

**COMPLIANCE REPORT**  
**ON**  
**ENVIRONMENT CLEARANCE**

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

For the period

Oct' 2023– to – Mar' 2024

Submitted

to

MoEF&CC, Regional Office (ECZ), Ranchi

**Ammonia Urea Fertilizer Plant**  
(2200MTPD Ammonia & 3850MTPD Urea)  
**SINDRI**

May 2024



**हिंदुस्तान उर्वरक एवं रसायन लिमिटेड**  
**HINDUSTAN URVARAK & RASAYAN LTD**  
(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/24-25/123

Date: 27.05.2024

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 Oct' 2023 – Mar' 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 Oct' 2023 – Mar' 2024.

Yours faithfully

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

**COMPLIANCE OF EC CONDITIONS FOR THE PERIOD APRIL 2023 - SEPTEMBER 2023**

Sl. No.	COMPLIANCE CONDITIONS	Status
<b>A</b>	<b>SPECIFIC CONDITIONS</b>	
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.	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 (2 Gas Turbines). The details of analysis report of DG Stack are enclosed as <i>Annexure - A</i> .  Adequate stack height provided to ensure the statutory regulations & guidelines.
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/Nm <sup>3</sup> , and also the NAAQS.	Fully Complied and this has considered in the Design itself.  Design consideration include scrubbers, adequate height of prilling tower and other gas sensors/control measures in the Plant to meet emission norms as per NAAQs. The details of analysis report of emissions is enclosed as <i>Annexure - A</i> .
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)





SL No.	COMPLIANCE CONDITIONS	Status
		<p>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 initiated Plantation and is under process.</p> <p>b) 56.265 Acres (i.e. 22.77-Hectare) status: 37.065 Acres area plantation completed &amp; survival rate is more than 90%.</p>
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.	<p>Plantation of trees in nearby villages is under active consideration and will be taken up.</p> <p>A Representation (HURL/SND/CER/23-24/1141 dated 21<sup>st</sup> Feb 2024) has been given to DC, Dhanbad for taking up community plantation by HURL, Sindri and consent from them is awaited.</p>
vii)	All the commitments made during Public Hearing/Public Consultation meeting held on 24 <sup>th</sup> April, 2017 shall be satisfactorily implemented and adequate budget provision should be made accordingly.	<p><i>Being complied</i></p> <p>The commitments made during Public Hearing/Public Consultation meeting held on 24<sup>th</sup> April, 2017 are being complied for which adequate budget provision was considered in the in the project cost. Details of Expenditure on public hearing issue is enclosed as <i>Annexure – B</i>.</p> <p>Further various initiatives are in active consideration with District Officials for Education &amp; skildevelopment, Infrastructure for basic necessities, societal empowerment- women empowerment, creation of sustainable livelihood opportunities/avenues, sustainable agriculture and other rural areas activities etc. In this regard a letter was submitted with refer no HURL/SND/CER/CSR/23-24/222 dated 13<sup>th</sup> May 2023 to get No Objection Certificate. HURL Letter Ref. No. HURL/SND/CER/23-24/1142, Dt. 21.02.2024</p> <p>Consent from DC is awaited.</p>
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.	<p>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.</p> <p>As part of the same, necessary discussions have</p>



Sl. No.	COMPLIANCE CONDITIONS	Status
		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 ( <i>Env. &amp; Quality Control</i> ). 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 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.	The Continuous Emission Monitoring System (CEMS) has been installed in the plant and connected to CPCB (Govt. of India)
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.	<i>Complied.</i>  Natural gas is being used as fuel 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.	<i>Complied.</i>  Adequate height and width of prilling tower has been provided to control the Urea Dust.
xv)	In Urea Plant, particulate emissions shall not exceed 50mg/Nm <sup>3</sup> . Monitoring of Prilling Tower shall be carried out as per CPCB guidelines.	Particulate Emissions are within the 50 mg/Nm <sup>3</sup> .  Urea Prilling tower Emissions are being monitored as per the CPCB Guidelines; analysis reports attached as <i>Annexure - A</i> .
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	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



Sl. No.	COMPLIANCE CONDITIONS	Status
	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.	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 <i>Annexure - C</i> .
xvii)	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, 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.	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. <ul style="list-style-type: none"> <li>➤ 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.</li> <li>➤ Water sprinkling systems provided at Ammonia/Chemicals Storage Tanks.</li> <li>➤ Cyclone separators shall be installed at Urea Conveyor Line and Bagging Plant for de-dusting.</li> </ul> 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 <i>Annexure - C</i> .
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 <i>M/s. Nialaynarayan Polychem LLP</i> 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.






Sl. No.	COMPLIANCE CONDITIONS	Status
<b>B. GENERAL CONDITIONS</b>		
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 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.	It is being complied regularly from the 6-locations 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.	<i>Being complied</i>
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 ambient noise levels conformed to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time) The analysis of Ambient air quality studied by M/s. M/s. Nitya Laboratories is enclosed as <i>Annexure – C</i> .
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	<i>Complied</i>  Inside the Plant, Roofs of all buildings have the provision of Rainwater Harvesting.



Sl. No.	COMPLIANCE CONDITIONS	Status
	water.	
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 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)  Further, Process has already been initiated for strengthening the team  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	Being complied



Sl. No.	COMPLIANCE CONDITIONS	Status
	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.	
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 on the website of the company.	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.
xv)	The environmental statement for each financial year ending 31 <sup>st</sup> March in <b>Form-V</b> 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 31 <sup>st</sup> March' 2024 in <b>Form - V</b> . 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 <a href="http://moef.nic.in">http://moef.nic.in</a> . 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	Complied  

Sl. No.	COMPLIANCE CONDITIONS	Status
	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.	
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

*RB*  
manager (EGC)  
*Ch*

*Suresh Pramanik*  
27/05/24  
(Suresh Pramanik)  
Business Unit Head  
Hindustan Urvarak & Rasayan Ltd. (HURL)  
Old FCIL Office Complex, Sindri  
PO-Sindri, Dist. - Dhanbad-828122  
Telephone – 0326-2245454





## Hindustan Urvarak & Rasayan Limited

(A Joint Venture of NTPC, OIL, 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.: - 20AADCH9368N126

Ref. No.: HURL/SND/24-25/124

Date: 27.05.2024

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

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

**Sub: Environmental Statement for the financial year ending 31<sup>st</sup> March 2024.**

Dear Sir,

we are submitting herewith the environmental statement for the financial year ending 31<sup>st</sup> March' 2024 in respect of upcoming Ammonia & Urea Production plant.

*This is for your kind information pls.*

Thanking you.

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

**Encl: Environmental Statement for the financial year ending 31<sup>st</sup> March 2024 Annexure - I.**

**ENVIRONMENTAL STATEMENT**  
**FOR**  
**THE PERIOD APRIL'2023 TO MARCH'2024**

(Submitted as per Rule-14 of the Environment (Protection) Amendment Rules, 1993 of the Environment (Protection) Act, 1986 (29 of 1986) published vide Notification dated 22.04.1993-G.S.R. 386 (E) in the Gazette of India (Extraordinary) Part-II Section-3 Subsection (i). No.155 dated 28.04.1993 by the Ministry of Environment and Forests, Government of India: read with the Notification dated 13.02.1993 G.S.R. 329 (E) of the Gazette of India (Extraordinary) Part-II Section-3 Subsection (i) No. 120 dated 13-03-1993)

**"FORM - V"**  
**(See Rule 14)**

**PART-A**

**GENERAL INFORMATION**

1. Company Name: Hindustan Urvarak & Rasayan Limited (HURL)
2. Occupier's Name: SURESH PRAMANIK
3. Registered Office of the Company: Core-4, 9<sup>th</sup> Floor, SCOPE Minar,  
Laxmi Nagar District Centre, New Delhi - 110092,  
Tel.: 011-22502267
4. Factory Address: Hindustan Urvarak & Rasayan Limited (HURL)  
Office of The Project Head, Sindri Project, HURL  
Old FCIL Office Complex, PO- Sindri,  
Dhanbad, Jharkhand-828122
5. Production capacity: Ammonia- 2200 MTPD  
Urea-3850 MTPD
6. Establishment Year: 2017 (Consent to Establish was granted on 21-12-2017),  
however the Company Hindustan Urvarak & Rasayan  
Limited (HURL) was incorporated on 15<sup>th</sup> June, 2016 as joint  
venture company by CIL, NTPC, IOCL as the lead promoters  
with HFCL & FCIL as two other partners.
7. Date of Last Environmental:  
Statement submitted: 30.09.2023





Following action has been /being taken w.r.t. Environmental Legislations Applicable to the Project:

Sr. No.	Legislation	Action Taken
1.	The water (Prevention and Control of Pollution) Act 1974	Consent to Operate from Jharkhand State Pollution Control Board was obtained vide Consent No: JSPCB/HO/RNC/CTO-16217314/2023/1312 and dated 2023-07-24.
2.	The Air (Prevention and Control of Pollution) Act 1981	Consent to Operate from Jharkhand State Pollution Control Board was obtained vide Consent No: JSPCB/HO/RNC/CTO-16217314/2023/1312 and dated 2023-07-24.
3.	The Environment (Protection) Act, 1986 and EIA Notification 2006, & its amendments	Environment Clearance (EC) was granted by MoEF & CC, GOI, vide letter J-11011/154/2016-IA II (I) dated 29/08/2017.  Six monthly compliance report is being submitted regularly for compliance of EC conditions.
4.	Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 its amendments	Authorization under Hazardous Waste Rules was obtained from Jharkhand State Pollution Control Board vide Consent No: JSPCB/HO/RNC/HWM-14468890/2023/18 dated 26-03-2023. Agreement for disposal of Hazardous Waste was done with Authorized Recycler.
5.	Solid Waste Management Rules, 2016	Solid Waste Disposal will be done as provisions of Solid Waste Management Rules, 2016.
6.	E-Waste (Management & Handling) Rules, 2016 and Amendment 2018	E-Waste Disposal Agreement will be done with Authorized Recycler.
7.	Construction & Demolition waste Management Rule, 2016	All waste during construction stage was properly disposed of at the Allocated Areas.
8.	Plastic Waste Management Rules 2016 and amendment 2018	Plastic Waste Disposal Agreement will be done with approved recyclers
9.	The Noise Pollution (Regulation and Control) Rules, 2000	Acoustically Enclosed DG sets have been installed to minimize noise in the area. Also, Green Belt / plantation is being provided around the periphery of the premises.
10.	Battery Waste Management Rules, 2001 and its amendments	A Waste Disposal Agreement for disposal of Battery waste was done with approved recyclers.

## PART - B

### Water and Raw Materials Consumption

(1) Water consumption m<sup>3</sup>/d.

Process : 20664  
 Cooling : 17564 (Includes in the above-mentioned Process Requirement)  
 Construction : NA  
 Domestic use : 5736 (Including the requirement of Town ship)  
 Horticulture use : Treated Effluent is being used.



(2) Raw Material Consumption – Natural Gas

* Nature of consumption	Process Raw Material Consumption per unit of product output		
	Quality of product	During the previous financial year	During the current financial year
Natural Gas	LHV 8588.80 Kcal/Sm <sup>3</sup>	946.147 Sm <sup>3</sup> /MT of Urea @ 8349.28 Kcal/Sm <sup>3</sup> LHV	602.133 Sm <sup>3</sup> /MT of Urea

\* Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw materials used.

**PART - C**

Pollution discharged to environment/unit of output.

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	Nil. Water is either used for domestic / Horticulture purpose or for construction purpose. No waste water discharge as plant is at construction stage.	NA	NA
(b) Air	Fugitive emission, as plant is at construction stage.	Ambient Air Quality Monitoring data near construction site is attached as <b>Annexure – C</b>	Parameters are within prescribed standards (24/8/1 hourly Avg.)





**STACK EMISSION TEST REPORT:**

Month	Parameter	Captive Power Plant		Ammonia Plant (Reformer)	Urea Prill Tower
		HRSR - 1	HRSR - 2		
		(Standard: PM < 150 mg/Nm <sup>3</sup> )			
April	Particulate Matter (PM)	< 5	< 5	< 5	42
May		< 5	< 5	< 5	46
June		< 5	< 5	< 5	38
July		< 5	< 5	< 5	41
Aug		< 5	< 5	< 5	36
Sept.		< 5	< 5	< 5	39
Oct.		< 5	< 5	< 5	43
Nov.		< 5	< 5	< 5	35
Dec.		< 5	< 5	< 5	39
Jan.		< 5	< 5	< 5	40
Feb.		< 5	< 5	< 5	40
March		< 5	< 5	< 5	40

**PART - D****HAZARDOUS WASTES**

(As specified under Hazardous Wastes/Management and Handling Rules 1989)

Hazardous Wastes	Total Quantity (kg)	
	During the previous financial year	During the current financial year
(a) From process	NA	15 kg
(b) From pollution control facilities	Nil	Nil

**PART - E****SOLID WASTE**

	Total Quantity	
	During the previous financial year	During the current financial year
a) From process	NA	NIL
b) From pollution control facilities	NA	NIL
c) Quantity recycled or reutilized within the Unit.	NA	-
d) Sold	NA	NIL
e) Disposed	NA	NIL

There is no generation of solid waste from process or pollution control facilities as of now. However, Municipal solid waste / Construction & Demolition waste generated during construction phase is managed / disposed off as per Rules.

## PART - F

Please specify the characterizations (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

HURL Sindri fertilizer plant started its operation from 10<sup>th</sup> Oct 2022 only. Therefore, there is no generation of hazardous waste as of now other than oil-soaked cotton waste, which is disposed through PCB authorized recyclers. HURL has adopted waste management plan conforming to different National and local Regulations. Waste categorization will be in line such as hazardous waste, E-wastes, Used Batteries, Non-hazardous Solid waste, Solid wastes (biodegradable) etc. and disposal will be done as per Regulation during plant operation phase.

## PART - G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

HURL Sindri is monitoring parameters such as groundwater, surface water and ambient air quality within the plant premises and also outside premise as per EC norms.

## PART - H

Additional measures/investment proposed for environmental protection including abatement of pollution, prevention of pollution.

Some of the measures taken in this project are mentioned below:

- Plant will be based on zero discharge concept i.e. all effluent water will be treated and reused.
- Continuous monitoring of particulate matter, NO<sub>x</sub> & SO<sub>x</sub> from all stacks, particulate matter and NH<sub>3</sub> from Prilling Tower will be done to control emission as per norms.
- Installation of gas detectors at different locations will be installed to check fugitive emissions.

## PART - I


Any other particulars in respect of environment protection and abatement of pollution. Plant is based on natural gas as a raw material with state-of-the-art technology to minimize impact on surrounding environment. As per Environment Management Plan (EMP), all pollution control measures are adopted as integral part of the plant in design stage itself. Workers and manpower at site are provided with PPE kit during working hours. Health check-up of work-force is being done on regular basis through the company Doctor in the dispensary at site.

  
27/05/24  
(Suresh Pramanik)

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

  
Manager (E&S)



 <b>HURL</b>	<b>HIDUSTAN URVARAK &amp; RASAYAN LIMITED, SINDRI</b> (A Joint Venture of IOCL, NTPC, CIL, FCIL & HFCL) <b>Environment and Quality Control Dept.</b>
--	--

Date: 22.05.2024

**Emission Quality Analysis Report**

Month	Parameters	Captive Power Plant		Ammonia Plant (Reformer)	Urea Prill Tower
		HRSG - 1	HRSG - 2		
		(Standard: PM < 150 mg/Nm <sup>3</sup> )			
October 2023	Particulate Matter (PM)	< 5	< 5	< 5	42.7
November 2023		< 5	< 5	< 5	35.2
December 2023		< 5	< 5	< 5	39.3
January 2024		< 5	< 5	< 5	40.1
February 2024		< 5	< 5	< 5	39.6
March 2024		< 5	< 5	< 5	40.4



Asst. Manager (Env. &amp; QC)


Dr. Naga Raju Batti  
Manager (Env. & QC)


**Expenditure incurred under**  
**Public Hearing commitment**  
**Sindri Project, HURL**

S No.	Item description	Quantity	Amount (including GST) (in Rs.)	Purchase done by	Instructions received from Dist. Admin./ HURL internal decision/ if other case- (please specify)	Action taken with date
1	Covid-19 Testing Kits	10000 nos.	7,84,000.00	HURL	Dist. Admin	Handed over to Civil Surgeon, Dhanbad on 15 May 2021
2	3-Ply Nose Masks	15,000 Nos.	21,300.00	HURL	HURL internal decision	Distribution to nearby Locality of Sindri by P&S/ Safety department HURL started from 31 May2021
3	N-95 Nose Masks	1,000 Nos.	19,990.00	HURL	HURL internal decision	Distributed to nearby Locality of Sindri by P&S/ Safety department HURL started from 31 May2021
4	Infrared Thermometer (IR)	20 Nos.	13,900.00	HURL	HURL internal decision	Distribution will be done to nearby Society/ Locality of HURL
5	Hand Sanitizer	400 Nos. (500ml each)	22,000.00	HURL	HURL internal decision	Distribution will be done to nearby Society/ Locality of HURL
6	Pulse Oximeter	30 Nos.	48,000.00	HURL	HURL internal decision	Distribution will be done to nearby Society/ Locality of HURL
7	Sanitization works for Community	06 Nos.	1,48,762.20	HURL	HURL internal decision	sanitization of nearby Locality of Sindri by P&S / Safety department HURL started from 20 May2021
8	Face Shield	50 Nos.	3,150.00	HURL	HURL internal decision	sanitization of nearby Locality of Sindri by P&S / Safety department HURL started from 20 May2021



S No.	Item description	Quantity	Amount (including GST) (In Rs.)	Purchase done by	Instructions received from Dist. Admin./ HURL internal decision/ if other case- (please specify)	Action taken with date
9	Hiring of Ambulance for 02 Months	01 No.	1,50,000.00	HURL	HURL internal decision	Proposal initiated by HR department for catering the need medical emergency during Covid pandemic of nearby locality of Sindri
10	3-Ply Nose Masks & Hand Sanitizer	20,000 Nos. & 1000 Nos. (250 ml each)	95,900.00	HURL	HURL internal decision	Distribution will be done to nearby Society/ Locality of HURL
11	5 Litres Oxygen Concentrator	5 nos	3,03,500.00	HURL	Add. Seceretary Home, Prision and Dis. Mgmnt. Deptt.	Handed over to District Administration after procurement of the same
12	Pulse Oxymeter	25 nos	23,625.00	HURL	Add. Seceretary Home, Prision and Dis. Mgmnt. Deptt.	Handed over to District Administration after procurement of the same
13	Oxygen Plant	02 nos.	71,68,000.00	HURL	Dist. Admin	Handed over to District Administration after procurement of the same
14	Street light	94 sets	9,66,320.00	HURL	HURL internal decision	-
<b>GRAND TOTAL (In Rs.)</b>			<b>97,68,447.20</b>			

Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

**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.	Dongarh 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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+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HURL SINDRI, AIR QUALITY DATA – (Oct 2023 to March 2024)

Month	Parameters		NAAQS	HURL Admin Building (SA1)	Railway Phatak (SA2)	Domgarh Gate (Inside Plant) (SA3)	Settling Tank (SA4)	PDIL Guest House (SA5)	Sindri Basti Village (SA6)
			Standards						
Oct 2023	PM10	µg/m <sup>3</sup>	100	74.83	87.97	80.82	75.45	81.2	84.98
	PM2.5		60	22.23	24.93	24.65	26.33	21.75	23.58
	SO <sub>2</sub>		80	12.65	13.23	12.85	11.4	11.55	12.65
	NO <sub>x</sub>		80	19.85	22.42	21.37	16.25	16.62	21.37
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m <sup>3</sup>	1	ND	ND	ND	ND	ND	ND
	CO	mg/m <sup>3</sup>	2	0.56	0.55	0.2	0.17	0.53	0.58
	NH <sub>3</sub>	µg/m <sup>2</sup>	400	19.67	20	15.33	13.5	15.5	13.33
	Ozone		180	23.03	25.95	21.88	21.67	18.25	22.33
	Ni	ng/m <sup>3</sup>	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
Pb	µg/m <sup>3</sup>	1	ND	ND	ND	ND	ND	ND	
Nov 2023	PM10	µg/m <sup>3</sup>	100	79.31	91	85.14	81.54	86.71	89.53
	PM2.5		60	28.08	29.88	30.85	31.79	27.76	28.91
	SO <sub>2</sub>		80	18.74	19.25	18.05	15.85	16.26	18.09
	NO <sub>x</sub>		80	26.21	28.06	27.14	22.46	21.7	27.05
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m <sup>2</sup>	1	ND	ND	ND	ND	ND	ND
	CO	mg/m <sup>3</sup>	2	0.76	0.73	0.4	0.38	0.73	0.78
	NH <sub>3</sub>	µg/m <sup>3</sup>	400	ND	ND	ND	ND	ND	ND
	Ozone		180	27.9	31.29	27.18	26.39	23.55	27.83
	Ni	ng/m <sup>3</sup>	20	ND	ND	ND	ND	ND	ND
	As		6	ND	ND	ND	ND	ND	ND
Pb	µg/m <sup>3</sup>	1	ND	ND	ND	ND	ND	ND	
Dec 2023	PM10	µg/m <sup>3</sup>	100	81.34	93.4	87.76	83.75	89.1	90.95
	PM2.5		60	29.33	31.48	31.04	33.01	29.05	30.83
	SO <sub>2</sub>		80	19.98	20.61	19.21	17.29	17.46	20.03
	NO <sub>x</sub>		80	25.98	29.2	28.96	23.04	23.95	28.49
	C6H6		5	ND	ND	ND	ND	ND	ND

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Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP**

	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.79	0.8	0.43	0.39	0.76	0.8
	NH3	µg/m3	400	ND	ND	ND	ND	ND	ND
	Ozone		180	28.06	31.51	28.75	26.93	25.1	28.54
	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
Jan 2024	PM10	µg/m3	100	70.71	84.18	77.29	73.18	78.29	81.99
	PM2.5		60	19.77	21.71	21.96	25.02	19.95	21.67
	SO2		80	11.57	12.41	11.41	8.62	11.19	11.97
	NOx		80	17.02	19.8	19.17	14.34	14.3	19.1
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.48	0.45	0.12	0.1	0.46	0.48
	NH3	µg/m3	400	17.97	18.38	14.22	13.23	13.57	12.39
	Ozone		180	20.58	22.99	19.69	19.08	16.06	20.38
	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
Feb 2024	PM10	µg/m3	100	72.33	85.08	77.61	70.9	77.65	81.48
	PM2.5		60	19.81	22.38	21.95	23.39	19.44	20.4
	SO2		80	11.36	11.18	11.23	12.16	11.1	11.85
	NOx		80	17.63	19.85	18.53	15.31	14.64	18.54
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.46	0.45	0.11	0.09	0.47	0.47
	NH3	µg/m3	400	18	17.85	15.76	12.61	13.96	11.98
	Ozone		180	20.39	24.2	19.41	18.86	15.65	19.88
	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
March 2024	PM10	µg/m3	100	69.39	77.32	74.76	68.15	74.65	78.73
	PM2.5		60	16.72	19.42	19.42	20.51	16.45	17.78
	SO2		80	8.38	9.88	10.23	10.54	9.11	9.65

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+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

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**Annexure-C**

Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

	NOx		80	14.7	16.88	15.53	13.56	12.64	15.66
	C6H6		5	ND	ND	ND	ND	ND	ND
	BAP	ng/m3	1	ND	ND	ND	ND	ND	ND
	CO	mg/m3	2	0.43	0.43	0.09	0.06	0.45	0.44
	NH3	µg/m3	400	17.64	15.59	12.88	11	11.71	9.86
	Ozone		180	15.38	21.57	18.66	16.11	13.46	17.23
	Ni	ng/m3	20	ND	ND	ND	ND	ND	ND
	As		8	ND	ND	ND	ND	ND	ND
	Pb	µg/m3	1	ND	ND	ND	ND	ND	ND
	Average	PM10	µg/m3	100	74.65	86.49	80.56	75.50	81.27
PM2.5		60		22.66	24.93	24.98	26.68	22.40	23.86
SO2		80		13.78	14.43	13.80	12.64	12.78	14.01
NOx		80		20.23	22.70	21.78	17.49	17.31	21.70
C6H6		5		ND	ND	ND	ND	ND	ND
BAP		ng/m3	1	ND	ND	ND	ND	ND	ND
CO		mg/m	2	0.58	0.57	0.23	0.20	0.57	0.59
NH3		µg/m3	400	18.32	17.96	14.55	12.59	13.69	11.89
Ozone			180	22.56	26.25	22.60	21.51	18.68	22.70
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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+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

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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+91-129-2241021

+91-9013591021, +91-9013552273

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Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HURL SINDRI, NOISE DATA (Oct. 2023 to March 2024)								
Month	Parameters	Prescribed Limits in db(A) as per NAAQS Ind./Res. Area	Admin Build. HURL Gate (SN 1)	Railway Phatak (Inside the Plant) (SN 2)	Domgarh Gate (Inside the Plant)(SN 3)	Chackba li Refinery Road(SA 4)	Settling Tank (SN 4)	Sindri Basti Village (SN 6)
Oct-2023	24 hrs. Avg Leq Value db (A)	-	48.65	51.36	48.25	45.25	42.68	48.36
	Day time Avg Leq Value db (A)	75/55/65	56.22	58.56	54.88	52.10	47.45	53.75
	Night time Avg Leq Value db (A)	70/45/55	43.89	44.23	42.15	39.12	38.78	42.57
Nov-2023	24 hrs. Avg Leq Value db (A)	-	55.36	49.36	49.26	46.36	44.33	45.36
	Day time Avg Leq Value db (A)	75/55/65	59.19	54.91	53.69	51.74	47.12	52.17
	Night time Avg Leq Value db (A)	70/45/55	48.89	46.87	45.31	42.39	40.88	42.15
Dec-2023	24 hrs. Avg Leq Value db (A)	-	52.47	48.69	48.66	45.25	45.26	46.19
	Day time Avg Leq Value db (A)	75/55/65	59.98	54.58	52.75	52.44	49.89	51.64
	Night time Avg Leq Value db (A)	70/45/55	45.22	46.85	45.36	42.58	40.89	40.25
Jan-2024	24 hrs. Avg Leq Value db (A)	-	50.88	53.47	46.25	47.36	45.98	51.36
	Day time Avg Leq Value db (A)	75/55/65	57.25	60.15	56.58	54.19	49.14	55.36
	Night time Avg Leq Value db (A)	70/45/55	44.69	45.93	40.99	40.85	37.85	44.78
Feb-2024	24 hrs. Avg Leq Value db (A)	-	47.26	47.26	45.36	44.36	43.19	48.59
	Day time Avg Leq Value db (A)	75/55/65	54.69	56.26	52.41	51.30	49.64	53.12
	Night time Avg Leq Value db (A)	70/45/55	41.89	42.89	40.36	37.29	36.85	43.87

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

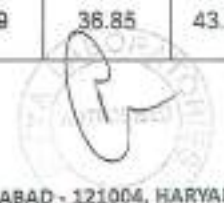
9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Annexure-C**

Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

March 2024	24 hrs. Avg Leq Value db (A)	-	48.69	46.25	46.69	45.96	47.36	45.68
	Day time Avg Leq Value db (A)	75/55/55	53.62	55.69	53.45	53.26	51.30	51.20
	Night time Avg Leq Value db (A)	70/45/55	40.56	40.25	41.95	39.47	37.20	41.45
<b>Average</b>	24 hrs. Avg Leq Value db (A)	-	50.52	49.40	47.41	45.76	44.80	47.59
	Day time Avg Leq Value db (A)	75/55/65	56.83	56.69	53.96	52.51	49.06	52.87
	Night time Avg Leq Value db (A)	70/45/55	44.16	44.50	42.69	40.28	38.71	42.51



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Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

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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**Annexure-C**

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Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HURL SINDRI, GROUND WATER QUALITY DATA AVERAGE RESULT (Oct 2023 to March 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)	
<b>PHYSICAL</b>					
1.0	pH	7.40	7.50	7.44	6.5-8.5
2.0	Temperature	25.10	25.40	24.95	-
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	396.66	409.17	358	500/2000
<b>CHEMICAL</b>					
1.0	P-Alkalinity as (CaCO <sub>3</sub> )	ND	ND	ND	-
2.0	Total Alkalinity as (CaCO <sub>3</sub> )	128.33	220	260	200/600
3.0	Chloride as Cl	96.67	88.67	43.33	250/1000
4.0	Sulphate as (SO <sub>4</sub> )	45.83	44.37	44.02	200/400
5.0	Nitrate as (NO <sub>3</sub> )	2.90	3.0	3.19	45/NR
6.0	Fluoride as (F)	ND	ND	ND	1.0/1.5
7.0	Total Hardness as (CaCO <sub>3</sub> )	201.67	240	285	200/600
8.0	Calcium as Ca	50	65	33	-
9.0	Magnesium as Mg	18.43	18.83	19.84	-
10.0	Sodium as Na	18.90	13.30	27.37	-
11.0	Potassium as K	6.68	3.37	8.51	-
12.0	Silica as SiO <sub>2</sub>	4.41	4.26	4.03	-
13.0	Iron as Fe	ND	0.29	0.25	0.3/NR



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Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HEAVY METALS					
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	0.34	0.44	0.39	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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PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

TABLE - 4

Surface Water Quality Assessment Schedule

Sr. No.	Source	Parameters	Frequency
1.	Nimland 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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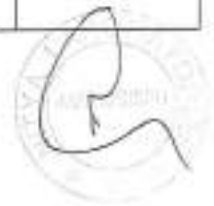
**Annexure-C**

Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HURL SINDRI, Surface Water Quality Data Average Result (Oct 2023 to March 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	
<b>PHYSICAL</b>					
1.0	pH	7.59	7.74	7.79	6.5-8.5
2.0	Temperature	26.8	25.68	26.37	-
3.0	Colour	<5	11.33	<5	5/15
4.0	Turbidity (NTU)	13.97	14.28	<1	1/5
5.0	Total Suspended Solids	41.17	52.50	52	-
6.0	Total Dissolved Solids	215.83	323.33	214.17	500/2000
<b>CHEMICAL</b>					
1.0	Total Alkalinity as (CaCO <sub>3</sub> )	123.33	136.67	106.69	200/600
2.0	Chloride as Cl	34	41.67	30	250/1000
3.0	Sulphate as (SO <sub>4</sub> )	24.67	31.47	25.40	200/400
4.0	Nitrate as (NO <sub>3</sub> )	3.10	3.29	3.31	46/NR
5.0	Fluoride as (F)	ND	ND	ND	1.0/1.5
6.0	Total Hardness as (CaCO <sub>3</sub> )	160	156	133.33	200/600
7.0	Calcium as Ca	39.67	35	33	-
8.0	Magnesium as Mg	11.95	17.21	12.35	-
9.0	Dissolved Oxygen	5.80	5.97	6.00	-
10.0	COD	26	31.33	26.67	-
11.0	BOD (3 days at 27°C)	5.50	6.67	6.50	-
12.0	Sodium as Na	18.45	23.20	23.43	-
13.0	Potassium as K	4.95	5.58	5.75	-



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### Annexure-C

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Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HEAVY METALS					
1.0	Iron as Fe	0.28	ND	ND	0.3/NR
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	0.63	0.67	0.42	6.0/15
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 CSH8OH	ND	ND	ND	0.001/0.002
3.0	Total Coliform (MPN/100 ml)	701.83	794.50	930.50	-
4.0	Faecal Coliform (MPN/100 ml)	512.20	549	550.60	-

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



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Env. STATEMENT for CTO Compliance for the period Oct 2023 – March 2024 for Ammonia –  
Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

TABLE - 5

**Flue Gas Monitoring Assessment Schedule**

Sr. No.	Source	Parameters	Frequency
1.	Primary Reformer	PM, SO <sub>x</sub> , NO <sub>x</sub> & CO	Twice in a Month
2.	Prill Tower	PM & Ammonia	Twice in a Month
3.	HRSG-1	PM, SO <sub>x</sub> , NO <sub>x</sub> & CO	Twice in a Month
4.	HRSG-2	PM, SO <sub>x</sub> , NO <sub>x</sub> & CO	Twice in a Month



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Urea (2200 MTPD & 3850 MTPD) plant of HURL at Sindri, UP

HURL SINDRI, Flue Gas Monitoring Data Average Result (Oct 2023 to March 2024)

Month	Parameters		NAAQS	Primary Reformer	HRSG-1	HRSG-2
			Standards			
Feb 2024	PM	mg/Nm <sup>3</sup>	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO <sub>x</sub>		-	8	8	4
	SO <sub>2</sub>		-	32	66	63
	CO		-	ND (DL-1)	9	10
March 2024	PM	mg/Nm <sup>3</sup>	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO <sub>x</sub>		-	7	9	7
	SO <sub>2</sub>		-	49	65	56
	CO		-	ND (DL-1)	7	11
Average	PM10	mg/Nm <sup>3</sup>	-	ND (DL-5)	ND (DL-5)	ND (DL-5)
	NO <sub>x</sub>		-	7	7	5
	SO <sub>2</sub>		-	40	66	59
	CO		-	ND (DL-1)	8	10



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HURL SINDRI, Flue Gas Monitoring Data Average Result (Oct 2023 to March 2024)

Month	Parameters		NAAQS	Prill Tower
			Standards	
Feb 2024	PM10	mg/Nm <sup>3</sup>	-	38
	NH <sub>3</sub>		-	47
March 2024	PM10	mg/Nm <sup>3</sup>	-	32
	NH <sub>3</sub>		-	45
Average	PM10	mg/Nm <sup>3</sup>	-	34
	NH <sub>3</sub>		-	46



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PLOT NO. 115, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

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