	21.3	6.5
5	GCU-1- FF-103	15.12.2023	14.18	66671.79	130	3.59	21.6	31.3	18.2	5.9
6	GCU-1- FF-104	15.12.2023	15.02	69529.36	134	5.25	26.9	29.3	20.3	6.2
7	GCU-1- FF-105	15.12.2023	13.85	65444.98	128	6.13	26.3	31.3	22.4	7.2
8	GCU-1- FF-106	15.12.2023	14.59	68429.74	131	3.98	16.7	33.2	21.6	7.6
9	GCU-2- FF-110	13.12.2023	14.99	165251.49	131	2.16	20.5	43.0	22.8	6.3
10	GCU-2- FF-120	13.12.2023	15.24	166822.83	134	3.67	18.0	33.2	21.4	6.5
11	GCU-2- FF-130	13.12.2023	14.48	160477.60	129	3.11	19.9	29.3	20.2	6.9
12	Power Plant-1- UB-1	Shutdown	-	-	-	-	-	-	-	-
13	Power Plant-1- UB-2	09.12.2023	14.00	263956.84	129	3.32	21.8	43.0	21.3	7.5
14	Power Plant-1- UB-3	Shutdown	-	-	-	-	-	-	-	-
15	Power Plant-2- UB-1	05.12.2023	14.38	270448.62	130	3.28	21.8	44.9	20.8	6.5
16	Power Plant-2- UB-2	05.12.2023	14.61	276854.05	127	3.36	23.1	46.9	16.9	7.2
17	HRSG- 1	05.12.2023	14.85	469705.08	153	4.36	21.8	78.2	17.8	7.8
18	HRSG- 2	05.12.2023	15.63	499062.49	149	3.44	16.7	50.8	16.3	6.2
Standards						10/5	50	350/250	150/100	--

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10/01/24
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Technical Manager

NETEL INDIA LIMITED

Issued By
10/01/24
Shradha Kere
Quality Manager

TABLE-3a: Ambient Air Quality Monitoring Results –AAQ-1 : Inside the Complex- PC-1 AAQMS-01

Date of Sampling	PM_{10} (µg/m³)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	O3 (µg/m3)	Lead (µg/m3)	Benzene (µg/m3)	Benzo (a) Pyrene (ng/m3)	Arsenic (As), (ng/m3)	Nickel (Ni), (ng/m3)
01.01.2024	67.2	38.8	12.2	17.6	0.43	10.6	2.5	<0.1	2.2	<0.5	<1.0	<5.0
04.01.2024	69.7	38.8	10.8	14.6	0.46	13.7	2.7	<0.1	2.3	<0.5	<1.0	<5.0
08.01.2024	65.3	34.7	12.6	16.9	0.41	14.3	2.7	<0.1	2.3	<0.5	<1.0	<5.0
11.01.2024	68.5	32.7	10.8	18.5	0.44	12.7	2.4	<0.1	2.3	<0.5	<1.0	<5.0
15.01.2024	69.7	36.4	10.5	18.1	0.55	12.9	2.5	<0.1	2.5	<0.5	<1.0	<5.0
18.01.2024	68.6	36.3	18.7	18.6	0.49	12.8	2.2	<0.1	2.6	<0.5	<1.0	<5.0
22.01.2024	69.4	35.3	14.5	15.2	0.53	14.1	2.4	<0.1	2.6	<0.5	<1.0	<5.0
24.01.2024	63.5	32.1	16.4	19.6	0.50	12.7	2.6	<0.1	3.0	<0.5	<1.0	<5.0
29.01.2024	66.5	30.7	11.7	19.0	0.40	11.8	2.7	<0.1	2.2	<0.5	<1.0	<5.0
Min	***63.5***	***30.7***	***10.5***	***14.6***	***0.40***	***10.6***	***2.2***	***<0.1***	***2.2***	***<0.5***	***<1.0***	***<5.0***
Max	***69.7***	***38.8***	***18.7***	***19.6***	***0.56***	***14.3***	***2.7***	***<0.1***	***3.0***	***<0.5***	***<1.0***	***<5.0***
Mean	***67.6***	***35.1***	***13.1***	***17.6***	***0.47***	***12.9***	***2.5***	***<0.1***	***2.5***	***<0.5***	***<1.0***	***<5.0***
98%ile	***69.7***	***38.8***	***18.4***	***19.5***	***0.55***	***14.3***	***2.7***	***<0.1***	***2.9***	***<0.5***	***<1.0***	***<5.0***
NAAQ Standards	**100**	**60**	**80**	**80**	**2**	**400**	**100**	**1**	**5**	**1**	**6**	**20**

Verified By

10/02/24

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Issued By

10/2/24

Shradha Kere
Quality Manager

Source Emission Monitoring: Table 6.1 a

S. No	Name of the Stack	Date Of Sampling	Velocity m/sec	Flue Gas Discharge Quantity Nm^3/hr	Stack gas temperature ^0C	Particulate Matter (mg/Nm^3)	Sulphur Dioxide (mg/Nm^3)	Oxides of Nitrogen (mg/Nm^3)	Carbon Monoxide (mg/Nm^3)	Oxygen (%)
1	LLDPE-1 -Dowtherm A	18.01.2024	19.06	40356.27	253	5.49	18.0	46.9	16.2	6.2
2	LLDPE-1 -Dowtherm B	18.01.2024	16.87	35582.82	255	5.18	20.5	41.0	18.1	7.1
3	GCU-1- FF-101	25.01.2024	15.41	72280.73	131	3.46	18.6	29.3	20.4	6.8
4	GCU-1- FF-102	25.01.2024	15.33	71523.14	133	3.55	21.8	23.5	22.3	6.2
5	GCU-1- FF-103	25.01.2024	15.19	71437.70	130	3.59	21.6	27.4	17.4	6.5
6	GCU-1- FF-104	25.01.2024	14.64	68101.96	132	5.25	22.4	33.2	21.3	7.5
7	GCU-1- FF-105	25.01.2024	14.88	70862.30	125	6.13	15.4	35.2	22.5	7.1
8	GCU-1- FF-106	25.01.2024	15.11	71243.97	129	3.98	16.7	46.9	21.4	7.8
9	GCU-2- FF-110	17.01.2024	16.16	179082.52	129	2.16	21.8	37.1	23.0	6.2
10	GCU-2- FF-120	17.01.2024	16.30	178816.54	133	1.67	18.6	33.2	24.1	6.9
11	GCU-2- FF-130	17.01.2024	15.51	171078.56	131	2.11	20.5	23.5	22.3	6.4
12	Power Plant-1- UB-1	Shutdown	-	-	-	-	-	-	-	-
13	Power Plant-1- UB-2	24.01.2024	14.69	274842.17	132	1.32	16.7	41.0	22.8	7.2
14	Power Plant-1- UB-3	05.01.2024	14.88	278412.33	132	1.85	18.6	44.9	20.4	7.6
15	Power Plant-2- UB-1	03.01.2024	14.43	268784.93	134	1.28	16.0	46.9	21.3	7.1
16	Power Plant-2- UB-2	03.01.2024	14.97	273422.70	142	1.36	19.2	50.8	17.4	6.9
17	HRSG- 1	04.01.2024	15.20	498384.49	138	1.36	15.4	74.3	18.2	6.4
18	HRSG- 2	04.01.2024	15.29	506328.59	134	3.44	15.4	52.8	15.6	6.1
Standards						10/5	50	350/250	150/100	--

Verified By
Neelima Dalvi
Technical Manager

NETEL (INDIA) LIMITED

Issued By
Shradha Kere
Quality Manager

TABLE-3a: Ambient Air Quality Monitoring Results –AAQ-1 : Inside the Complex- PC-2 AAQMS-01

Date of Sampling	PM_{10} (µg/m³)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	O3 (µg/m3)	Lead (µg/m3)	Benzene (µg/m3)	Benzo (a) Pyrene (ng/m3)	Arsenic (As), (ng/m3)	Nickel (Ni), (ng/m3)
01.02.2024	70.0	40.5	12.6	18.13	0.44	11.2	2.5	<0.1	2.3	<0.5	<1.0	<5.0
05.02.2024	70.4	39.2	11.3	15.09	0.48	14.2	2.8	<0.1	2.4	<0.5	<1.0	<5.0
08.02.2024	65.3	35.4	12.7	17.07	0.42	14.6	2.7	<0.1	2.4	<0.5	<1.0	<5.0
12.02.2024	68.5	33.7	10.9	19.47	0.45	13.3	2.5	<0.1	2.4	<0.5	<1.0	<5.0
15.02.2024	72.6	38.3	10.8	18.91	0.55	13.6	2.6	<0.1	2.5	<0.5	<1.0	<5.0
19.02.2024	69.4	36.3	19.7	19.39	0.51	13.2	2.2	<0.1	2.7	<0.5	<1.0	<5.0
23.02.2024	72.3	35.7	14.5	16.03	0.54	14.4	2.4	<0.1	2.7	<0.5	<1.0	<5.0
26.02.2024	64.8	32.1	16.6	19.85	0.53	13.1	2.7	<0.1	3.1	<0.5	<1.0	<5.0
28.02.2024	67.9	31.9	12.0	19.57	0.40	12.0	2.9	<0.1	2.3	<0.5	<1.0	<5.0
Min	***64.8***	***31.9***	***10.8***	***15.1***	***0.40***	***11.2***	***2.2***	***<0.1***	***2.3***	***<0.5***	***<1.0***	***<5.0***
Max	***72.6***	***40.5***	***19.7***	***19.8***	***0.55***	***14.6***	***2.9***	***<0.1***	***3.1***	***<0.5***	***<1.0***	***<5.0***
Mean	***69.0***	***35.9***	***13.5***	***18.2***	***0.48***	***13.3***	***2.6***	***<0.1***	***2.5***	***<0.5***	***<1.0***	***<5.0***
98%ile	***72.6***	***40.3***	***19.2***	***19.8***	***0.55***	***14.6***	***2.9***	***<0.1***	***3.0***	***<0.5***	***<1.0***	***<5.0***
NAAQ Standards	**100**	**60**	**80**	**80**	**2**	**400**	**100**	**1**	**5**	**1**	**6**	**20**

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11/03/24

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11/03/24

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Source Emission Monitoring: Table 6.1 a

S. No	Name of the Stack	Date Of Sampling	Velocity m/sec	Flue Gas Discharge Quantity Nm^3/hr	Stack gas temperature. ^0C	Particulate Matter (mg/Nm^3)	Sulphur Dioxide (mg/Nm^3)	Oxides of Nitrogen (mg/Nm^3)	Carbon Monoxide (mg/Nm^3)	Oxygen (%)
1	LLDPE-1 -Dowtherm A	16.02.2024	16.75	35796.04	248	5.18	16.0	54.7	15.4	7.2
2	LLDPE-1 -Dowtherm B	16.02.2024	16.15	34319.10	251	5.45	15.4	48.9	17.6	6.8
3	GCU-1- FF-101	19.02.2024	14.78	68831.53	134	3.68	16.7	35.2	20.4	6.1
4	GCU-1- FF-102	19.02.2024	14.63	68783.40	130	3.85	15.4	33.2	18.6	6.5
5	GCU-1- FF-103	19.02.2024	14.17	66131.34	133	3.85	21.6	23.5	15.4	7.6
6	GCU-1- FF-104	19.02.2024	14.03	65414.03	131	4.32	13.5	31.3	13.6	8.1
7	GCU-1- FF-105	Shutdown	-	-	-	-	-	-	-	-
8	GCU-1- FF-106	19.02.2024	14.07	65808.58	132	4.29	15.4	41.0	19.3	6.8
9	GCU-2- FF-110	06.02.2024	14.81	161321.26	136	2.38	14.7	35.2	20.4	6.4
10	GCU-2- FF-120	06.02.2024	15.71	173279.89	131	1.49	15.4	29.3	21.6	5.6
11	GCU-2- FF-130	06.02.2024	14.48	160477.60	129	1.85	14.7	31.3	16.4	6.2
12	Power Plant-1- UB-1	Shutdown	-	-	-	-	-	-	-	-
13	Power Plant-1- UB-2	13.02.2024	14.80	278332.38	130	1.49	13.5	46.9	21.3	5.6
14	Power Plant-1- UB-3	Shutdown	-	-	-	-	-	-	-	-
15	Power Plant-2- UB-1	05.02.2024	14.73	277808.54	129	1.41	18.0	41.0	23.6	6.1
16	Power Plant-2- UB-2	05.02.2024	14.74	275811.63	132	1.67	15.4	46.9	24.1	6.2
17	HRSG- 1	07.02.2024	15.22	475812.23	158	4.04	16.7	66.4	19.4	7.1
18	HRSG- 2	07.02.2024	15.08	475854.76	154	3.26	15.4	46.9	16.4	7.6
Standards						10/5	50	350/250	150/100	--

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TABLE-2a: Ambient Air Quality Monitoring Results –AAQ-1 : Inside the Complex- PC-1 AAQMS-03

Date of Sampling	PM_{10} (µg/m³)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	NH3 (µg/m3)	O3 (µg/m3)	Lead (µg/m3)	Benzene (µg/m3)	Benzo (a) Pyrene (ng/m3)	Arsenic (As), (ng/m3)	Nickel (Ni), (ng/m3)
04.03.2024	71.5	41.3	12.8	18.51	0.44	11.5	2.5	<0.1	2.3	<0.5	<1.0	<5.0
06.03.2024	70.4	39.6	11.7	15.41	0.49	14.9	2.9	<0.1	2.5	<0.5	<1.0	<5.0
11.03.2024	68.0	36.9	12.7	17.43	0.42	15.3	2.7	<0.1	2.4	<0.5	<1.0	<5.0
14.03.2024	68.5	33.7	11.4	20.29	0.46	14.0	2.6	<0.1	2.4	<0.5	<1.0	<5.0
18.03.2024	76.4	38.7	11.4	19.91	0.57	14.2	2.6	<0.1	2.6	<0.5	<1.0	<5.0
20.03.2024	71.6	37.8	20.7	20.00	0.52	13.9	2.3	<0.1	2.7	<0.5	<1.0	<5.0
22.03.2024	73.1	37.2	15.1	16.03	0.54	14.7	2.5	<0.1	2.7	<0.5	<1.0	<5.0
26.03.2024	65.5	33.5	17.0	20.47	0.53	13.8	2.8	<0.1	3.2	<0.5	<1.0	<5.0
28.03.2024	67.9	31.9	12.3	20.39	0.41	12.5	2.9	<0.1	2.4	<0.5	<1.0	<5.0
Min	***65.5***	***31.9***	***11.4***	***15.4***	***0.41***	***11.5***	***2.3***	***<0.1***	***2.3***	***<0.5***	***<1.0***	***<5.0***
Max	***76.4***	***41.3***	***20.7***	***20.5***	***0.57***	***15.3***	***2.9***	***<0.1***	***3.2***	***<0.5***	***<1.0***	***<5.0***
Mean	***70.3***	***36.7***	***13.9***	***18.7***	***0.49***	***13.9***	***2.7***	***<0.1***	***2.6***	***<0.5***	***<1.0***	***<5.0***
98%ile	***75.9***	***41.0***	***20.1***	***20.5***	***0.57***	***15.2***	***2.9***	***<0.1***	***3.1***	***<0.5***	***<1.0***	***<5.0***
NAAQ Standards	**100**	**60**	**80**	**80**	**2**	**400**	**100**	**1**	**5**	**1**	**6**	**20**

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10/04/24

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10/04/24

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Source Emission Monitoring: Table 5.2

S. No	Name of the Stack	Date Of Sampling	Velocity m/sec	Flue Gas Discharge Quantity Nm^3/hr	Stack gas temperature. ^0C	Particulate Matter (mg/Nm^3)	Sulphur Dioxide (mg/Nm^3)	Oxides of Nitrogen (mg/Nm^3)	Carbon Monoxide (mg/Nm^3)	Oxygen (%)
1	LLDPE-1 -Dowtherm A	22.03.2024	16.04	34026.06	252	5.31	18.0	48.9	14.6	7.8
2	LLDPE-1 -Dowtherm B	22.03.2024	16.78	35871.06	248	5.32	16.7	54.7	24.1	6.7
3	GCU-1- FF-101	21.03.2024	14.62	68893.30	129	4.07	15.4	39.1	19.6	5.8
4	GCU-1- FF-102	21.03.2024	14.70	68444.57	134	4.20	18.6	37.1	20.2	6.2
5	GCU-1- FF-103	21.03.2024	15.02	70429.17	131	4.12	21.6	29.3	16.4	6.4
6	GCU-1- FF-104	21.03.2024	14.75	68295.85	134	7.01	18.6	33.2	14.3	6.8
7	GCU-1- FF-105	21.03.2024	14.51	68587.22	128	6.52	21.8	27.4	16.8	5.6
8	GCU-1- FF-106	Shutdown	-	-	-	-	-	-	-	-
9	GCU-2- FF-110	20.03.2024	14.82	162170.45	134	4.13	15.4	39.1	20.3	6.3
10	GCU-2- FF-120	20.03.2024	14.93	165063.85	130	4.00	14.7	37.1	21.5	6.1
11	GCU-2- FF-130	20.03.2024	15.55	170602.76	133	4.31	15.4	37.1	20.4	5.8
12	Power Plant-1- UB-1	Shutdown	-	-	-	-	-	-	-	-
13	Power Plant-1- UB-2	19.03.2024	14.48	273758.67	128	4.00	13.5	54.7	20.8	6.1
14	Power Plant-1- UB-3	Shutdown	-	-	-	-	-	-	-	-
15	Power Plant-2- UB-1	05.03.2024	14.44	277018.08	122	4.18	18.0	44.9	20.3	5.8
16	Power Plant-2- UB-2	05.03.2024	14.52	277204.91	124	4.27	15.4	39.1	24.1	5.1
17	HRSG- 1	18.03.2024	15.09	478319.54	152	4.13	14.7	60.6	21.2	5.3
18	HRSG- 2	18.03.2024	14.95	469515.07	156	4.01	15.4	54.7	20.4	6.8
Standards						10/5	50	350/250	150/100	--

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Annexure-2

Treated Effluent Quality Monitoring Report for the period October 2023 to March 2024

TABLE – 11(a): WASTE WATER ANALYSIS RESULTS- FIRST FORTNIGHT(12.10.2023)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	16	4
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.9	7.4
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	43	32
5	Biochemical Oxygen Demand at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	56	20
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	246	62
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	16	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.61	0.38
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	0.6	0.4
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.2	0.1
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	16.1	8.2
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	3.6	<1.0
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1828	1268
22	Chloride as Cl^-	mg/l	-	APHA 4500-(Cl)-B	146.3	88.6
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	7.2	3.1
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	126.4	68.4
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	65.8	32.2
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100 ml	-	IS 1622:181	>1600	138
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.2	5.8
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	BDL (<0.05)	BDL(<0.05)
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	4.8	3.2
31	Nitrates as NO_2	mg/l	-	APHA 4500NO2-B	3.6	<0.5
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	4.2	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	22.6	23.2
35	Sodium Absorption Ratio	--	-	By Calculation	ND	8.6

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10/11/23

TABLE – 11(b): WASTE WATER ANALYSIS RESULTS- SECOND FORTNIGHT (23.10.2023)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	18	10
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.4	7.5
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	164	82
5	Biochemical Oxygen Deman at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	72	28
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	287	86
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	28	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.65	0.40
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	2.1	0.6
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.6	0.3
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.5)	BDL(<0.5)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	7.2	4.8
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	4.3	2.6
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1846	1386
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	186.2	142.8
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	72	36
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	121.5	28.4
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	36.8	18.2
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100ml	-	IS 1622:181	>1600	126
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	2.9	3.8
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	6.8	1.2
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	2.9	1.6
31	Nitrates	mg/l	-	APHA 4500NO2-B	3.2	1.2
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	4	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	23.6	24.2
35	Sodium Absorption Ratio	--	-	By Calculation	ND	7.9

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TABLE – 11(a): WASTE WATER ANALYSIS RESULTS- FIRST FORTNIGHT(10.11.2023)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	14	8
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.1	7.8
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	42	28
5	Biochemical Oxygen Demand at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	62	26
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	242	68
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	14	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.52	0.24
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	0.8	0.5
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.3	0.1
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	18.2	6.4
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	4.2	<1.0
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1684	1142
22	Chloride as Cl^-	mg/l	-	APHA 4500-(Cl)-B	134.2	82.6
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	8.5	4.2
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	142.5	64.6
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	64.6	30.2
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100 ml	-	IS 1622:181	>1600	128
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.8	6.1
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	BDL (<0.05)	BDL(<0.05)
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	5.2	4.1
31	Nitrates as NO_2	mg/l	-	APHA 4500NO2-B	4.1	<0.5
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	4.2	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp.	APHA 2550-B	21.4	22.6
35	Sodium Absorption Ratio	--	-	By Calculation	ND	7.6

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8/12/23

TABLE – 11(b): WASTE WATER ANALYSIS RESULTS- SECOND FORTNIGHT (22.11.2023)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	12	8
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.1	7.4
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	148	62
5	Biochemical Oxygen Deman at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	84	26
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	264	76
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	24	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.6	0.2
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	1.8	0.5
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.5	0.2
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.5)	BDL(<0.5)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	6.8	3.6
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	4.1	2.8
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1768	1284
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	168.4	132.6
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	84	32
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	120.8	26.8
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	32.6	16.7
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100ml	-	IS 1622:181	>1600	121
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.6	4.1
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	5.8	1.1
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	3.1	1.8
31	Nitrates	mg/l	-	APHA 4500NO2-B	3.3	1.4
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	5	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	22.1	22.8
35	Sodium Absorption Ratio	--	-	By Calculation	ND	6.8

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TABLE – 11(a): WASTE WATER ANALYSIS RESULTS- FIRST FORTNIGHT(14.12.2023)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	12	6
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.6	6.9
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	38	10
5	Biochemical Oxygen Demand at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	76	10
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	236	96
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	12	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.4	0.1
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	0.6	0.4
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.4	0.2
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	16.3	7.1
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	3.2	<1.0
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1436	1125
22	Chloride as Cl^-	mg/l	-	APHA 4500-(Cl)-B	141	72
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	6.4	3.8
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	164.2	68.4
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	62.8	33.6
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100 ml	-	IS 1622:181	>1600	120
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.2	5.8
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	BDL (<0.2)	BDL(<0.2)
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	3.6	1.2
31	Nitrates as NO_2	mg/l	-	APHA 4500NO2-B	3.8	<0.5
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	2.6	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp.	APHA 2550-B	20.6	21.5
35	Sodium Absorption Ratio	--	-	By Calculation	ND	6.5

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TABLE – 11(b): WASTE WATER ANALYSIS RESULTS- SECOND FORTNIGHT (22.12.2023)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	10	7
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.6	7.1
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	76	18
5	Biochemical Oxygen Deman at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	36	20
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	224	82
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	16	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.5	0.2
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	1.1	0.6
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.5	0.3
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	14.2	6.2
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	3.8	2.8
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1658	1146
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	154	68
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	4.8	2.6
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	136	65.8
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	82.2	36.5
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100ml	-	IS 1622:181	>1600	126
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.1	4.6
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	<0.2	<0.2
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	2.6	1.1
31	Nitrates	mg/l	-	APHA 4500NO2-B	3.2	1
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	3.2	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	20.6	21.1
35	Sodium Absorption Ratio	--	-	By Calculation	ND	5.9

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TABLE – 11(a): WASTE WATER ANALYSIS RESULTS- SECOND FORTNIGHT (12.01.2024)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	12	6
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.9	7.5
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	82	24
5	Biochemical Oxygen Deman at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	48	20
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	287	76
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	20	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.2	0.1
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	1.2	0.8
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.7	0.6
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL(<0.02)	BDL(<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	13.6	5.2
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	4.2	2.1
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1365	12.84
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	164	87
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	3.6	1.8
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	148	58.6
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	58.6	24.3
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100ml	-	IS 1622:181	>1600	118
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	2.4	5.6
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	<0.2	<0.2
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	3.2	1.4
31	Nitrates	mg/l	-	APHA 4500NO2-B	2.8	1
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	2.8	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	18.6	20.4
35	Sodium Absorption Ratio	--	-	By Calculation	ND	5.9

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10/2/24

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TABLE – 11(b): WASTEWATER ANALYSIS RESULTS- FIRST FORTNIGHT (19.01.2024)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	16	8
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.1	7.5
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	46	12
5	Biochemical Oxygen Demand at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	82	18
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	242	84
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	16	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.8	0.2
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	0.4	0.3
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.2	0.1
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	18.2	6.4
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	4.2	<1.0
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1487	1185
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	138	64
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	5.8	4.2
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	174.6	34.8
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	60.9	32.4
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100 ml	-	IS 1622:181	>1600	124
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.6	6.2
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	BDL (<0.2)	BDL(<0.2)
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	2.1	1
31	Nitrates as NO_2	mg/l	-	APHA 4500NO2-B	4.5	<0.5
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	3.2	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	18.4	19.3
35	Sodium Absorption Ratio	--	-	By Calculation	ND	5.8

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TABLE – 11(a): WASTE WATER ANALYSIS RESULTS- FIRST FORTNIGHT (10.02.2024)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	14	8
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.1	7.6
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	76	32
5	Biochemical Oxygen Deman at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	52	14
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	218	62
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	20	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.1	<0.1
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	1.8	0.5
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.8	0.2
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL(<0.02)	BDL(<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	12.1	4.8
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	3.8	2.2
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1421	1136
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	164	98
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	4.2	2.1
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	126	50.8
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	56.4	20.2
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100ml	-	IS 1622:181	>1600	120
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.2	6.2
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	<0.2	<0.2
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	2.1	0.8
31	Nitrates	mg/l	-	APHA 4500NO2-B	3.2	2.1
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	3.1	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	24.1	24.8
35	Sodium Absorption Ratio	--	-	By Calculation	ND	5.4

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TABLE – 11(b): WASTEWATER ANALYSIS RESULTS- SECOND FORTNIGHT (20.02.2024)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	14	6
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.3	7.2
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	66	14
5	Biochemical Oxygen Demand at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	52	16
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	212	72
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	12	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.6	0.2
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	0.8	0.5
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.8	0.2
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	16.4	8.2
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	3.8	<1.0
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1346	1147
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	142	62
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	4.2	2.8
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	164.2	32.4
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	62.3	28.2
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100 ml	-	IS 1622:181	>1600	120
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	3.2	5.8
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	BDL (<0.2)	BDL(<0.2)
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	2.8	1.4
31	Nitrates as NO_2	mg/l	-	APHA 4500NO2-B	4.2	<0.5
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	2.8	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	24.1	24.6
35	Sodium Absorption Ratio	--	-	By Calculation	ND	5.1

Verified By
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11/03/24

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11/03/24

TABLE – 6.5: WASTE WATER ANALYSIS RESULTS- FIRST FORTNIGHT (15.03.2024)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	12	5
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.89	8.15
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	81	36
5	Biochemical Oxygen Deman at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	48	12
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	284	46
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	18	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.008	<0.1
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	1.1	0.6
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.5	0.2
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL(<0.02)	BDL(<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	10.8	3.6
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	4.6	2.8
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1348	1125
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	142	90
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	3.8	1.8
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	134	52
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	56.1	18.4
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100ml	-	IS 1622:181	>1600	128
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	4.1	7.6
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	<0.2	<0.2
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	1.8	0.5
31	Nitrates	mg/l	-	APHA 4500NO2-B	2.9	1.6
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	1.9	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp.	APHA 2550-B	25.6	26.2
35	Sodium Absorption Ratio	--	-	By Calculation	ND	6.1

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TABLE – 6.6: WASTEWATER ANALYSIS RESULTS- SECOND FORTNIGHT (23.03.2024)

S.No	Parameters	Unit	Standards	Procedure	WWTP Inlet	WWTP Outlet
1	Colour	Hazen	-	IS 3025 (Part 4)	10	8
2	Odour	-	-	APHA 2150-A	Objectionable	Unobjectionable
3	pH at 25 °C	-	6.5-8.5	APHA-4500-H+-B	8.56	7.85
4	Total Suspended Solids	mg/l	100	IS 3025(Part 17)	64	10
5	Biochemical Oxygen Demand at 27°C for 3 days	mg/l	30	IS 3025(Part 44)	60	18
6	Chemical Oxygen Demand	mg/l	250	APHA 5220-B	284	86
7	Oil & Grease	mg/l	10	IS 3025 (Part 39)	13	BDL (<2)
8	Phenolic Compound as C_6H_5OH	mg/l	1	APHA 5530 (D)	BDL(<0.5)	BDL(<0.5)
9	Total Chromium as Cr	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
10	Cadmium as Cd	mg/l	2	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
11	Total Residual Chlorine	mg/l	--	IS 3025 (Part 26)	BDL(<0.1)	BDL(<0.1)
12	Copper	mg/l	3	APHA 3111-B	0.8	0.4
13	Iron(as Fe)	mg/l	2.0	APHA 3111-B	0.12	0.5
14	Zinc as Zn	mg/l	5	APHA 3111-B	0.6	0.2
15	Cyanide (as CN)	mg/l	0.2	APHA 4500-CN-	BDL(<0.05)	BDL(<0.05)
16	Lead as Pb	mg/l	0.1	APHA 3111-B	BDL(<0.05)	BDL(<0.05)
17	Nickel as Ni	mg/l	3	APHA 3111-B,23 AAS	BDL (<0.02)	BDL (<0.02)
18	Total Heavy Metals	mg/l	1	By Calculation	BDL(<0.5)	BDL(<0.5)
19	Total Nitrogen as N	mg/l	--	APHA 4500-N-C	18.4	10.1
20	Total phosphorous as P	mg/l	5.0	APHA 4500-P (C)	3.4	<1.0
21	Total dissolved solids	mg/l	2100	APHA 2540-C	1422	1048
22	Chloride as Cl	mg/l	-	APHA 4500-(Cl)-B	138	84
23	Sulphate as SO_4	mg/l	-	APHA 4500-SO4-B	4.9	3.2
24	Calcium Hardness as $CaCO_3$	mg/l	-	APHA 3500-Ca	160.8	28.6
25	Magnesium Hardness as $CaCO_3$	mg/l	-	APHA 3500 Mg-B	60.4	25.4
26	Hexa valent Chromium	mg/l	0.1	APHA 3500-C	BDL(<0.05)	BDL(<0.05)
27	Total Coliform	MPN/100 ml	-	IS 1622:181	>1600	164
28	Dissolved Oxygen	mg/l	-	APHA 4500-O-B	4.1	5.9
29	Sulphides as S	mg/l	2.0	APHA 4500(SO3)-B	BDL (<0.2)	BDL(<0.2)
30	Fluoride as F	mg/l	-	APHA 4500-F-D,SPANDS	2.7	1.1
31	Nitrates as NO_2	mg/l	-	APHA 4500NO2-B	3.8	<0.5
32	Manganese as Mn	mg/l	2.0	APHA 3111-B	BDL(<0.01)	BDL(<0.01)
33	Turbidity	NTU	1	APHA 2130-B	2.1	<1
34	Temperature	°C	Shall not exceed 5°c above the receiving water temp	APHA 2550-B	26.8	27.1
35	Sodium Absorption Ratio	--	-	By Calculation	ND	5.8

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Annexure-3

Summary Report of the LDAR Monitoring For Q3 and Q4 of FY 2023-24

LDAR VOC MONITORING REPORT

REPORT FOR THE PERIOD QTR-3, FY 2023-24

LEAK SUMMARY

Sr. No.	Unit	Equipment	Tag. No	Components	Line Size	Location	Leak Type	(ppm)	(Kg/Day)	Readings after attending leak		Total saving
										(ppm)	(Kg/Day)	Kg/Day
1	GPU-I	Flange	Battery Limit COLD VAPOUR From LPG D/S Flange	Flange	4"	D/S Flange	Flange	7000	0.580	4500	0.344	0.236
2		Flange	08-FV-3502 D/S I/V D/S Flange	Flange	3"	D/S Flange	Flange	6000	0.511	3900	0.292	0.219
3		Flange	08-PSV-1702 1st Bypass I/V D/S Flange	Flange	2"	D/S Flange	Flange	4000	0.367	1200	0.076	0.291
4		Flange	Filter Inlet MOV U/S Flange	Flange	24"	U/S Flange	Flange	7300	0.601	4000	0.301	0.300
5	LPG	Pump Flange	09-PA-CF-15 B Discharge Line Bypass I/V U/S Flange	Flange	1"	U/S Flange	Flange	5000	0.440	1350	0.087	0.353
6		Pump Flange	09-PA-CF-15 B Discharge Line Bypass I/V D/S Flange	Flange	1"	D/S Flange	Flange	4000	0.367	600	0.035	0.332
7	GPU - II	Flange	108-PA-101 A SUC Line Drain Flange	Flange	1/2"	Drain Flange	Flange	3400	0.321	15	0.001	0.320
8		Flange	108-HV-6301 Bonnet Flange	Flange	6"	Bonnet Flange	Flange	4000	0.367	1700	0.113	0.254
9	LLDPE-I	Flange	PSV-117 U/S I/V U/S Flange	Flange	3"	U/S Flange	Flange	3700	0.344	340	0.018	0.326
10		Flange	PSV-159 U/S Line Drain Flange	Flange	1/2"	U/S Flange	Flange	3300	0.313	150	0.007	0.306
11		Flange	12-FV-1064 B D/S I/V D/S Flange	Flange	6"	D/S Flange	Flange	4200	0.382	1900	0.129	0.253
12		Flange	12-PV-2104 U/S I/V U/S Flange	Flange	3"	U/S Flange	Flange	5000	0.440	450	0.025	0.415
13		Flange	12-PV-2104 3"-P-2000 ABA NRV D/S Flange	Flange	3"	D/S Flange	Flange	3200	0.305	1200	0.076	0.229
14	HDPE-I	Flange	15-TV-2301 U/S I/V Top/Bonnet Flange	Flange	3"	Top Flange	Flange	4500	0.404	1250	0.080	0.324
15		Flange	15-TV-2301 D/S I/V Top/Bonnet Flange	Flange	3"	Top Flange	Flange	4800	0.426	1900	0.129	0.297
16		Flange	15-TV-2501 U/S I/V Top/Bonnet Flange	Flange	3"	Top Flange	Flange	5000	0.440	140	0.007	0.433
17		Flange	15-TV-2501 D/S I/V Top/Bonnet Flange	Flange	3"	Top Flange	Flange	3700	0.344	80	0.003	0.341
18		Flange	15-FV-2105 D/S Line Drain Flange	Flange	1/2"	Drain Flange	Flange	6000	0.511	130	0.006	0.505
19		Flange	15-HV-2201 A U/S I/V D/S Flange	Flange	3"	D/S Flange	Flange	3100	0.298	12	0.000	0.298
20	HDPE-II	Flange	18-HV-1001 NRV D/S Flange	Flange	4"	D/S Flange	Flange	4000	0.367	400	0.022	0.345
21		Flange	18-HV-1001 U/S Line Drain Flange	Flange	1"	Drain Flange	Flange	6400	0.539	50	0.002	0.537
22		Flange	18-TV-2301 U/S I/V D/S Flange	Flange	12"	D/S Flange	Flange	3100	0.298	500	0.028	0.270
23		Flange	18-HV-2401 U/S I/V U/S Flange	Flange	4"	U/S Flange	Flange	3400	0.321	50	0.002	0.319
24		PSV	PSV-7209 A U/S Flange	Flange	4"	U/S Flange	Flange	4200	0.382	0	0.000	0.382
25		Pump Flange	10-PA-604 B SUC Flange	Flange	8"	Suction Flange	Flange	4400	0.397	17	0.001	0.396
26		Pump Flange	10-PA-604 B SUC I/V U/S Flange	Flange	8"	U/S Flange	Flange	3700	0.344	210	0.010	0.334
27		Pump Flange	10-PA-604 B I/V DIS Flange	Flange	6"	D/S Flange	Flange	3800	0.352	42	0.002	0.350

Sr. No.	Unit	Equipment	Tag. No	Components	Line Size	Location	Leak Type	(ppm)	(Kg/Day)	Readings after attending leak (ppm)	Readings after attending leak (Kg/Day)	Total saving Kg/Day
28	GCU-I COLD SECTION	Flange	10-UV-6003 Drain Flange	Flange	1"	Drain Flange	Flange	3600	0.336	180	0.009	0.327
29		Flange	PV-4711 Drain Flange	Flange	1"	Drain Flange	Flange	3700	0.344	930	0.057	0.287
30		Flange	10-FV-4903 U/S I/V U/S Flange	Flange	4"	U/S Flange	Flange	6300	0.532	18	0.001	0.531
31		Flange	10-XV-5382 Drain Flange	Flange	1"	Drain Flange	Flange	5400	0.469	210	0.010	0.459
32		Flange	10-PSV-401 U/S Flange	Flange	12"	U/S Flange	Flange	4600	0.411	2500	0.176	0.235
33		Flange	10-PSV-6402 U/S Flange Flange	Flange	1"	U/S Flange	Flange	4100	0.374	170	0.008	0.366
34		Flange	10-FV-4911 D/S I/V U/S Flange	Flange	8"	U/S Flange	Flange	4300	0.389	50	0.002	0.387
35		Flange	10-UV-4901 Drain Flange	Flange	1"	Drain Flange	Flange	3100	0.298	550	0.031	0.267
36		Flange	10-UV-4901 D/S Flange	Flange	3"	D/S Flange	Flange	4700	0.419	61	0.003	0.416
37		Flange	10-FV-4902 Drain I/V Top/Bonnet Flange	Flange	1"	Top Flange	Flange	6500	0.546	1500	0.098	0.448
38	GCU - I HOT SECTION	Flange	10-UV-1704 D/S I/V Bonnet Flange	Flange	10"	Bonnet Flange	Flange	3900	0.359	45	0.002	0.357
39		Flange	10-UV-2304 TOP/Bonnet Flange	Flange	3"	Top Flange	Flange	3800	0.352	110	0.005	0.347
40		Flange	10-FV-5111 Drain Flange	Flange	2"	Drain Flange	Flange	4400	0.397	430	0.024	0.373
41		PSV	10-PV-7402 U/S Flange	Flange	8"	U/S Flange	Flange	4200	0.382	150	0.007	0.375
42		PSV	PSV-3707 U/S Flange	Flange	8"	U/S Flange	Flange	3700	0.344	10	0.000	0.344
43	LLDPE-II	Flange	OSBL 1.5"-P-102-91107-D-95A Hyderogen Back up Line I/V,D/S Flange	Flange	1.5"	D/S Flange	Flange	3400	0.321	1800	0.121	0.200
44		Flange	OSBL 3"-P-102-91104 A1A Butene-1 From New-B-1 Line I/V,D/S Flange	Flange	3"	D/S Flange	Flange	3600	0.336	200	0.010	0.326
45		Flange	OSBL 3"-P-11314 B1A Butene return line I/V D/S Flange	Flange	3"	D/S Flange	Flange	4100	0.374	20	0.001	0.373
46		Flange	102-EE-208 Outlet Line Drain Flange	Flange	2"	Drain Flange	Flange	4000	0.367	0	0.000	0.367
47		Flange	-102-91101 B1A Ethylene Supply Line I/V D/S F	Flange	12"	D/S Flange	Flange	4300	0.389	200	0.010	0.379
48		Flange	ut Ethylene Co Removal(vv215) Line I/V Drain	Flange	10"	Drain Flange	Flange	3400	0.321	900	0.055	0.266
49		Flange	Ethylene Co Removal(vv215) Bypass Line Dra	Flange	2"	Drain Flange	Flange	3700	0.344	3500	0.258	0.086
50		Flange	102-FT-11103 Bypass I/V U/S Flange	Flange	4"	U/S Flange	Flange	3100	0.298	10	0.000	0.298
51	New Butene-1	Flange	Ethylene Feed from storage/GCU D/S I/V U/S Flange	Flange	6"	U/S Flange	Flange	3500	0.329	150	0.007	0.322
52		Flange	Ethylene Feed from storage/GCU D/S I/V D/S Flange	Flange	6"	D/S Flange	Flange	3200	0.305	90	0.004	0.301
53		Flange	Ethylene Feed from storage/GCU line D/S Drain Flange	Flange	2"	Drain Flange	Flange	4500	0.404	40	0.002	0.402
54		Flange	Ethylene Feed from storage/GCU line U/S Drain Flange	Flange	2"	Drain Flange	Flange	4000	0.367	400	0.022	0.345
55		Flange	107-PSV-3501 A D/S I/V U/S Flange	Flange	4"	U/S Flange	Flange	3800	0.284	0	0.000	0.284
56		Flange	1.5"-P-107 5205 Recycle column line 1 st Drain Flange	Flange	1.5	Drain Flange	Flange	4200	0.382	20	0.001	0.381
Total Savings :												18.814

LDAR VOC MONITORING REPORT
REPORT FOR THE PERIOD QTR-4, FY 2023-24
LEAK SUMMARY

Sr. No.	Unit	Equipment	Tag. No	Components	Line Size	Location	Leak Type	(ppm)	(Kg/Day)	Readings after attending leak		Total saving
										(ppm)	(Kg/Day)	Kg/Day
1	LLDP-I	Valve	12-FV-1124 PT Line I/V	Valve	1"	Isolation Valve	Gland	4200	0.318	900	0.055	0.263
2		Valve	12-FV-1002 A U/S I/V	Valve	3"	Isolation Valve	Gland	4600	0.353	1700	0.113	0.240
3		Valve	12-FV-1002 B U/S I/V	Valve	3"	Isolation Valve	Gland	3200	0.233	300	0.016	0.217
4		Valve	12-FV-1002 B D/S I/V	Valve	3"	Isolation Valve	Gland	3700	0.275	370	0.020	0.255
5		Valve	12-FV-2093 A	Valve	3"	Control Valve	Gland	6400	0.514	700	0.041	0.473
6	HDPE-I	Valve	15-TV-2501 U/S I/V	Valve	16"	Isolation Valve	Gland	3300	0.242	1200	0.076	0.166
7		Valve	15-HV-2105 D/S I/V	Valve	4"	Isolation Valve	Gland	4500	0.344	650	0.038	0.306
8		Valve	15-HV-2401 D/S I/V	Valve	3"	Isolation Valve	Gland	3700	0.275	800	0.048	0.227
9		Valve	15-FV-2202 D/S I/V	Valve	3"	Isolation Valve	Gland	4100	0.309	500	0.028	0.281
10	HDPE-II	Valve	18-PV-2503 Bypass I/V	Valve	2"	Isolation Valve	Gland	6300	0.505	1700	0.113	0.392
11		Valve	18-FV-2106 D/S I/V	Valve	4"	Isolation Valve	Gland	4200	0.318	1500	0.098	0.220
12		Valve	18-HV-2201 U/S I/V	Valve	3"	Isolation Valve	Gland	3600	0.267	1200	0.076	0.191
13		Valve	18-HV-2201 A U/S I/V	Valve	3"	Isolation Valve	Gland	5100	0.397	1900	0.129	0.268
14	LLDPE-II	Valve	Ethylene to Reactor line I/V	Valve	10"	Isolation Valve	Gland	3900	0.292	1400	0.091	0.201
15		Valve	102-HV-21101 U/S I/V	Valve	4"	Isolation Valve	Gland	5300	0.415	1300	0.084	0.331
16		Valve	102-FV-21102 D/S I/V	Valve	10"	Isolation Valve	Gland	4600	0.353	2500	0.176	0.177
17		Valve	ISBL 3"-P-102-91102 A1A Butene-1 TS-113 Line I/V	Valve	3"	Isolation Valve	Gland	4500	0.344	700	0.041	0.303
18		Valve	102-P-21503 B1A Ethylene to VV-215 Line I/V	Valve	12"	Isolation Valve	Gland	4300	0.327	1350	0.087	0.240
19		Valve	FT-41901 U/S I/V	Valve	2"	Isolation Valve	Gland	3700	0.275	3700	0.275	0.000
20	IOP Storage	Pump Valve	44-PA-CF-001 A Discharge I/V	Valve	4"	Isolation Valve	Gland	5600	0.441	1700	0.113	0.328
21		Pump Valve	44-PA-CF-001 C Discharge I/V	Valve	4"	Isolation Valve	Gland	7400	0.606	1400	0.091	0.515
22		Pump Valve	44-PA-CF-011 A 1st DIscharge I/V	Valve	4"	Isolation Valve	Gland	6200	0.496	3350	0.246	0.250
23		Pump Valve	44-PA-CF-011 A 2nd DIscharge I/V	Valve	4"	Isolation Valve	Gland	5300	0.415	1900	0.129	0.286
24		Pump Valve	44-PA-CF-011 B 2nd Discharge I/V	Valve	4"	Isolation Valve	Gland	4100	0.309	1500	0.098	0.211
25		Pump Valve	41-PA-CF-004 A SUC Valve	Valve	14"	Isolation Valve	Gland	3200	0.233	1700	0.113	0.120
26		Pump Valve	41-PA-CF-004 B SUC Valve	Valve	14"	Isolation Valve	Gland	5600	0.441	1400	0.091	0.350
27		Flange	FV-1601 Bypass I/V	Valve	3"	Isolation Valve	Gland	3700	0.275	1600	0.106	0.169
28		Flange	FV-2201 U/S I/V	Valve	4"	Isolation Valve	Gland	3700	0.275	2300	0.160	0.115
29		Flange	FV-2201 D/S I/V	Valve	4"	Isolation Valve	Gland	4400	0.335	0	0.000	0.335
30		Valve	FV-2202 Bypass I/V	Valve	4"	Isolation Valve	Gland	3900	0.292	1300	0.084	0.208

31		TANK-TS-111	PSV-2301 U/S I/V	Valve	8"	Isolation Valve	Gland	7300	0.597	2350	0.164	0.433
32		TANK-TS-112	PSV-2304 U/S I/V	Valve	6"	Isolation Valve	Gland	3100	0.225	2400	0.168	0.057
33		TANK-TS-112	PSV-2303 U/S I/V	Valve	6"	Isolation Valve	Gland	5500	0.432	3700	0.275	0.157
34	GCU-I HOT SECTION	Valve	10-FV-1701 Bypass I/V	Valve	3"	Isolation Valve	Gland	6100	0.487	600	0.035	0.452
35		Valve	10-FV-1901 Bypass I/V	Valve	4"	Isolation Valve	Gland	4100	0.309	1200	0.076	0.233
36		Valve	10-FV-2102	Valve	12"	Control Valve	Gland	7900	0.653	1400	0.091	0.562
37		Valve	10-FV-2102 Bypass I/V	Valve	10"	Isolation Valve	Gland	8000	0.663	550	0.031	0.632
38		Valve	10-FV-2302 Bypass I/V	Valve	2"	Isolation Valve	Gland	3700	0.275	1500	0.098	0.177
39		Battery Limit	MP Ethylene Liquid line I/V	Valve	8"	Isolation Valve	Gland	5500	0.432	900	0.055	0.377
40		Valve	10-PV-3301 D/S I/V	Valve	6"	Isolation Valve	Gland	3400	0.250	750	0.045	0.205
41		Valve	10-PV-7402 U/S I/V	Valve	8"	Isolation Valve	Gland	5200	0.406	1100	0.069	0.337
42		Valve	PSV-4105 A U/S I/V	Valve	8"	Isolation Valve	Gland	7800	0.644	700	0.041	0.603
43		Valve	PSV-4104 C U/S I/V	Valve	8"	Isolation Valve	Gland	4200	0.318	1300	0.084	0.234
44		Valve	PSV-4001 A U/S I/V	Valve	4"	Isolation Valve	Gland	7300	0.597	1750	0.117	0.480
45	GCU-I COLD SECTION	Pump Valve	10-PA-602 A Suction I/V	Valve	3"	Isolation Valve	Gland	5200	0.406	70	0.003	0.403
46		Pump Valve	10-PA-603 A/B Discharge Line Bypass I/V	Valve	3"	Isolation Valve	Gland	5000	0.388	1800	0.121	0.267
47		Pump Valve	10-PA-620 B Suction I/V	Valve	3"	Isolation Valve	Gland	4100	0.309	600	0.035	0.274
48		Valve	10-FV-4402 Drain I/V	Valve	1"	Isolation Valve	Gland	4200	0.318	350	0.019	0.299
49		Valve	10-FV-4911 Drain I/V	Valve	1"	Isolation Valve	Gland	6300	0.505	300	0.016	0.489
50		Valve	10-PV-5402 A U/S I/V	Valve	2"	Isolation Valve	Gland	3200	0.233	1300	0.084	0.149
51		Valve	10-FV-5702 Bypass I/V	Valve	6"	Isolation Valve	Gland	4700	0.361	1050	0.065	0.296
52		Valve	10-PSV-6101 B D/S I/V	Valve	12"	Isolation Valve	Gland	4800	0.370	800	0.048	0.322
53		Valve	PV-6404 D/S I/V	Valve	4"	Isolation Valve	Gland	5100	0.397	450	0.025	0.372
54		Valve	10-PV-6102	Valve	3"	Control Valve	Gland	7100	0.579	90	0.004	0.575
55		Valve	10-PSV-4405 D/S I/V	Valve	6"	Isolation Valve	Gland	4100	0.309	700	0.041	0.268
56		Flange	10-PSV-4401B U/S I/V	Valve	6"	Isolation Valve	Gland	3000	0.217	1700	0.113	0.104
57		Valve	10-PV-5102 A	Valve	14"	Control Valve	Gland	6000	0.477	1030	0.064	0.413
58		Valve	10-LV-6302 D/S I/V	Valve	10"	Isolation Valve	Gland	5700	0.450	900	0.055	0.395
59		Valve	110-FV-51202 Bypass	Valve	6"	Isolation Valve	Gland	6100	0.487	1300	0.084	0.403
60		Valve	110-PA-552 A Suction I/V	Valve	4"	Isolation Valve	Gland	5400	0.423	150	0.007	0.416

61	GCU-II COLD SECTION	Valve	6"-C2+Liquid FROM Unit-09 line I/V	Valve	6"	Isolation Valve	Gland	4300	0.327	1800	0.121	0.206
62		Valve	6"-C2+Liquid FROM New Storage line I/V	Valve	6"	Isolation Valve	Gland	5100	0.397	1500	0.098	0.299
63		Valve	110-FV-10103	Valve	6"	Control Valve	Gland	3600	0.267	900	0.055	0.212
64		Valve	110-FV-43003	Valve	4"	Control Valve	Gland	7300	0.597	1400	0.091	0.506
65		Valve	110-FV-41602	Valve	18"	Control Valve	Gland	4800	0.370	1350	0.087	0.283
66		Valve	110-FV-40002	Valve	6"	Control Valve	Gland	5600	0.441	1750	0.117	0.324
67		Valve	110-PV-65601 B	Valve	8"	Control Valve	Gland	4400	0.335	1200	0.076	0.259
68		Valve	110-PSV-41402 A U/S I/V	Valve	6"	Isolation Valve	Gland	3800	0.284	3200	0.233	0.051
69		Valve	110-PSV-60101 D D/S I/V	Valve	16"	Isolation Valve	Gland	5700	0.450	1800	0.121	0.329
70		Valve	110-PSV-60201 C D/S I/V	Valve	8"	Isolation Valve	Gland	4200	0.318	90	0.004	0.314
71		Valve	110-PV-10103	Valve	10"	Control Valve	Gland	7000	0.569	300	0.016	0.553
72	GCU-II HOT SECTION	Valve	110-LV-33401	Valve	2"	Control Valve	Gland	3700	0.275	300	0.016	0.259
73		Valve	110-LV-33402	Valve	2"	Control Valve	Gland	3500	0.258	300	0.016	0.242
74		Valve	110-PV-36003 U/S I/V	Valve	6"	Isolation Valve	Gland	4400	0.335	300	0.016	0.319
75		Valve	110-PV-92102 B 2nd D/S I/V	Valve	8"	Isolation Valve	Gland	5300	0.415	300	0.016	0.399
76		Valve	ISBL 2"-ETHYLENE PURGE FROM NEW BUTENE Line I/V	Valve	2"	Isolation Valve	Gland	3200	0.233	300	0.016	0.217
77		Valve	OSBL 2"-ETHYLENE PURGE FROM NEW BUTENE Line I/V	Valve	2"	Isolation Valve	Gland	3100	0.225	300	0.016	0.209
78	GPU-I	Valve	06-FCV-102	Valve	18"	Control Valve	Gland	4100	0.309	1700	0.113	0.196
79		Valve	UV-2111	Valve	24"	Control Valve	Gland	4200	0.318	780	0.047	0.271
80		Valve	08-PSV-1401 A 1stBypass I/V	Valve	2"	Isolation Valve	Gland	3100	0.225	600	0.035	0.190
81		Valve	08-PSV-2203 D/S I/V	Valve	20"	Isolation Valve	Gland	4700	0.361	1300	0.084	0.277
82		Valve	08-PSV-1801 A U/S I/V	Valve	10"	Isolation Valve	Gland	5100	0.397	1550	0.102	0.295
83		Valve	08-PSV-1801 B U/S I/V	Valve	10"	Isolation Valve	Gland	4400	0.335	1250	0.080	0.255
84		Valve	08-PSV-1801 D U/S I/V	Valve	10"	Isolation Valve	Gland	4600	0.353	1400	0.091	0.262
85		Valve	06-SDV-205	Valve	18"	Control Valve	Gland	3200	0.233	1500	0.098	0.135
86		Valve	08-PV-2550 1stU/S I/V	Valve	4"	Isolation Valve	Gland	3400	0.250	300	0.016	0.234
87		Valve	08-PV-2550 2ndU/S I/V	Valve	4"	Isolation Valve	Gland	3300	0.242	1800	0.121	0.121
88	LPG	valve	09-FV-1404 Bypass I/V	Valve	3"	Isolation Valve	Gland	4500	0.344	1500	0.098	0.246
89		Valve	09-UV-2003	Valve	8"	Control Valve	Gland	7800	0.644	1300	0.084	0.560
90		Valve	09-PV-1401 N Drain I/V	Valve	1/2"	Isolation Valve	Gland	3100	0.225	90	0.004	0.221
91	GPU-II	Pump Valve	108-PA-101 B Discharge I/V	Valve	12"	Isolation Valve	Gland	3700	0.275	1300	0.084	0.191
92		Valve	108-FV-6203 U/S I/V	Valve	10"	Isolation Valve	Gland	4700	0.361	300	0.016	0.345
93		Valve	108-MOV-6902	Valve	4"	MOV	Gland	4300	0.327	1500	0.098	0.229
94		Valve	108-MOV-6903	Valve	4"	MOV	Gland	4000	0.301	1100	0.069	0.232
95		Valve	108-LV-7101 U/S I/V	Valve	4"	Isolation Valve	Gland	5200	0.406	700	0.041	0.365
Total Savings :												**27.628**

Annexure-4

Membership Certificate of Common Hazardous Waste Treatment Storage Disposal Facility (CHW-TSDF)

U.P Waste Management Project
(A Division of Ramky Enviro Engg. Ltd.)
A -380 Lakhanpur Housing Society,
Nr. Utsav Apartment, Lakhanpur
Vikas nagar, KANPUR-208024 (Utter Pradesh)
Tel -Fax - 0512-2585076 Email - upwmp@ramky.com

Date: 22/12/2012

To,
M/s. GAIL (India) Limited
(A Govt. of India Undertaking – A Navaratna Company)
Pata, (U.P)

Kind Attn: - Mr. R V Sahane

Sub: - Permanent Membership of UPWMP – CHW TSDF, Kanpur Dehat.

Dear Sir,

We thank you and further welcome you as **PERMANENT MEMBER** of Uttar Pradesh Waste Management Project (A Divn of RAMKY Enviro Engineers Ltd.) for utilizing our Common Hazardous Waste Treatment Storage Disposal Facility (CHW-TSDF) to dispose your hazardous waste safely & securely.

Your Permanent Membership Num. is **UPWMP-KNP-HzW – CHW-TSDF – 1268**

We seek your co-operation & assistance to help us meet our common objectives of keeping our Environment Safe and Secure.

We once again thank you and assure of our best services and look forward to an environment friendly relationship.
Please do contact us for any further information and clarification.

Thanking you

Yours truly,

For **Uttar Pradesh Waste Management Project**
(A Divn of **RAMKY** Enviro Engineers Ltd.)
Hari om Sharan Dwivedi.

Hari Om Sharan Dwivedi
AGM – Operation

Annexure-5

Report of Ground Water Monitoring
For the period October 2023 to March 2024

TABLE – 10: GROUND WATER ANALYSIS RESULTS (Dated-23.10.2023)

S.No	Parameters	Unit	Acceptable Limit as per IS 10500:2012	Procedure	GW1	GW2
1	Colour	Hazen	5	IS 3025 (Part 4)	<5	<5
2	Turbidity	NTU	Not Specified	IS 3025(Part 10)	1.1	1.2
3	pH at 25 °C	-	6.5-8.5	IS 3025(Part 11)	7.2	7.6
4	Total dissolved solids	mg/l	500	IS 3025(Part 16)	274	286
5	Total Alkalinity as $CaCO_3$	mg/l	200	IS 3025(Part 23)	65.8	72.8
6	Total Hardness as $CaCO_3$	mg/l	200	IS 3025(Part 21)	162.4	112.4
7	Calcium Hardness as $CaCO_3$	mg/l	250	IS 3025 (Part 40)	68.7	76.8
8	Magnesium Hardness as $CaCO_3$	mg/l	200	IS 3025 (Part 21 & 40)	56.8	48.4
9	Chloride as Cl^-	mg/l	250	IS 3025(Part 32)	132.5	141.8
10	Sulphate as SO_4	mg/l	45	IS 3025(Part 24)	14.9	16.2
11	Nitrate as NO_3	mg/l	Not Specified	IS 3025(Part 34)	15.8	14.3
12	Iron as Fe	mg/l	Not Specified	APHA 3111-B,23rd AAS	0.21	0.29
13	Manganese as Mn	mg/l	Not Specified	APHA 3111-B,23rd AAS	BDL(< 0.1)	BDL(< 0.1)
14	Fluoride as F	mg/l	Not Specified	IS 3025(Part 60)	0.3	0.2
15	Phenolic Copounds as Phenol	mg/l	Not Specified	IS 3025 (Part 43)	BDL(< 0.5)	BDL(< 0.5)
16	Cyanide as CN	mg/l	75	APHA 3111-B,23rd AAS	BDL(< 0.05)	BDL(< 0.05)
17	Zinc as Zn	mg/l	30	APHA 3111-B,23rd AAS	0.26	0.28
18	Sulphide as S^{2-}	mg/l	0.05	IS 3025 (Part 29)	BDL(< 0.05)	BDL(< 0.05)
19	Nickel as Ni	mg/l	0.10	APHA 3111-B,23rd AAS	BDL(< 0.02)	BDL(< 0.02)
20	Biochemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 44)	<5	<5
21	Chemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 58)	18	12
22	Oil & Grease	mg/l	Not Specified	IS 3025 (Part 39)	<2	<2
23	Total Suspended Solids	mg/l	Not Specified	IS 3025(Part 17)	8	4
24	Dissolve Oxygen as O2	mg/l	Not Specified	APHA 4500-O-B	4.2	4.8
25	Total Coliform	MPN/100ml	Absent	IS 1622	<1.8	<1.8

BDL- Below Detection Limit *Source: Netel (India) Limited*

Verified By
Neelima Dalvi
Technical Manager 10/11/23

Issued By
Shradha Kere
Quality Manager 10/11/23

TABLE – 10: GROUND WATER ANALYSIS RESULTS (Dated-23.11.2023)

S.No	Parameters	Unit	Acceptable Limit as per IS 10500:2012	Procedure	GW1	GW2
1	Colour	Hazen	5	IS 3025 (Part 4)	<5	<5
2	Turbidity	NTU	Not Specified	IS 3025(Part 10)	1.2	1
3	pH at 25 °C	-	6.5-8.5	IS 3025(Part 11)	7.8	7.4
4	Total dissolved solids	mg/l	500	IS 3025(Part 16)	226	246
5	Total Alkalinity as $CaCO_3$	mg/l	200	IS 3025(Part 23)	64.2	70.6
6	Total Hardness as $CaCO_3$	mg/l	200	IS 3025(Part 21)	164	120
7	Calcium Hardness as $CaCO_3$	mg/l	250	IS 3025 (Part 40)	60.3	74.2
8	Magnesium Hardness as $CaCO_3$	mg/l	200	IS 3025 (Part 21 & 40)	52.8	44.3
9	Chloride as Cl^-	mg/l	250	IS 3025(Part 32)	126.8	138.2
10	Sulphate as SO_4	mg/l	45	IS 3025(Part 24)	12.2	14.3
11	Nitrate as NO_3	mg/l	Not Specified	IS 3025(Part 34)	18.1	16.1
12	Iron as Fe	mg/l	Not Specified	APHA 3111-B,23rd AAS	0.32	0.26
13	Manganese as Mn	mg/l	Not Specified	APHA 3111-B,23rd AAS	BDL(< 0.1)	BDL(< 0.1)
14	Fluoride as F	mg/l	Not Specified	IS 3025(Part 60)	0.2	0.1
15	Phenolic Copounds as Phenol	mg/l	Not Specified	IS 3025 (Part 43)	BDL(< 0.5)	BDL(< 0.5)
16	Cyanide as CN	mg/l	75	APHA 3111-B,23rd AAS	BDL(< 0.05)	BDL(< 0.05)
17	Zinc as Zn	mg/l	30	APHA 3111 B,23rd AAS	0.25	0.26
18	Sulphide as S^{2-}	mg/l	0.05	IS 3025 (Part 29)	BDL(< 0.05)	BDL(< 0.05)
19	Nickel as Ni	mg/l	0.10	APHA 3111-B,23rd AAS	BDL(< 0.02)	BDL(< 0.02)
20	Biochemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 44)	<5	<5
21	Chemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 58)	16	14
22	Oil & Grease	mg/l	Not Specified	IS 3025 (Part 39)	<2	<2
23	Total Suspended Solids	mg/l	Not Specified	IS 3025(Part 17)	6	8
24	Dissolve Oxygen as O2	mg/l	Not Specified	APHA 4500-O-B	3.8	3.6
25	Total Coliform	MPN/100ml	Absent	IS 1622	<1.8	<1.8

BDL- Below Detection Limit *Source: Netel (India) Limited*

Verified By
Neelima Dalvi
Technical Manager
8/12/23

NETEL (INDIA) LIMITED

Issued By
Shradha Kere
Quality Manager
8/12/23

TABLE – 10: GROUND WATER ANALYSIS RESULTS (Dated-22.12.2023)

S.No	Parameters	Unit	Acceptable Limit as per IS 10500:2012	Procedure	GW1	GW2
1	Colour	Hazen	5	IS 3025 (Part 4)	<5	<5
2	Turbidity	NTU	Not Specified	IS 3025(Part 10)	1	1
3	pH at 25 °C	-	6.5-8.5	IS 3025(Part 11)	7.1	7.3
4	Total dissolved solids	mg/l	500	IS 3025(Part 16)	264	220
5	Total Alkalinity as $CaCO_3$	mg/l	200	IS 3025(Part 23)	62.8	71.6
6	Total Hardness as $CaCO_3$	mg/l	200	IS 3025(Part 21)	168	114
7	Calcium Hardness as $CaCO_3$	mg/l	250	IS 3025 (Part 40)	62.2	68.6
8	Magnesium Hardness as $CaCO_3$	mg/l	200	IS 3025 (Part 21 & 40)	48.6	40.8
9	Chloride as Cl^-	mg/l	250	IS 3025(Part 32)	132.8	141.2
10	Sulphate as SO_4	mg/l	45	IS 3025(Part 24)	14.6	12.6
11	Nitrate as NO_3	mg/l	Not Specified	IS 3025(Part 34)	16.8	14.3
12	Iron as Fe	mg/l	Not Specified	APHA 3111-B,23rd AAS	0.28	0.22
13	Manganese as Mn	mg/l	Not Specified	APHA 3111-B,23rd AAS	BDL(< 0.1)	BDL(< 0.1)
14	Fluoride as F	mg/l	Not Specified	IS 3025(Part 60)	0.3	0.2
15	Phenolic Copounds as Phenol	mg/l	Not Specified	IS 3025 (Part 43)	BDL(< 0.5)	BDL(< 0.5)
16	Cyanide as CN	mg/l	75	APHA 3111-B,23rd AAS	BDL(< 0.05)	BDL(< 0.05)
17	Zinc as Zn	mg/l	30	APHA 3111-B,23rd AAS	0.24	0.20
18	Sulphide as S^{2-}	mg/l	0.05	IS 3025 (Part 29)	BDL(< 0.05)	BDL(< 0.05)
19	Nickel as Ni	mg/l	0.10	APHA 3111-B,23rd AAS	BDL(< 0.02)	BDL(< 0.02)
20	Biochemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 44)	<5	<5
21	Chemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 58)	16	14
22	Oil & Grease	mg/l	Not Specified	IS 3025 (Part 39)	<2	<2
23	Total Suspended Solids	mg/l	Not Specified	IS 3025(Part 17)	6	12
24	Dissolve Oxygen as O2	mg/l	Not Specified	APHA 4500-O-B	3.2	3.8
25	Total Coliform	MPN/100ml	Absent	IS 1622	<1.8	<1.8

BDL- Below Detection Limit *Source: Netel (India) Limited*

Verified By
Neelima Dalvi
Technical Manager
10/1/24

Issued By
Shradha Kere
Quality Manager
10/01/24

TABLE – 10: GROUND WATER ANALYSIS RESULTS (Dated-10.02.2024)

S.No	Parameters	Unit	Acceptable/ Permissible Limit as per IS 10500:2012	Procedure	GW1	GW2	GW3	GW4	GW5
1	Colour	Hazen	5/15	IS 3025 (Part 4)	<5	<5	<5	<5	<5
2	Turbidity	NTU	1/5	IS 3025(Part 10)	2.8	4.5	<1	10.3	<1
3	pH at 25 °C	-	6.5-8.5/ No relaxation	IS 3025(Part 11)	6.98	7.50	7.4	7.57	7.3
4	Total dissolved solids	mg/l	500/2000	IS 3025(Part 16)	1246	527	236	456	264
5	Total Alkalinity as $CaCO_3$	mg/l	200/600	IS 3025(Part 23)	24.8	409.5	142.2	378	42.8
6	Total Hardness as $CaCO_3$	mg/l	200/600	IS 3025(Part 21)	228.4	249.6	168.3	211.2	50.4
7	Calcium Hardness as $CaCO_3$	mg/l	250	IS 3025 (Part 40)	136	69.1	92.4	124.8	136.1
8	Magnesium Hardness as $CaCO_3$	mg/l	200	IS 3025 (Part 21 & 40)	82.4	180.5	60.2	86.4	70.8
9	Chloride as Cl	mg/l	250/1000	IS 3025(Part 32)	346.8	39.7	8.9	24.8	34.3
10	Sulphate as SO_4	mg/l	200/400	IS 3025(Part 24)	342.6	18.2	12.4	10.2	18.7
11	Nitrate as NO_3	mg/l	45/ No relaxation	IS 3025(Part 34)	1.2	0.6	0.6	1.6	2.1
12	Iron as Fe	mg/l	0.3/ No relaxation	APHA 3111-B,23rd AAS	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)
13	Manganese as Mn	mg/l	0.1/0.3	APHA 3111-B,23rd AAS	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)
14	Fluoride as F	mg/l	1.0/1.5	IS 3025(Part 60)	1.1	0.2	0.4	0.2	0.3
15	Phenolic Copounds as Phenol	mg/l	0.001/0.002	IS 3025 (Part 43)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)
16	Cyanide as CN	mg/l	0.05/ No relaxation	APHA 3111-B,23rd AAS	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)
17	Zinc as Zn	mg/l	5/15	APHA 3111-B,23rd AAS	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)
18	Sulphide as S^{2-}	mg/l	0.05/ No relaxation	IS 3025 (Part 29)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)
19	Nickel as Ni	mg/l	0.02/ No relaxation	APHA 3111-B,23rd AAS	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)

20	Biochemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 44)	24	<5	10	15	18
21	Chemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 58)	92	<10	42	49	86
22	Oil & Grease	mg/l	Not Specified	IS 3025 (Part 39)	BDL(<2)	BDL(<2)	BDL(<2)	BDL(<2)	BDL(<2)
23	Total Suspended Solids	mg/l	Not Specified	IS 3025(Part 17)	<5	<5	6	<5	8
24	Dissolve Oxygen as O2	mg/l	Not Specified	APHA 4500-O-B	6.1	6.4	5.4	6.2	6.2
25	Total Coliform	MPN/100ml	Absent	IS 1622	<1.8	<1.8	<1.8	<1.8	<1.8

BDL- Below Detection Limit *Source: Netel (India) Limited*

Verified By

11/03/24

Neelima Dalvi
Technical Manager

NETEL (INDIA) LIMITED * NOT FOR SALE *

Issued By

11/3/24

Shradha Kere
Quality Manager

TABLE – 10: GROUND WATER ANALYSIS RESULTS (Dated-19.01.2024)

S.No	Parameters	Unit	Acceptable/ Permissible Limit as per IS 10500:2012	Procedure	GW1	GW2	GW3	GW4	GW5
1	Colour	Hazen	5/15	IS 3025 (Part 4)	<5	<5	<5	<5	<5
2	Turbidity	NTU	1/5	IS 3025(Part 10)	7.5	2.1	<1	<1	<1
3	pH at 25 °C	-	6.5-8.5/ No relaxation	IS 3025(Part 11)	6.47	6.81	7.32	7.51	7.43
4	Total dissolved solids	mg/l	500/2000	IS 3025(Part 16)	1348	582	244	261	283
5	Total Alkalinity as $CaCO_3$	mg/l	200/600	IS 3025(Part 23)	25.2	71.4	113.4	63.4	47.3
6	Total Hardness as $CaCO_3$	mg/l	200/600	IS 3025(Part 21)	230.4	122.9	186.2	98.6	52.4
7	Calcium Hardness as $CaCO_3$	mg/l	250	IS 3025 (Part 40)	144.0	69.1	84.6	92.5	124.2
8	Magnesium Hardness as $CaCO_3$	mg/l	200	IS 3025 (Part 21 & 40)	86.4	53.8	65.8	74.2	72.8
9	Chloride as Cl	mg/l	250/1000	IS 3025(Part 32)	431.8	187.0	9.9	12.1	32.5
10	Sulphate as SO_4	mg/l	200/400	IS 3025(Part 24)	382.9	30.4	11.8	12.4	16.2
11	Nitrate as NO_3	mg/l	45/ No relaxation	IS 3025(Part 34)	1.4	3.8	0.8	1.9	2.4
12	Iron as Fe	mg/l	0.3/ No relaxation	APHA 3111-B,23rd AAS	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)
13	Manganese as Mn	mg/l	0.1/0.3	APHA 3111-B,23rd AAS	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)
14	Fluoride as F	mg/l	1.0/1.5	IS 3025(Part 60)	2.1	0.3	0.8	0.4	0.2
15	Phenolic Copounds as Phenol	mg/l	0.001/0.002	IS 3025 (Part 43)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)
16	Cyanide as CN	mg/l	0.05/ No relaxation	APHA 3111-B,23rd AAS	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)
17	Zinc as Zn	mg/l	5/15	APHA 3111-B,23rd AAS	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)
18	Sulphide as S^{2-}	mg/l	0.05/ No relaxation	IS 3025 (Part 29)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)
19	Nickel as Ni	mg/l	0.02/ No relaxation	APHA 3111-B,23rd AAS	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)

20	Biochemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 44)	29	13	8	12	22
21	Chemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 58)	84	42	38	46	72
22	Oil & Grease	mg/l	Not Specified	IS 3025 (Part 39)	<2	<2	<2	<2	<2
23	Total Suspended Solids	mg/l	Not Specified	IS 3025(Part 17)	<5	15	8	<5	12
24	Dissolve Oxygen as O2	mg/l	Not Specified	APHA 4500-O-B	6.7	6.6	5.8	6.4	6.9
25	Total Coliform	MPN/100ml	Absent	IS 1622	<1.8	<1.8	<1.8	<1.8	<1.8

BDL- Below Detection Limit *Source: Netel (India) Limited*

Verified By

10/02/24

Neelima Dalvi
Technical Manager

Issued By

10/2/24

Shradha Kere
Quality Manager

TABLE – 6.4: GROUND WATER ANALYSIS RESULTS (Dated-23.03.2024)

S.No	Parameters	Unit	Acceptable/ Permissible Limit as per IS 10500:2012	Procedure	GW1	GW2	GW3	GW4	GW5
1	Colour	Hazen	5/15	IS 3025 (Part 4)	<5	<5	<5	<5	<5
2	Turbidity	NTU	1/5	IS 3025(Part 10)	3.1	3.9	<1	3.2	1.2
3	pH at 25 °C	-	6.5-8.5/ No relaxation	IS 3025(Part 11)	6.98	7.41	7.68	6.98	7.98
4	Total dissolved solids	mg/l	500/2000	IS 3025(Part 16)	1342	628	268	346	268
5	Total Alkalinity as $CaCO_3$	mg/l	200/600	IS 3025(Part 23)	26.3	412.6	156.2	384	40.9
6	Total Hardness as $CaCO_3$	mg/l	200/600	IS 3025(Part 21)	232.8	246.2	187.2	268.4	56.4
7	Calcium Hardness as $CaCO_3$	mg/l	250	IS 3025 (Part 40)	146	70.5	98.2	241.6	128.4
8	Magnesium Hardness as $CaCO_3$	mg/l	200	IS 3025 (Part 21 & 40)	84.3	186.4	64.1	94.2	49.6
9	Chloride as Cl^-	mg/l	250/1000	IS 3025(Part 32)	352.4	42.8	8.4	22.8	42.8
10	Sulphate as SO_4	mg/l	200/400	IS 3025(Part 24)	364.2	20.8	16.4	16.4	20.5
11	Nitrate as NO_3	mg/l	45/ No relaxation	IS 3025(Part 34)	1.8	0.8	1.1	1.8	2.6
12	Iron as Fe	mg/l	0.3/ No relaxation	APHA 3111-B,23rd AAS	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)
13	Manganese as Mn	mg/l	0.1/0.3	APHA 3111-B,23rd AAS	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)	BDL(< 0.1)
14	Fluoride as F	mg/l	1.0/1.5	IS 3025(Part 60)	0.5	0.6	0.8	0.9	0.8
15	Phenolic Copounds as Phenol	mg/l	0.001/0.002	IS 3025 (Part 43)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)	BDL(< 0.5)
16	Cyanide as CN	mg/l	0.05/ No relaxation	APHA 3111-B,23rd AAS	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)	BDL(< 0.05)
17	Zinc as Zn	mg/l	5/15	APHA 3111-B,23rd AAS	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)	BDL (<0.1)
18	Sulphide as S^{2-}	mg/l	0.05/ No relaxation	IS 3025 (Part 29)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)	BDL(< 0.2)
19	Nickel as Ni	mg/l	0.02/ No relaxation	APHA 3111-B,23rd AAS	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)	BDL(< 0.02)

20	Biochemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 44)	32	8	12	18	12
21	Chemical Oxygen Demand	mg/l	Not Specified	IS 3025 (Part 58)	120	26	36	56	75
22	Oil & Grease	mg/l	Not Specified	IS 3025 (Part 39)	BDL(<2)	BDL(<2)	BDL(<2)	BDL(<2)	BDL(<2)
23	Total Suspended Solids	mg/l	Not Specified	IS 3025(Part 17)	<5	<5	8	<5	6
24	Dissolve Oxygen as O2	mg/l	Not Specified	APHA 4500-O-B	5.8	6.9	6.1	6.9	5.4
25	Total Coliform	MPN/100ml	Absent	IS 1622	<1.8	<1.8	<1.8	<1.8	<1.8

BDL- Below Detection Limit *Source: Netel (India) Limited*

Verified By

10/04/24

Neelima Dalvi
Technical Manager

Issued By

10/04/24

Shradha Kere
Quality Manager

Annexure-6

Agreement with State Irrigation Department regarding Consumption of Fresh Water

भारतीय गैर न्यायिक

एक सौ रुपये

Rs. 100

ONE HUNDRED RUPEES

रु. 100

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

उत्तर प्रदेश UTTAR PRADESH

DG 738976

This agreement is made on the 2nd day of May Two Thousands Seventeen corresponding to Saka Samvat the Fifth day of Vaisakha 20 74

Between;

The GAIL India Limited (A Government of India Undertaking), a Government Company within the meaning of Companies Act, 2013, through its General Manager, Pata as its Executive Authority having its Corporate Office at 16, Bhikaji Cama Place, R. K. Puram, New Delhi (hereinafter referred to as "the consumer" which expression shall deemed to include its successors, assigns, representatives etc.,) of the One Part; and

The Governor of Uttar Pradesh acting through Superintendent Engineer, Irrigation work circle Etawah, Irrigation Department, Uttar Pradesh, (hereinafter referred to as "the Supplier" which expression shall deem to include its successors, assigns, representatives etc.,) of the other part.

S.E.

I. [illegible]
सिंचाई कार्य मण्डल, इटावा

GAIL

राकेश मित्तल
R. K. MITTAL
महाप्रबंधक (पी.सी.-प्रचालन) / General Manager (PC-Ops.)
गेल (इंडिया) लिमिटेड / GAIL (India) Limited
पाता, जिला औरैया–206 241 (उ.प्र.) भारत
Pata, Distt. Auraiya-206 241 (U.P.) INDIA

11

...तिथि ... 2/3/17

... प्रयोजन ...

... पता राकेश कुमार मित्तल पुत्र श्याम लाल मित्तल

WHEREAS the Consumer is operating a gas based Petro Chemical Plant near Pata in District Auriaya on the right bank of Burhadana Distributory of Etawah Branch Canal and it has requested to the Irrigation Department, Government of Uttar Pradesh (herein after called "the Government") for permission to draw 30 cusec water from Etawah branch canal system through Buradana Distributory during its running days according to the roster for the use of non-irrigation purpose in Petro chemical complex at Pata.

An agreement was made between Gail, Pata and irrigation department on 04.10.2014 for supply of 13 cusec irrigation canal water and now Gail, Pata requires additional 17 cusec for its expansion project.

After this agreement for supply of 30 cusec irrigation canal water comes into force, all previous agreements including agreement for supply of 13 cusec irrigation canal water with State Irrigation Department will cease to exist.

AND WHEREAS at the request of the Consumer, the Supplier has agreed to supply 30 cusec of non-potable water in bulk to the Consumer from the Etawah Branch of Lower Ganga Canal system through Burhadana Distributory for use in Petro Chemical Complex at Pata, District Auraiya by means of Cross regulator on Burhadana Distributory and suitable intake structure constructed by the Consumer.

AND WHEREAS, in this regard, an agreement dated 05/07/2012 was executed between the consumer and the Irrigation department and in furtherance of the same, the consumer has deposited an amount of Rs. 5982.45 lacs with the Irrigation Department to undergo C.C lining / repairs of the canal to restrict water seepage.

Now the agreement witnesses as follows: -

1. In this agreement unless the contrary intention appears: -

(a) 'Canal' means Etawah Branch of Lower Ganga Canal system.

(b) "Chief Engineer" means the Chief Engineer of Irrigation Department who will be in the administrative charge of all works pertaining to Lower Ganga Canal system along with their off taking channels, and at present is Chief Engineer (Ram Ganga) with Head Quarter at Kanpur.

S.E.
I.W.C. Etawah
अधीक्षण अभियन्ता
सिंचाई कार्य मण्डल, इटावा

GAIL

राकेश मित्तल
R. K. MITTAL
महाप्रबंधक (पीसी-प्रचालन)/General Manager (PC-Ops.)
गेल (इंडिया) लिमिटेड / GAIL (India) Limited
पाता, जिला औरैया-206241 भारत
Pata, Distt. Auraiya-206 241 INDIA

(c) 'Cross Regulator' means Cross regulator constructed in Etawah Branch downstream of Burhadana Distributory Head Regulator to effect supplies into Burhadana Distributory.

(d) "General Manager" means, the General Manager of GAIL Petro Chemical Complex, Pata, District, Auraiya.

(e) "Executive Engineer" means Executive Engineer of the Irrigation Department incharge of the Burhadana Distributory, who at present is Executive Engineer, Irrigation Division, Auraiya.

(f) "Financial year" means:

(I) Each succeeding Twelve (12) month period beginning on April Ist during the term of this agreement and ending on the following March 31.

(II) In case the date of commencement of agreement is fixed any month after 1st April of the year then number of months from 1st April till preceding month of the date of signing shall not be construed as a financial year.

(III) Like wise if the date of termination of agreement is fixed any month beyond 1st April of the year then the balance of months till next 31st March shall not be construed as a financial year.

(g) "Intake cum cross regulator" means intake cum Cross Regulator Constructed on Burhadana Distributory for diverting water into the intake channel of Petro Chemical Complex, Pata.

(h) "Irrigation Department" means the Irrigation Department of Government of Uttar Pradesh.

(i) "Reduced Level" means level measured with reference to the bench mark provided on U/S bed of the regulator Km. 17.200 of Burhadana Distributory diversion left bank. The R. L. 140.355 and at Km. 16.65 RL is 140.455M.

(j) "Roster" means time schedule for running and closure of Canal as fixed by the Irrigation Department of the Uttar Pradesh Government.

(k) "Sub Divisional Officer" means the Assistant Engineer of the Irrigation Department in direct charge of Burhadana Distributory.

(l) "Superintending Engineer" means the Superintending Engineer of the Irrigation Department in direct administrative control of Etawah Branch and Burhadana Distributory presently Superintending Engineer, Irrigation Works Circle, Etawah.

(m) "The GAIL Petro Chemical Complex" means Gas based Petro Chemical Plant constructed at Pata in District Auraiya on right bank of Burhadana Distributory off taking at Km. 109.00 right bank of Etawah Branch Canal.

S.E.
I.W.C. Etawah अधिशासी अभियन्ता
सिंचाई कार्य मण्डल, इटावा

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पाता, जिला औरैया–206 241 (उ०प्र०) भारत
Pata, Distt. Auraiya-206 241 (U.P.) INDIA

(n) "Year" Means a period of 365 days (Three hundred Sixty Five days) calculated from the date of execution of this agreement except in case of leap year in which it means a period of 366 days (Three Hundred Sixty Six days) from the date of execution of this agreement.

2. The supplier and the Consumer agree as Follows: -

(a) It is agreed that that the consumer shall pay to the supplier water charges at the rate Rs. 12.48 (Rupees Twelve and Paisa forty Eight) per one thousand cubic feet which shall be charged as per actual quantity of water consumed. The said amount of water charges is being qualified as per provision in G.O. NO. 2953/11-27-सि-4-08 (जल)/82 dated 15.07.2011. It is mutually agreed that the water charges at the above rate shall be deposited quarterly as per the actual consumption. The Government shall have the right to change the rate of water charges by way of Notifications from time to time which will be binding on consumer i.e. Gail (India) Limited, Pata, District Auraiya.

(b) Royalty charges at the rate Rs 6.00 Lacs (Six Lacs) per cusecs per Annum shall be charged as per agreement quantity as per provision of G. O. No. 2953/11-27-सि-4-08-(जल)/82 dated 15.07.2011. The Government shall have the right to change the rate of Royalty charges from time to time which will be binding on consumer. Amount of Royalty charges due for a particular financial year shall be deposited on or before the commencement of the new financial year latest by the end of April of new financial year. To be clear the Royalty charges for financial year 2017-2018 would be payable on or before 30.04.2017 after receipt of bill from Irrigation department and likewise the subsequent payments would be made.

(c) Under the agreement Irrigation Department shall supply 30 cusecs non-potable water from Burhadana Distributory into both intake channels constructed by Consumer provided that the canal is not closed as per roster.

(d) The Consumer may store sufficient water as per their requirement in their storage tanks for use during Canal closure.

(e) Etawah Branch / Burhadana Distributory, supplying water to the consumer will be operated as per roster which will have a normal canal closure period not exceeding 4 (four) weeks at a stretch. However, if the canal closure is not as per the Roster or is for a period of more than 4 (four) weeks duration, the supplier shall inform consumer one month in advance of such canal closure.

S.E.
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सिंचाई कार्य मण्डल, इटावा

GAIL

राकेश मित्तल
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गेल (इंडिया) लिमिटेड / GAIL (India) Limited
पाता, जिला औरैया–206 241 (उ०प्र०) भारत
Pata, Distt. Auraiya-206 241 (U.P.) INDIA

(f) The supplier shall supply to the consumer a copy of the roster for both Kharif and Rabi to know about tentative period of running and closure of the canal every year.

(g) Consumer shall provide following residential accommodation for the staff & executives of Irrigation Department in their colony at Dibiyapur to facilitate day to day working and close liaison on similar terms and conditions as applicable to GAIL staff on chargeable basis. The accommodation shall be earmarked and handed over in the name of Executive Engineer of Irrigation Division Auraiya, Dibiyapur (Supplier).

For Assistant Engineer Incharge, type 'C' one number (unfurnished).

For Junior Engineer Incharge type 'B' one number (unfurnished).

Two Bachelor accommodations.

(h) The Executive Engineer, Assistant Engineer and Junior Engineer Incharge of Irrigation Division Auraiya, Dibiyapur (Supplier) or any other authority/agent of Uttar Pradesh Irrigation Department shall have free access to the off-take Pump House and other structures and equipments where measuring devices for consumption of water are installed.

(i) All subsequent alterations or additions in the pumping equipments or the measuring devices or both, if considered necessary, shall be done at its cost by consumer with prior written concurrence of Irrigation Department.

(j) The joint discharge of intake channels shall be observed monthly to ascertain actual consumption of water by consumer. Executive Engineer shall inform the date of joint observation of discharges to consumer.

(k) If the payment of dues, as per bills submitted by the Executive Engineer, is not made within the Twelve months of their presentation, the Irrigation Department shall have the right to stop the supplies after giving thirty days notice to the Consumer.

(l) Annual maintenance cost of work constructed and maintained by the Irrigation Department for supplying water to the GAIL, Petro Chemical Complex shall be paid by the consumer to the Irrigation Department. This amount shall be calculated at the rate of 2% (Two percent) per annum on the total actual cost of the works paid by Gail. This amount shall be increased annually at the simple rate of escalation of 10% (ten percent) per annum. Cost of special repairs or any alternations and additions at any stage for maintenance of supply of 30 cusecs non-potable additional water will be borne by the consumer separately.

(m) The Consumer shall also pay the Irrigation Department 12.5% centage charges and in addition 1% cess charges on the actual cost of works executed by Irrigation Department at the rates that may be decided by the Government from time to time.

S.E.
I.W.C. Etawah
अधीक्षण अभियन्ता
सिंचाई कार्य मण्डल, इटावा

GAIL

राकेश मित्तल
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महाप्रबंधक (पी.सी.-प्रचालन) / General Manager (PC-Ops.)
गेल (इंडिया) लिमिटेड / GAIL (India) Limited
पाता, जिला औरैया–206 241 (उ०प्र०) भारत
Pata, Distt. Auraiya-206 241 (U.P.) INDIA

(n) The demand of funds for the annual maintenance, as per clause (l) above, for the commencing Financial Year shall be sent by Executive Engineer to General Manager in the month of March of every year and Consumer shall have to pay this demand amount by the end of April of the following financial year.

(o) Final bill on account of annual maintenance charges as per clause (l) above for the financial year shall be submitted by the end of April of following year, crediting the amount already paid by the consumer.

(p) The amount of Royalty charges, centage charges, annual maintenance cost and other amount which are payable by the consumer at a specified time shall be paid by the consumer on or before the specified date and time. In case the consumer fails to deposit above amount on the specified date and time, the above amount may be recovered from the consumer after one month from the specified date as an arrear of land revenue at the certificate of Superintending Engineer.

(q) The agreement shall come into force from the date of its execution and will remain effective for a period of 10 (Ten) years unless otherwise terminated earlier.

(r) After the execution of this agreement all notices to be given or action to be taken under this agreement on behalf of the Consumer, shall be given or taken by the General Manager, GAIL Petro Chemical Complex, Pata who will be addressed in all matters connected with this agreement.

(s) Effluent water generated, if any, after consumption shall be treated as per the norms of U.P. Pollution Control Board by the consumer before discharging into the natural drain. If any guidelines made by Center Government national green tribunal, the consumer have to follow the guidelines for treatment of effluent water.

(t) In the event of any dispute, arising out of this agreement, which can not be settled by the joint examination of the facts by the Superintending Engineer, Irrigation Department and the General Manager, shall be referred in writing to the Chief Engineer, Irrigation Department Incharge of this work, and his decision shall be final and legally binding on both the parties.

S.E.
I.W.C. Etawah
अधीक्षण अभियन्ता।
सिंचाई कार्य मण्डल, इटावा

GAIL

राकेश मित्तल
R. K. MITTAL
महाप्रबंधक (पी.सी.-प्रचालन)/General Manager (PC-Ops.)
गेल (इंडिया) लिमिटेड/GAIL (India) Limited
पाता, जिला औरैया–206 241 (उ०प्र०) भारत
Pata, Distt. Auraiya-206 241 (U.P.) INDIA

In witness, whereof these presents have been signed by the parties to this agreement on the day and year above written.

(T. C. Sharma)

SEIWC Etawah
Signed for and on behalf of Governor of Uttar Pradesh

राकेश मित्तल
R. K. MITTAL
General Manager (PC-Ops.)
GAIL (India) Limited
Pata, Distt. Auraiya-206 241 (U.P.) INDIA

(R. K. MITTAL)

General Manager (Operation)
Signed for and on behalf
of GAIL India Limited, Pata

In the presence of

1. **(Rajeev Mittal)**
   E.E.I.D. Auraiya, Dibiyapur

2. **(Jas Ram Singh)**
   A.E.I.D. Auraiya, Dibiyapur

In the presence of

1. ..... 02/05/2017
   (RAM MEHROTRA)
   DGM (PC-O), GAIL, PATA

2. ..... 02/5/2017
   Chief Manager (PC-operation)
   GAIL, PATA

Name and address

Name and address

Annexure-7

Letter submitted to Regional Office, MoEF&CC regarding advertisement of receipt of EC in the local newspapers

बांदा: प्रवक्ता के आठ साल के बेटे की अपहरण के बाद हत्या

संवाद न्यूज एजेंसी

प्रिंस फाइल फोटो

सोमवार को घर के बाहर से सुबह किया था अगवा

परिजनों ने एक घंटे बच्चे का शव नहीं उठने दिया

ओरन (बांदा)। बिसंडा थाना क्षेत्र के [illegible] गांव स्थित [illegible] महाविद्यालय के प्रवक्ता के आठ साल के बेटे का सोमवार की सुबह अपहरण कर गला घोटकर हत्या कर दी गई और शव को पुआल के ढेर में छिपा दिया गया। मंगलवार को शव मिलने के बाद परिजन और ग्रामीण भड़क उठे और पुलिस को शव नहीं उठाने दिया। मौके पर पहुंचे एसपी व [illegible] के आरोपियों की शीघ्र गिरफ्तारी के आश्वासन पर शव को पुलिस कब्जे में ले सकी। परिजनों ने गांव के युवक पर अपहरण और हत्या की रिपोर्ट दर्ज कराई है। उधर, परिजनों ने आशंका जताई कि प्रिंस के आंखों और मुंह पर चिपकने वाला कोई पदार्थ भी डाला गया था, लेकिन पोस्टमार्टम में ऐसे कोई चिन्ह नहीं मिले।

[illegible] महाविद्यालय में प्रवक्ता पद पर तैनात हैं। सोमवार की सुबह 10 बजे गांव के स्कूल में चौथी कक्षा में पढ़ने वाला इनका बेटा प्रिंस घर के दरवाजे पर खेलते समय लापता हो गया। दिनभर तलाश के बाद पता नहीं चला। रात करीब 8.55 बजे प्रवक्ता के फोन पर एक कॉल आई, जिसमें बेटे को सही सलामत [illegible] को पुलिस को सूचना न देने की ताकीद की गई। कुछ देर बाद फिर फोन आया, जिसमें पुलिस को सूचना देने पर नाराजगी जताई गई। मंगलवार सुबह घर से करीब सौ मीटर दूर तालाब के पास पुआल के ढेर के पास प्रिंस की चप्पलें पड़ी मिलीं। पुआल हटाने पर प्रिंस का शव मिला। [illegible]

हमीरपुर : बोलेरो में धमाका, छह लोग घायल

भरुआसुमेरपुर (हमीरपुर)। कानपुर-सागर हाईवे पर मंगलवार दोपहर करीब 12:30 बजे मुख्यालय की तरफ जा रही बोलेरो में [illegible] के पास अचानक विस्फोट हो गया। [illegible] (30), [illegible] (63) [illegible] (55) घायल हो गए। [illegible] (संवाद)

Amar Ujala - 21/10/2020

न भरेगी। जब

तार्वा का चिड़काव

र : नगर निगम की स्वास्थ्य
ी प्रभावित क्षेत्र गोकुल नगर,
। नगर, मडरिया, आरपित
देवरी नगर समेत कई जगह
तार्वा का छिड़काव करवाया। जब

एवं निजी लैब में भेजा जा रहा है।

मेडिकल कॉलेज के महंगी जांचों को लेब में में सलभ 40-50 मरीज जांच कराने पहुंच रहे हैं। लेकिन अभी एक दिन छोड़कर जांच हो रही है। उसेलिए में जांच न होने से वहां के सैंपल धे मेडिकल कॉलेज भेज जा रहे हैं।

मरीजों का भला कर सकारात्मक सोच रहे है। चार - छह गंभीर मरीज भी जनरल वार्डों में चल रहे हैं।

डॉ. संदीप सागर, अधीक्षक चीफ मेडिसिनिस्ट

का लाभ उठा सकें। डॉक्टरों की टीम लगातार तीनों में प्रेक्टेटोलुस निरंतर की शत बनाये है। इस घर जैसे की मिली गंभीर है।

डॉ. तुषार सक्सेना, सिनियर प्रेक्टेटोलुस्ट, मेडिसिन एवं इंचार्ज टेली-कंसल्टेशन, जेएसएमसी

8, उनसे उनका घर कोरोना का लक्षण होने की आशंका व संक्रमण का खतरा होने पर इलाज के लिए भर्ती होने की सलाह दी जाएगी। साथ ही जरूरत पड़ने पर इलाज कराया जा सके।

डॉ. एके मिश्र, एसोसिएट एवं मेडिकल अधीक्षक, जेएसएमसी

9

है, जो सात कैसर से पीड़ित थे। वहीं भर्ती हुए निकले 60 वर्षीय बुजुर्ग हाइपरटेंशन, मधुमेह एवं निमोनिया से पीड़ित थे। इनमें से एक ने हैलट के कोविड हॉस्पिटल और दूसरे ने नवरत्ना मेडिकल कॉलेज एवं हॉस्पिटल में इलाज के दौरान दम तोड़ दिया।

जैसे पहले थे। इस टीम कोऑर्डिनेटर डॉ. क एनआईसी सभागार में डॉक्टर्स डॉ. अरवी कमल, उप डॉक्टर्स डॉ. रिंकि सिंह, प्रमुख अधीक्षक डॉ. ज्योति सक्सेना, डॉ. मनीष सिंह, डॉ. अनिल वर्मा, डॉ. धर्मेन्द्र सिंह, डॉ. भवत सक्सेना मौजूद रहे। डॉ. दुबे ने कहा कि परतबद्ध तरीके से अस्पताल सेवाएं शुरू करें। दूर-दराज से आने वाले

शुरू करने की अनुमति मांगी। डॉ. दुबे ने कहा कि भोपाल मेडिकल कॉलेज की अस्पताल बताती है तो अलर भवन में चलाई। भवर मुख्य सचिव ने कहा कि संजय गांधी स्नातकोत्तर आयुर्विज्ञान संस्थान की तर्ज पर कोविड अस्पतालों एवं अनुसंधान कार्य का परिवेश चिकित्सक हतनेत बनुर्भवन सहित राजधानी में।

ोरोना को हराने के लिए पेश की कहानी

जागरण अभियान

दिया संदेश

- गगा देवता पर नुक्कड़ नाटक से मास्क पहनने की अपील की
- टैबिक जागरण व पुलिस कर्मियों को तेकर कर रही है जागरूक

जागरण संवाददाता

आगरा : मुलाकातों को ध
ने चले 'दृश्य... सिएम-
' ने कार्तिक कदमा पर करती
को। अपना अभियान संचार
कलाकारों के दल पर तेजी
क्रमण के खतर में
रक्षित और मास्क
स ही घर से
निकलने को
ने की। लोग
चेतावनी दे
से मंग
पर नुक्कड़
के आयोजन
जिसके प्रस्तुति
कर्मियों ने दी। यह
अभियान का हिस्सा है, जिस
जागरूक के संदेश के साथ
। आयोजन को कमिश्नर-डी के

रूपी का पालन करके और नियमित हाथों को धोकर रखने है, उनका कहना कुछ भी बिगाड़ नहीं पाता है। उनके अभियान पर तालियां बजीं। नुक्कड़ नाटक में सपना द्विवेदी हनी सिंह, विष्णु कुशल, सृष्टि, विक्रम ठाकुर, स्वाति, प्रीति, रवीम, शमर परिवार अभिनय किया।

ऐत्मादपुरा के एक मजदूर पुलिस के द्वारा दलाव जा रहे अभियान के तहत कोरोना से बचाव के लिए मुखपट्ट लगाने के प्रति जागरूकता दिखा रहा ● आगरा

प्रथमें स्वास्थ्यकर्मियों पर सबसे किया जाएगा। इसमें जेएसएसएम मेडिकल कॉलेज की पूर्व प्राचार्य प्रो. भारती खरेघरानी, एसएमएस मिश्रित नाटक, नोडल ऑफिसर डॉ. अमर्त्य दुबे, सहि एवं नोडल ऑफिसर डॉ. मानिका मल्होत्रा, नोडल ऑफिसर डॉ. मनीष महेश्व

मिली लैब की जांच में भी 23-25 केस रोज आ रहे हैं। समय पर इस

लेकर सतर्कता बरती जानी बेहद जरूरी है।

पहले ही खप गए डोबुटामिन इंजेक्शन

आगरा आगरा : दिल के मरीजों के लिए उन मेडिकल सप्लाई कॉरपोरेशन (यूपीएमएससी) द्वारा भेजा गया डोबुटामिन-ड्ब एमजी इंजेक्शन का स्टॉक जांच में पता चला है। दिल के डॉक्टरों ने कमलाधर गोखरिया (कार्डियक) सिविल में इंजेक्शन की आपूर्ति हुई थी, लेकिन यह मिलने से पहले ही इंजेक्शन खप चुके थे।

वित्तीय वर्ष 2019-2020 में अलग-अलग डिविजनल मेडिकल स्टोर डिविजन को डोबुटामिन-ड्ब एमजी इंजेक्शन की आपूर्ति का ठेका यूपीएमएससी ने दिया था। फरवरी में वैच नंबर एएएल1118 एवं मिसको मैन्युफैक्चरिंग लिमि मार्च 2019 एवं एक्सपायरी फरवरी 2021 थी। इसी तरह वैच नंबर एएएल1118एए, मिसको मैन्युफैक्चरिंग लिमि जून 2019 एवं एक्सपायरी मई 2021 थी। यूपीएमएससी ने सभी जिलों के सीएमओ एवं अस्पताल के सीएमएस को पत्र लिखकर दवाओं के इस्तेमाल पर रोक लगा दी है। उसेली अस्पताल के चिकित्सा अधीक्षक डॉ. एके मिश्र का कहना है कि अस्पताल में 100 बेडिंग हाए थे, जो सिंदूर में स्थाना हो गए। उसके बाद से अभी तक इंजेक्शन की आपूर्ति नहीं हुई है।

Dainik Jagran - 21/10/2020

tting DL

official said that the testing camps start functioning from 8.30am and till about 11am, the counters inside see scant footfall but suddenly then the rush goes up. "We were able to regulate entry to the RTO very well till the camps opened. Now, a large number of people gather at the premises after undergoing tests," he added.

"The testing site is not permanent and it is going to shift to another place that needs attention as we keep doing this on a rotational basis. However, it takes time to set up camps and when we do we keep testing continuously for enough days," Kaur said, adding that when the positivity rate dips, camps are shifted to another public place.

Forensic lab told to expedite test of riots' data

New Delhi: A Delhi court has directed the director of Forensic Investigation of Crime and Scientific Services (CFSL) to expedite the examination of the analysis of electronic data in a case related to the communal violence in northeast Delhi in February. Metropolitan Magistrate Fahad Uddin asked police to expedite the process and take steps for filing supplementary chargesheet along with pending forensic lab results at the earliest in the case related to the riots in Jaffrabad. The court was hearing an application filed by JNU student and Pinjra Tod activist Devangana Kalita, arrested in the case, seeking copies of videos of protests against CAA and other electronic data available with the police in the matter. ■

set in the city due to rampant advertisements for maximising revenue. But officials maintained that SDMC had been following the outdoor advertisement policy.

Wings of LED screens. "For LED screens a maximum of 50-sq-meter area will be allowed and double the rate of the normal monthly licence fee will be levied," the official said.

Times of India - Delhi
21-10-2020

Indian Express Delhi 21-10-2020

WWW.INDIANEXPRESS.COM

CORONAVIRUS IN THE CAPITAL

TOTAL CASES		Total	Vacant
3,36,750	HOSPITAL BEDS	15,723	10,658
	VENTILATORS	1,264	536

	Daily cases	Recoveries	Deaths	Tests
Oct 19	2,154	2,845	31	36,445
Oct 20	3,579	2,186	41	56,593
Total	23,922*	3,06,747	6,081	40,83,476

*total active cases

said there have been repeated instances where RT-PCR test results were not made available to people within 24 hours, and called it "most unacceptable" that the time taken for results was still extending upto even four days.

The court asked the Delhi government in its next status report to clarify how the system is being streamlined to ensure the turnaround time for testing is adhered to. There is obviously "some lag" which must be addressed at earliest, observed the court, while hearing a petition filed by advocate Rakesh Malhotra regarding Delhi's Covid testing strategy.

"The direction is considered necessary in light of the fact that on most occasions where the samples are collected and sent to the laboratories for testing, the person who is tested is not given ... Justices Hima Kohli and Subramonium ... observed ... administrative reason why results should not be communicated on the mobile phone to the persons. The court made the observations after taking note of recommendations made by an Expert Committee on the Testing Strategy, which said results should be available within 24 hours and suspected cases should ensure strict isolation till then.

"When the government has declared a complete unlockdown which requires all employed persons to report for duty regularly,... nor can the self-employed persons/professionals be expected to remain in isolation unnecessarily, it is most unacceptable that turnaround for results is still far exceeding 24 hours and extending upto four days," said the court.

... said it was time for prisoners out on interim bail or parole on account of Covid-19 pandemic to return to jails, after it was informed that only three inmates now suffer from Covid-19. A total of 6,711 inmates would have to surrender if the court decides not to extend its blanket order extending the interim bail and parole of prisoners.

The full bench of Chief Justice D N Patel and Justice Siddharth Mridul and Justice Talwant Singh was hearing a suo-motu case regarding extension in interim bails and parole. Directions were passed by the court earlier to decongest the city's jails to contain the spread of Covid-19 there.

"We are not concerned with the capacity of jails and the nature of offence. The order was passed only due to Covid and ...

However, the Delhi government's senior standing counsel (criminal) Rahul Mehra submitted the state has not brought anything before the court to show the decongestion has led to widespread crime in the city. Mehra also said Covid-19 by "no means is over in Delhi" and there are still a high number of cases.

Mehra also submitted it would be against the spirit of the Supreme Court judgement regarding decongestion of jails during the pandemic. However, CJ Patel observed the "Covid chapter" should close, adding that other avenues for bail and parole exist, and the power of the apex court's high-powered committee will still remain. "Let them surrender and get bail on ments ... in a usual manner," he said.