COMPLIANCE REPORT

ON

ENVIRONMENT CLEARANCE

(MoEF& CC File No J11011/154/2016-IAII (I) dated 29/08/2017)

For the period

April' 2024 - to - Sept' 2024

Submitted

to

MoEF & CC, Regional Office (ECZ), Ranchi

Ammonia Urea Fertilizer Plant

(2200MTPD Ammonia & 3850MTPD Urea)

SINDRI

Nov' 2024

हिंदुस्तान उर्वरक एवं रसायन लिमिटेड

HINDUSTAN URVARAK & RASAYAN LTD., SINDRI

(A joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

Hindustan Urvarak & Rasayan Limited
(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)
Office of The Project Head, Sindri Project, HURL
Old FCIL Office Complex, PO- Sindri,
Dhanbad Jharkhand-828122, Tel: -0326-2245454
GST Reg. No.: - 20AADCH9368N1Z6

Ref. No.: HURL/SND/24-25/458 Date: 19.11.2024

To,
The Scientist - D
Ministry of Environment, Forest and Climate Change,
Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony,
Ranchi – 834002.

Subject: Ammonia (2200 MTPD) Urea (3850 MTPD) Fertilizer Project at Sindri in District Dhanbad, Jharkhand of M/s Hindustan Urvarak & Rasayan Limited (HURL)-Compliance Report for April' 2024 – Sept' 2024.

Ref: MoEF & CC, Environmental Clearance Letter No. J11011/154/2016-IAII (I) dated 29.08.2017.

Dear Sir,

With reference to the subject as mentioned above, please find attached herewith the compliance report for the period April' 2024 – Sept' 2024.

Yours faithfully

21/11/24

(**Suresh Pramanik**)
Business Unit Head
Hindustan Urvarak & Rasayan Ltd.,
Old FCIL Office Complex, Sindri

PO: Sindri, Dist: Dhanbad-828122
Telephone – 0326-2245454

COMPLIANCE OF EC CONDITIONS FOR THE PERIOD APRIL 2024 - SEPTEMBER 2024

Sl. No.	COMPLIANCE CONDITIONS	STATUS
A	SPECIFIC CONDITIONS	
i)	Emissions-limits for the pollutants from the Diesel Generator Sets and the stack height shall be in conformity with the extant statutory regulations and/or the CPCB guidelines in this regard.	Complied Diesel Generator Sets are being used only in case of total Power Failure for safe shutdown of the Plants. Normally, the Complex Power requirement is being met from two incoming Grids (DVC Power) and Natural Gas based own Captive Power Generation (02 Gas Turbines). Adequate stack height provided to ensure the statutory regulations & guidelines. ➢ Particulate Matter (PM) of HRSG – 1, HRSG – 2 and Reformer obtained < 5 mg/Nm^3 (Standard: PM < 150 mg/Nm^3)
ii)	To control source emissions, scrubber and/or other suitable pollution control device shall be installed to meet the prescribed Particulate Matter emission norms of 50 mg/Nm3, and also the NAAQS.	Complied. Design consideration include scrubbers, adequate height of Urea Prilling Tower and other gas sensors/control measures in the Plant to meet emission norms as per NAAQs. ➢ Particulate Matter (PM) of Urea Prill Tower was run between 40 to 48 mg/Nm3 (Standard: PM < 50 mg/Nm^3) [*Ref. Annexure – A*]
iii)	Fresh water requirement shall not exceed 5.36 cum/ton of Urea production. Fresh water for plant operation shall be sourced from Damodar River only after the required permission from the concerned authority. During construction phase, ground water may be used after prior permission in this regard from the concerned regulatory authority.	The water supply through existing FCIL's pump house from Damodar River to project site is being used. 6.6 MGD water drawal agreement has already been done with DVC. However, Fresh water requirement does not exceed and within the 5.36 cum/ton of Urea production.
iv)	As already committed by the project proponent, no waste/treated water shall be discharged outside to ensure ZLD. The effluent discharge, if any, shall meet the standards for 'Nitrogenous Fertilizer Industry' prescribed under the Environment (Protection) Rules, 1986.	The HURL, Sindri project has considered and executed with provisions of ZLD and therefore there will be no discharge outside the project boundary. Entire waste water generated treating up to tertiary level in the ETP inside the plant & being sent to RO and ZLD Units for further reuse.
v)	The project proponent shall develop Greenbelt in an area of 33% i.e. nearly 132 acres out of 400 acres of plant area of the project. The greenbelt of 30 m width around periphery shall be provided.	We have already planned for development of green belt in 33% area around plant periphery and is under implementation. The Complex is already having some jungle Area. Total plantation contract with forest department: 100.742 Acres (i.e. 40.77-Hectare) *a) 44.478 Acres (i.e. 18-Hectare) status*: Plantation was completed in 2022. But survival rate was very low. Presently the forest department again

Sl. No.	COMPLIANCE CONDITIONS	STATUS
		initiated Plantation and is under process. *b) 56.265 Acres (i.e. 22.77-Hectare) status*: 37.065 Acres area plantation completed & survival rate is more than 85%.
vi)	5000 trees per year in 5 years shall be planted in nearby villages with the consultation of the villagers. Survival rate of plants shall be reported to RO, MoEF & CC in 6 monthly compliance reports.	Being complied A Representation (HURL/SND/CER/23-24/1141 dated 21st Feb 2024) has been given to DC, Dhanbad for taking up community plantation by HURL, Sindri and consent from them is awaited.
vii)	All the commitments made during Public Hearing/Public Consultation meeting held on 24th April, 2017 shall be satisfactorily implemented and adequate budget provision should be made accordingly.	Being complied The commitments made during Public Hearing/Public Consultation meeting held on 24th April, 2017 are being complied for which adequate budget provision was considered in the in the project cost. Further various initiatives are in active consideration with District Officials for Education & skill development, Infrastructure for basic necessities, societal empowerment- women empowerment, creation of sustainable livelihood opportunities/avenues, sustainable agriculture and other rural areas activities etc.
viii)	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details shall be prepared and submitted to the Ministry's Regional Office at Ranchi. Implementation of such program shall be ensured accordingly in a time bound manner.	All the initiatives taken for addressing the PH issues area a part of the ESC. A budget provision of Rs. 50 crores have been made for taking various initiatives for fulfilment of the ESC obligations as well as the PH issues. After exhausting this corpus, HURL is committed to provide adequate additional funds for more initiatives as per the Policy as may be required from time to time for fulfilment of these obligations. As part of the same, necessary discussions have been initiated with District Authorities for obtaining NOC for developing the nearby Schools.
ix)	A regular environment manager having post graduate qualification in environmental sciences/environmental engineering to be appointed for looking after the environmental management activities of the proposed plant.	The environmental management activities of the plant are being looked after by a permanent Manager level officer Dr. Naga Raju Batti, Manager (Env. & QC). Environmental Monitoring work has been outsourced to an external agency. Action has also been taken for further strengthening the team.
x)	Continuous online (24 X 7) monitoring system for emissions and effluent generation shall be installed for flow/discharge measurement and the	The Continuous Emission Monitoring System (CEMS) has been installed in the plant and connected to CPCB (Govt. of India).

Sl. No.	COMPLIANCE CONDITIONS	STATUS
	pollutants concentration within the plant. Data shall be uploaded on company's website and provided to the respective RO of MoEF & CC, CPCB and SPCB.	
xi)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	The issue was adequately addressed in the Detailed Project Report and RRA conducted for the Project. All the recommendations are being complied. Plant is equipped with adequate measures for control of failure/hazards. Firefighting facilities are implemented as per norms.
xii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Regular Occupational health surveillance of the workers is being done and records are maintained as per the factories Act.
xiii)	Storage of hazardous raw material shall not exceed more than 7-days.	*Complied.* Natural Gas is being used as Raw Material and is being supplied continuously through pipeline, for which all safeguards for fire protection are taken. Hazardous chemicals, if any, used for cooling water treatment are stored with adequate safety provisions.
xiv)	Urea dust shall be controlled by prescribed standard technique.	*Complied.* Adequate height and width of prilling tower has been provided to control the Urea Dust.
xv)	In Urea Plant, particulate emissions shall not exceed 50 mg/Nm^3. Monitoring of Prilling Tower shall be carried out as per CPCB guidelines.	Adequate stack height provided to ensure the statutory regulations & guidelines. ➢ Particulate Matter (PM) of Urea Prill Tower was run between 40 to 48 mg/Nm^3 as on for the period of 01.04.2024 to 30.11.2024 and within the Standard: PM < 50 mg/Nm^3 [Ref. Annexure – A].
xvi)	The levels of PM10 (Urea dust), SOx, NOx, Ammonia, Ozone and HC shall be monitored in the ambient air and displayed at a convenient location near the main gate of the company and at important public places. The company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MoEF&CC, the respective Zonal office of MoEF&CC and SPCB.	The levels of PM10 (Urea dust), SOx, NOx, Ammonia, Ozone and HC in the ambient air are being monitored since the construction phase in consultation with JSPCB since April 2018, by external agencies, having CPCB and NABL recognised Laboratories. The results are currently being displayed near to the main gate of the plant. The data is also being uploaded on HURL's website and updated periodically. Simultaneously, it is also sent to the regional office of MoEF & CC (Govt. of India) and JSPCB. The analysis of Ambient air quality studied by M/s. Nitya Laboratories is enclosed as *Annexure - A*.
xvii)	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing	Adequate protection measures are incorporated in the design itself and all the fugitive emissions are connected to Flares and they are burnt before releasing to Atmosphere.

Sl. No.	COMPLIANCE CONDITIONS	STATUS
	closed storage, closed handling & conveyance of chemicals/materials, multi cyclone separator and water sprinkling system. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits stipulated by the SPCB.	➢ The Complex is designed with 4 Flares (2 in Ammonia Plant, 1 in Urea Plant and 1 in Ammonia Storage Area) to handle the Fugitive Emissions. ➢ Water sprinkling systems provided at Ammonia/Chemicals Storage Tanks. ➢ Cyclone separators shall be installed at Urea Conveyor Line and Bagging Plant for de-dusting. Air Quality is being monitored in work zone environment as per monitoring plan for assessment of pollution level. The emissions are conforming to the limits stipulated by JSPCB. The analysis of Ambient air quality studied by M/s. Nitya Laboratories is enclosed as *Annexure – A*.
xviii)	The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2016 and amended as on date for management of Hazardous wastes. Measures shall be taken for fire-fighting facilities in case of emergency.	HURL has an agreement with *M/s. Nialaynarayan Polychem LLP* for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2016, for management of Hazardous wastes. Adequate fire-fighting facilities have been provided and maintained for meeting the emergencies.
xix)	Provision shall be made for the housing for the construction labour 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 plant is at the operation stage. However, all necessary compliances were ensured during the construction phase. Majority of the construction wastes have been removed in an environmentally friendly manner. However, the remaining construction wastes have been kept at designated places and being disposed as per provisions of Construction and Demolition Waste Management Rules, 2016.
	B. GENERAL CONDITIONS	
i)	The Project authorities shall strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	It is being complied regularly.
ii)	No further expansion or modifications in the plant shall not be carried out without prior approval of the MoEF&CC. In case of deviations or alterations in the project proposal from those submitted to MoEF&CC for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted, There is No further expansion or modifications in the plant is envisaged at this stage. However, as & when required, a fresh reference shall be made to the MoEF & CC, Govt. of India.
iii)	The locations of ambient air quality	It is being complied regularly from the 6-locations

Sl. No.	COMPLIANCE CONDITIONS	STATUS
	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.	which were proposed and studied by M/s. Nitya Laboratories, Govt. of India U/T in consultation with the JSPCB. However, HURL has submitted a request letter to Jharkhand State Pollution Control Board (JSPCB) for fixation of 03-Permanent Ambient Air Quality monitoring Stations (Letter Ref. No. HURL/SND/E&QC/JSPCB/2022-23/01 dated 17.05.2023). Suggested that, out of 06 – Locations, fixed 03-Locations in 120 ° Angle around the Urea Prilling tower at the Plant Boundaries. The approval from the JSPCB is still awaited.
iv)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated is November, 2009 shall be followed.	*Being complied*
v)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	The noise levels are maintained within the standard prescribed limits by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The analysis of Ambient air quality studied by M/s. M/s. Nitya Laboratories is enclosed as *Annexure – A*.
vi)	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	*Complied* Inside the Plant, Roofs of all buildings have the provision of Rainwater Harvesting.
vii)	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Training is an essential aspect and ongoing Activity. All Employees are imparted on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees is being undertaken on regular basis.
viii)	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, risk mitigation measures and public hearing be implemented.	Being Complied.
ix)	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.	CSR activities shall be undertaken as and when applicable. However, some initiatives are under implementation as well as under consideration aimed at improving the socio-economic conditions of the surrounding area, as part of fulfilment of the

Sl. No.	COMPLIANCE CONDITIONS	STATUS
		obligations under ESC/ PH issues.
x)	The company shall undertake all eco-developmental measures including community welfare measures for overall improvement of the environment.	All eco-developmental measures including community welfare measures for overall improvement of the environment will be undertaken by involving local villages and administration as per rule and Government guidelines.
xi)	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	The EC conditions relating to establishment of Environmental Cell have been complied with and the following arrangement for environment cell is in place. 1) At present environment cell is headed by Mr. Goutam Majee, V P Technical, who is reporting to Mr. Suresh Pramanik (Project Head). & 2) Dr. Naga Raju Batti, Manager (Env. & Quality Control); Mr. Keyur Rathi, Asst. Manager; Mr. Aman Singh, Lab Asst - I (Env. & Quality Control) Full-fledged laboratory facilities are established to carry out the Environmental Management and Monitoring functions.
xii)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate change as well as the 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.	Being complied
xiii)	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad / Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions, representations, if any, were received while processing the proposal.	Complied.
xiv)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by email) to the respective Regional Office of MoEF& CC, the respective Zonal Office of Environmental Clearance and six-monthly compliance status reports shall be posted	Being Complied. Regular six-monthly compliance report is being submitted to MOEF & CC zonal office (both in hard copies as well as by email) and posted on the website of the company.

Sl. No.	COMPLIANCE CONDITIONS	STATUS
	on the website of the company.	
xv)	The environmental statement for each financial year ending 31st March in **Form-V** as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF & CC by email.	Being complied. The Environment Statement has been submitted for the financial year ending 31st March' 2024 in Form - V. Also, the same has been uploaded on HURL's website.
xvi)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied
xvii)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied

21/11/24

(Suresh Pramanik)
Business Unit Head
Hindustan Urvarak & Rasayan Ltd. (HURL)
Old FCIL Office Complex, Sindri
PO-Sindri, Dist. - Dhanbad-828122
Telephone – 0326-2245454

Ann-A

NITYA LABORATORIES
43, Sector-A1 Ext., Bhalla Enclave, Channi Himmat, Jammu-180 015, J&K (UT), India
+91-191-2465597
info@nityalab.com www.nityalab.com

Annexure-1

Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

This Compliance Report is the fulfillments of the condition of the Environmental Clearance (EC) vide File No.EC [IA/JH/IND2/54024/2016,J-11011/154/2016-IA II (I)] for the period of April 2024 to September 2024 This report has been prepared by Nitya Laboratories by collecting respective samples in consultation with the State Pollution Control Board (SPCB) officials and Hindustan Urvarak and Rasayan Limited (HURL) officials During the above mentioned period the analysis of the environmental parameters has been conducted by the MOEF&CC recognized Laboratory at Nitya Laboratories, Jammu .

The proposed project is located at Sindri and was commissioned on 18 November 2022 with the capacity of 2200MTPD Ammonia and 3850MTPD Urea in the District Dhanbad in the state of Jharkhand. The commercial production has started from 19 November 2022 with the Plant name APNA UREA. The area falls in the agricultural belt of the Jharkhand.

The compliance report fulfils the 19 Nos of Specific Conditions and 17 Nos. of General Conditions led by Ministry of Environment, Forests and Climate Change Rainwater Harvesting and Ground Water charging has been proposed as per Standard Guidelines:

- Guidelines on Artificial Recharge of Water, Central Water Ground Board, Ministry of Water Resources, GoI (2000)
- Manual on Artificial Recharge of Ground Water, Central Water Ground Board, Ministry of Water Resources, GoI (2007)
- Rain Water Harvesting and Conservation Manual Consultancy Services Organization, CPWD, GoI (2002)

The Environmental Monitoring report of 6 months w.r.t Air, Water and Noise have been presented separately with the average values. The environmental conditions and the compliance have been found normal as per the Standards. The Air Quality results have been presented through a self-explanatory table with the NAAQ Standards w.r.t the parameter PM_{10}, $PM_{2.5}$, NO_x. So_x, C_6H_6, CO, Benzo(a) pyrene (BAP), NH3, Ozone, Nickel, Arsenic and Lead. Three sets each of Ground Water Samples and Surface Water Samples have been collected, analyzed in a self-explanatory table, and compared with Drinking Water Standards (IS:10500:2012) The analysis consists of eight nos. of physical parameters, thirteen no's of chemical parameters, nine no's of Heavy metals and three no's of miscellaneous parameters. Noise Quality has also been measured at six different locations in the periphery of the project area. The results have been presented through self-explanatory table consisting of the Standard NAAQS w.r.t noise.

The above report with respect to Air, Water and Noise represents the average values of different sampling stations collected at different time during the study period of April 2024 to September 2024.

NITYA LABORATORIES Authorised

NITYA LABORATORIES
43, Sector-A1 Ext., Bhalla Enclave, Channi Himmat, Jammu-180 015, J&K (UT), India
+91-191-2465597
info@nityalab.com www.nityalab.com

Annexure-1

Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

TABLE– 1

Location of Air Quality Monitoring Stations

Sr. No.	Location of Station	Frequency
1.	HURL Admin Building (SA1)	Twice a Week
2.	Railway Phatak (SA2)	Twice a Week
3.	Domgarh Gate (Inside Plant) (SA3)	Twice a Week
4.	Settling Tank (SA4)	Twice a Week
5.	PDIL Guest House (SA5)	Twice a Week
6.	Sindri Basti Village (SA6)	Twice a Week

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Nitya Work for Quality
NITYA LABORATORIES
BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB
NITYA LABORATORIES
43, Sector-A1 Ext., Bhalla Enclave, Channi Himmat, Jammu-180 015, J&K (UT), India
+91-191-2465597
info@nityalab.com www.nityalab.com

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HURL SINDRI, AIR QUALITY DATA – (April 2024 to September 2024)

Month	Parameters		NAAQS Standards	HURL Admin Building (SA1)	Railway Phatak (SA2)	Domgarh Gate (Inside Plant) (SA3)	Settling Tank (SA4)	PDIL Guest House (SA5)	Sindri Basti Village (SA6)
April 2024	PM10	µg/m3	100	67.16	77.65	72.62	66.15	72.31	76.73
	PM2.5		60	14.85	17.71	17.62	18.32	14.7	15.89
	SO_2		80	6.59	8.30	8.25	8.66	7.11	7.68
	NO_x		80	12.28	14.85	13.53	11.56	10.58	13.67
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.42	0.40	0.07	0.05	0.43	0.42
	NH_3	µg/m3	400	12.86	13.11	10.88	8.99	9.71	7.86
	Ozone		180	15.03	19.83	16.66	14.11	11.53	14.75
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND
May 2024	PM10	µg/m3	100	65.37	78.00	71.08	67.23	68.23	54.00
	PM2.5		60	14.84	18.98	19.21	18.43	16.58	18.35
	SO_2		80	7.94	9.83	8.21	11.10	8.03	7.71
	NO_x		80	11.53	14.97	14.6	13.26	8.37	12.47
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.32	0.34	0.21	0.11	0.22	0.18
	NH_3	µg/m3	400	12.79	13.98	12.97	10.07	8.51	6.99
	Ozone		180	14.73	18.52	16.87	13.25	11.88	12.76
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND

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June 2024	PM10	µg/m3	100	65.33	75.27	70.85	64.96	71.94	74.45
	PM2.5		60	13.30	16.18	20.96	20.47	18.00	20.21
	SO2		80	11.54	11.33	13.07	11.93	11.96	12.30
	NOx		80	17.49	11.83	16.61	16.25	16.19	16.63
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.38	0.39	0.14	0.13	0.4	0.4
	NH3	µg/m3	400	15.77	14.73	13.38	12.24	12.30	13.11
	Ozone		180	19.56	19.81	18.83	18.34	17.51	18.03
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND
July 2024	PM10	µg/m3	100	65.61	76.14	70.75	64.83	70.51	73.75
	PM2.5		60	22.09	22.2	22.67	22.94	24.95	24.65
	SO2		80	12.24	13.43	14.68	12.99	14.01	12.88
	NOx		80	16.66	17.26	18.85	16.74	17.71	17.25
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.38	0.38	0.13	0.13	0.41	0.40
	NH3	µg/m3	400	14.70	15.24	15.18	14.76	16.30	14.05
	Ozone		180	18.50	19.01	21.04	18.1	18.73	18.96
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND
Aug. 2024	PM10	µg/m3	100	65.15	73.00	67.73	61.29	67.34	69.18
	PM2.5		60	24.85	24.56	25	25.78	27.73	22.96
	SO2		80	14.71	15.80	16.30	15.00	16.93	14.8
	NOx		80	18.09	20.28	19.99	18.75	20.71	19.20
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.54	0.54	0.31	0.25	0.51	0.51
	NH3	µg/m3	400	16.44	17.31	17.11	16.76	18.21	16.05
	Ozone		180	19.26	20.95	22.40	20.1	21.39	20.75
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND

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Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND
Sept. 2024	PM10	µg/m3	100	61.25	71.25	67.35	63.13	69.88	74.43
	PM2.5		60	24.59	24.26	24.88	24.61	27.76	26.61
	SO2		80	14.38	15.51	17.66	14.85	16.10	14.86
	NOx		80	18.61	18.86	21.71	18.78	19.64	19.39
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.48	0.48	0.23	0.26	0.49	0.51
	NH3	µg/m3	400	16.59	15.15	17.16	15.99	17.45	15.95
	Ozone		180	18.64	19.48	22.4	16.69	20.53	20.5
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND
Average	PM10	µg/m3	100	64.98	75.22	70.06	64.60	70.04	70.42
	PM2.5		60	19.09	20.65	21.72	21.76	21.62	21.45
	SO2		80	11.23	12.37	13.03	12.42	12.36	11.71
	NOx		80	15.78	16.34	17.55	15.89	15.53	16.44
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.42	0.42	0.18	0.16	0.41	0.40
	NH3	µg/m3	400	14.86	14.92	14.45	13.14	13.75	12.34
	Ozone		180	17.62	19.60	19.70	16.77	16.93	17.63
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND

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Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

TABLE - 2

Noise Monitoring Assessment Schedule

Sr. No.	Source	Frequency
1.	Admin Build. HURL Gate (SN 1)	Once in a Month
2.	Railway Phatak (Inside the Plant) (SN 2)	Once in a Month
3.	Domgarh Gate (Inside the Plant)(SN 3)	Once in a Month
4.	Settling Tank (SN 4)	Once in a Month
5.	PDIL Guest House (SN 5)	Once in a Month
6.	Sindri Basti Village(SN 6)	Once in a Month

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HURL SINDRI, NOISE DATA (April 2024 to Sept. 2024)								
Month	Parameters	Prescribed Limits in db(A) as per CPCB Ind./Res. Area	Admin Build. HURL Gate (SN 1)	Railway Phatak (Inside the Plant) (SN 2)	Domgarh Gate (Inside the Plant)(SN 3)	Settling Tank (SN 4)	PDIL Guest House (SN 5)	Sindri Basti Village (SN 6)
April-2024	24 hrs. Avg Leq Value db (A)	-	51.12	52.72	50.43	51.66	49.13	48.80
	Day time Avg Leq Value db (A)	75/55	55.65	57.43	54.84	55.79	53.23	52.98
	Night time Avg Leq Value db (A)	70/45	42.11	43.30	41.61	43.38	42.80	40.45
May-2024	24 hrs. Avg Leq Value db (A)	-	50.35	51.93	51.44	50.56	49.75	49.10
	Day time Avg Leq Value db (A)	75/55	54.72	56.68	56.04	55.00	53.23	53.32
	Night time Avg Leq Value db (A)	70/45	41.61	42.41	42.23	41.57	42.80	40.66
June - 2024	24 hrs. Avg Leq Value db (A)	-	52.17	54.29	54.29	48.85	48.14	49.41
	Day time Avg Leq Value db (A)	75/55	56.92	58.78	58.74	53.25	52.18	54.41
	Night time Avg Leq Value db (A)	70/45	42.65	45.30	45.36	40.21	38.66	41.09
July-2024	24 hrs. Avg Leq Value db (A)	-	52.50	52.15	49.25	53.20	50.75	48.04
	Day time Avg Leq Value db (A)	75/55	57.46	56.53	53.64	57.13	55.00	52.03
	Night time Avg Leq Value db (A)	70/45	42.58	43.38	40.49	44.74	42.24	40.08

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August -2024	24 hrs. Avg Leq Value db (A)	-	52.91	52.15	48.93	53.20	50.70	47.99
	Day time Avg Leq Value db (A)	75/55	56.39	56.43	53.24	57.63	54.31	51.88
	Night time Avg Leq Value db (A)	70/45	43.40	44.02	35.30	44.32	41.65	39.82
Sept. 2024	24 hrs. Avg Leq Value db (A)	-	52.73	52.33	49.81	53.20	50.90	48.33
	Day time Avg Leq Value db (A)	75/55	57.58	56.80	54.05	57.43	55.21	52.43
	Night time Avg Leq Value db (A)	70/45	43.03	43.20	41.31	44.73	42.26	40.11
Average	**24 hrs. Avg Leq Value db (A)**	**-**	**51.96**	**52.59**	**50.69**	**51.78**	**49.90**	**48.61**
	Day time Avg Leq Value db (A)	**75/55**	**56.45**	**57.11**	**55.09**	**56.04**	**53.93**	**52.84**
	Night time Avg Leq Value db (A)	**70/45**	**42.56**	**43.60**	**41.05**	**43.16**	**41.28**	**40.37**

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Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

TABLE - 3

Ground Water Quality Assessment Schedule

Sr. No.	Source	Parameters	Frequency
1.	Near Railway Phatak (Hand Pump)	As per IS: 10500	Once in a Month
2.	Near Domgarh Mandir (Hand Pump)	As per IS: 10500	Once in a Month
3.	Rohraband (Hand Pump)	As per IS: 10500	Once in a Month

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Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

HURL SINDRI, GROUND WATER QUALITY DATA AVERAGE RESULT (April 2024 to September 2024)
(Results are expressed in mg/l, unless otherwise stated)

Sr. No.	Parameters	Average Analysis Results			Requirement (Acceptable)/Permissible Limits (IS:10500:2012)
		Near Railway Phatak (Hand Pump)	Near Domgarh Mandir (Hand Pump)	Rohraband (Hand Pump)	
PHYSICAL					
1.0	pH	7.51	7.63	7.63	6.5-8.5
2.0	Temperature	25.26	25.12	25.08	-
3.0	Colour	<5	<5	<5	5/15
4.0	Odour	ND	ND	ND	Agreeable
5.0	Taste	ND	ND	ND	Agreeable
6.0	Turbidity (NTU)	ND	ND	ND	1/5
8.0	Total Dissolved Solids	290.33	282.50	309.33	500/2000
CHEMICAL					
1.0	Total Alkalinity as (CaCO3)	140.00	160.00	151.33	200/600
2.0	Chloride as Cl	91.66	76.00	58.00	250/1000
3.0	Sulphate as (SO4)	39.93	42.60	49.75	200/400
4.0	Nitrate as (NO3)	2.56	2.15	2.45	45/NR
5.0	Fluoride as (F)	0.17	0.17	0.21	1.0/1.5
6.0	Total Hardness as (CaCO3)	178.66	151.33	173.00	200/600
7.0	Calcium as Ca	44.33	42.00	49.75	75/200
8.0	Magnesium as Mg	16.48	11.26	13.69	30/100
9.0	Sodium as Na	20.53	18.49	22.92	-
10.0	Potassium as K	7.01	3.20	8.85	-
11.0	Silica as SiO2	5.86	8.43	7.37	-
12.0	Iron as Fe	0.23	0.25	0.22	0.3/NR
HEAVY METALS					

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Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

1.0	Manganese as Mn	ND	ND	ND	0.1/0.3
2.0	Total Chromium as Cr	ND	ND	ND	0.05/NR
3.0	Lead as Pb	ND	ND	ND	0.01/NR
4.0	Zinc as Zn	0.33	0.54	0.58	5.0/15
5.0	Cadmium as Cd	ND	ND	ND	0.003/NR
6.0	Copper as Cu	ND	ND	ND	0.05/1.5
7.0	Nickel as Ni	ND	ND	ND	0.02/NR
8.0	Arsenic as As	ND	ND	ND	0.01
9.0	Selenium as Se	ND	ND	ND	0.01/NR
OTHERS					
1.0	Oil & Grease	ND	ND	ND	0.01/0.03
2.0	Phenolic compound as C6H6OH	ND	ND	ND	0.001/0.002
3.0	Total Coliform (MPN/100 ml)	Absent	Absent	Absent	-

NR= No Relaxation, *Calcium as Ca, ** Magnesium as Mg

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TABLE - 4

Surface Water Quality Assessment Schedule

Sr. No.	Source	Parameters	Frequency
1.	Nimtand Village (Pond)	As per IS: 10500	Once in a Month
2.	Seven Lake (Pond)	As per IS: 10500	Once in a Month
3.	Damodar River	As per IS: 10500	Once in a Month

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HURL SINDRI, Surface Water Quality Data Average Result (April 2024 to Sept. 2024)
(Results are expressed in mg/l, unless otherwise stated)

Sr. No.	Parameters	Average Analysis Results			Requirement (Acceptable)/ Permissible Limits (IS: 10500:2012)
		Nimtand Village (Pond)	Seven Lake (Pond)	Damodar River	
PHYSICAL					
1.0	pH	7.79	7.82	7.88	6.5-8.5
2.0	Temperature	25.72	26.28	25.13	-
3.0	Colour	7.50	7.00	12.50	5/15
4.0	Turbidity (NTU)	5.53	5.98	6.63	1/5
5.0	Total Suspended Solids	43.17	49.33	53.50	-
6.0	Total Dissolved Solids	270.00	294.83	270.00	500/2000
CHEMICAL					
1.0	Total Alkalinity as (CaCO3)	141.67	140.00	113.33	200/600
2.0	Chloride as Cl	60.00	43.00	42.00	250/1000
3.0	Sulphate as (SO4)	38.58	37.10	31.80	200/400
4.0	Nitrate as (NO3)	2.72	2.99	3.32	45/NR
5.0	Fluoride as (F)	ND	ND	ND	1.0/1.5
6.0	Total Hardness as (CaCO3)	166.33	173.33	144.33	200/600
7.0	Calcium Hardness	130.82	122.50	97.50	-
8.0	Magnesium Hardness	35.58	50.83	46.83	-
9.0	Dissolved Oxygen	5.83	6.30	5.98	-
10.0	COD	38.33	27.33	46.67	-
11.0	BOD (3 days at 27°C)	7.33	5.33	7.50	-
12.0	Sodium as Na	21.93	20.68	26.07	-
13.0	Potassium as K	4.05	3.18	5.09	-
HEAVY METALS					
1.0	Iron as Fe	0.28	0.34	0.34	0.3/NR

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2.0	Manganese as Mn	ND	ND	ND	0.1/0.3
3.0	Total Chromium as Cr	ND	ND	ND	0.05/NR
4.0	Lead as Pb	ND	ND	ND	0.01/NR
5.0	Zinc as Zn	0.56	0.73	0.54	5.0/15
6.0	Cadmium as Cd	ND	ND	ND	0.003/NR
7.0	Copper as Cu	ND	ND	ND	0.05/1.5
8.0	Nickel as Ni	ND	ND	ND	0.02/NR
9.0	Arsenic as As	ND	ND	ND	0.01
10.0	Selenium as Se	ND	ND	ND	0.01/NR
OTHERS					
1.0	Oil & Grease	ND	ND	ND	0.01/0.03
2.0	Phenolic compound as C6H6OH	ND	ND	ND	0.001/0.002
3.0	Total Coliform (MPN/100 ml)	575.50	861.67	684.83	-
4.0	Faecal Coliform (MPN/100 ml)	315.33	548.50	358.50	-

NR= No Relaxation, *Calcium as Ca, ** Magnesium as Mg

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Environmental Statement for CTO Compliance for the period April 2024 – Sep 2024 for Ammonia –Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, Jharkhand

TABLE - 5

Flue Gas Monitoring Assessment Schedule

Sr. No.	Source	Parameters	Frequency
1.	Primary Reformer	PM, SOx, NOx & CO	Twice in a Month
2.	Prill Tower	PM & Ammonia	Twice in a Month
3.	HRSG-1	PM, SOx, NOx & CO	Twice in a Month
4.	HRSG-2	PM, SOx, NOx & CO	Twice in a Month

HURL SINDRI, Flue Gas Monitoring Data Average Result (April 2024 to September 2024)

Month	Parameters		NAAQS Standards	Primary Reformer	HRSG-1	HRSG-2
April 2024	PM	mg/Nm³	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO_x		-	45	52	65
	SO_2		-	6	7	8
	CO		-	ND (DL-1)	6	4
June 2024	PM	mg/Nm³	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO_x		-	52	71	59
	SO_2		-	8	7	9
	CO		-	ND (DL-1)	5	13
July 2024	PM	mg/Nm³	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO_x		-	52	71	59
	SO_2		-	8	7	9
	CO		-	ND (DL-1)	5	13
Aug 2024	PM	mg/Nm³	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO_x		-	57	63	46
	SO_2		-	8	5	4
	CO		-	ND (DL-1)	9	6
Sep 2024	PM	mg/Nm³	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO_x		-	58	72	56
	SO_2		-	7	7	4

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	CO		-	ND (DL-1)	5	7
Average	PM	mg/Nm³	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO_x		-	52.80	65.80	57.00
	SO_2		-	7.40	6.60	6.80
	CO		-	ND (DL-1)	6.00	8.60

HURL SINDRI, Flue Gas Monitoring Data Average Result (April 2024 to September 2024)

Month	Parameters		NAAQS Standards	Prill Tower
April 2024	PM	mg/Nm³	-	42
	NH_3		-	46
June 2024	PM	mg/Nm³	-	35
	NH_3		-	45
July 2024	PM	mg/Nm³	-	39
	NH_3		-	45
Aug 2024	PM	mg/Nm³	-	41
	NH_3		-	47
Sep 2024	PM	mg/Nm³	-	43
	NH_3		-	44
Average	**PM**	**mg/Nm³**	-	**39.40**
	NH_3		-	**46.00**

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