

COMPLIANCE REPORT

(MoEF & CC File No.J-11011/166/2016-IAII (I) dated 31/07/2017)

For the period

April 2019–September 2019

Submitted

to

MoEF&CC, Regional Office (ECZ), Lucknow

from

Ammonia Urea Fertilizer Plant

GORAKHPUR

(2200MTPD Ammonia & 3850MTPD Urea)

November 2019



हिंदुस्तान उर्वरक एवं रसायन लिमिटेड
HINDUSTAN URVARAK & RASAYAN LTD.
(A joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)



हिन्दुस्तान उर्वरक एवं रसायन लिमिटेड, गोरखपुर
HINDUSTAN URVARAK & RASAYAN LTD., GORAKHPUR

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

कार्यालय : प्रशासनिक भवन, एच.यू.आर.एल. कैम्पस, फर्टिलाइजर, गोरखपुर-273007 उ.प्र. भारत, दूरभाष : 0551-2261177
Office: Administrative Building, HURL Campus, Fertilizer, Gorakhpur - 273 00U.P. India. Telefax: 0551-2261177

Ref. No: HURL/GKP/19-20/

Date: 02.12.2019

To,
Scientist C
Regional Officer (RO)
(Central Zone CZ)
Kendriya Bhavan, 5th Floor
Sector-H, Aliganj, Lucknow-226020 (U.P.)

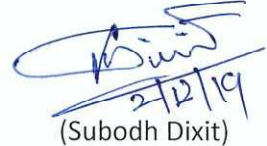
Subject: Ammonia (2200 MTPD) Urea (3850 MTPD) Fertilizer Project at Gorakhpur, Uttar Pradesh of M/s Hindustan Urvarak&Rasayan Limited (HURL)-Compliance Report for April 2019- September 2019.

Ref: (i) MoEF&CC, Environmental Clearance Letter No. J-11011/166/2016-IAII (I) dated 31.07.2017.

Dear Sir,

With reference to the subject as mentioned above, please find attached herewith the compliance report for the period April 2019- September 2019.

Yours faithfully


(Subodh Dixit)

Senior Manager

Hindustan Urvarak&Rasayan Ltd. (HURL)
Admin Building, Fertilizer Township, Gorakhpur
PO-Fertilizer factory, Dist.- Gorakhpur-273007
Telephone – 0551-2261177.

CC: 1. Member Secretary, UPPCB, Lucknow
2. Regional Officer, UPPCB, Gorakhpur

निगमित कार्यालय : कोर -3&4, नौवां तल, स्कोप मीनार, लक्ष्मी नगर डिस्ट्रिक्ट सेन्टर, नई दिल्ली - 110092, भारत, दूरभाष : +91-11-22502267, 22502268 Corporate Office : Core-2, 2nd Floor, SCOPE Minar, Laxmi Nagar District Centre, New Delhi-110 092 India. Tel.: +91-11-22502267, 22502268 पंजीकृत कार्यालय : कोल भवन, कोल इण्डिया लिमिटेड, 7वां तल, प्लॉट नं. ए.पफ-III, एक्शन एरिया, -1ए, न्यू टाउन कोलकाता-700156, दूरभाष : 033-23246526 फैक्स : 033-23246525 Regd. Office: Coal Bhawan, Coal India Limited, 7th floor, Plot no: AF-III, Action Area-1A, Newtown, Kolkata-700156. Tel: 033-23546526 Fax: 033-23246525 कारपोरेट पहचान संख्या @ CIN:-U24100 WB2016PLC216175 ई-मेल @ E-mail : info@hurl.net.in वेबसाइट @ Website2: www.hurl.net.in

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.	The electricity is being supplied by UPPCL (Uttar Pradesh Power Corporation Limited) for construction purpose in the Ammonia- Urea Fertilizer Project at HURL Gorakhpur. The statutory emission norms shall be met by using New Generation DG sets during operating phase of the Plant. Stacks are being constructed meeting statutory regulation & 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 ³ , and also the NAAQS.	This has been addressed in the Feasibility Report of the Project and shall be complied with in the Plant during operation.
iii)	Fresh water requirement shall not exceed 5.36 cum/ton of Urea production. Fresh water for plant operation shall be sourced only from ChilwaTaal. During construction phase, ground water may be used after prior permission in this regard from the concerned regulatory authority.	Ground water withdrawal is envisaged during construction phase through existing tube-wells. Fresh water Consumption norms shall be met during "Normal Plant operation"
iv)	Plantation shall be carried out around the ChilwaTaal.	The plantation shall be carried out in consultation with the district forest department by selecting the local Plant species which flourish in the area's climate & supports maximum bio-diversity in the environment.
v)	As already committed by the project proponent, no waste/treated water shall be discharged outside to ensure ZLD. Water consumption shall be reduced by adopting 3 R's (Reduce, Reuse & Recycle) concept in the process.	The Project is based on ZLD concept adopting 3R's and there will be no discharge outside the project boundary.
vi)	Industry shall develop Greenbelt with 10m width along the plant periphery with three layers of perennial native plant species. 33% of the total project cover area i.e. nearly 130 acres out of 350 acres of area of the Project,	The conditions for provision of Green Belt will be complied with and will be in place by the time of Commissioning of the Plant.

	shall be developed as green area with plantation of native perennial trees.	
vii)	A plan shall be prepared and implemented for the conservation of ChilwaTaal giving special emphasis on protection of conservation of its natural recharge channels	Water of chilwataal shall be used during operation of the Plant. Capacity enhancement of taal shall be taken up with minimum submergence of upstream areas. The highest pond level is being finalized through consultant.
viii)	All the commitments made during Public Hearing/Public Consultation meeting held on 24 th April, 2017 shall be satisfactorily implemented and adequate budget provision should be made accordingly.	All the commitments made during Public Hearing/Public Consultation meeting held on 24 th April, 2017 shall be satisfactorily implemented and adequate budget provision will be made in the Project accordingly.
ix)	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 Lucknow. Implementation of such program shall be ensured accordingly in a time bound manner within 5 years. The ECS plan will include following activities: A. Up-gradation of existing school with modern education facilities B. Planting of 5000 trees per year in 5 year in nearby villages in consultation with the local / forest dept. Survival rate of the plants shall be reported to RO, MoEF&CC in 6monthly compliance report. Conservation plant for shall be continue with. C. Safe drinking water facility with RO plant in villages located within 3 Km radius of the plant with maintenance cost.	ESC program will be carried out and adequate budget will be provided in the Project. Detailed action plan along with budget will be provided once the plant becomes operational.
x)	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 EC conditions relating to establishment of Environmental Cell will be complied during operation of the Plant.
xi)	Continuous online (24 X 7) monitoring system for emissions and effluent generation shall be	This will be implemented during


	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.	operation phase.
xii)	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 ammonia storage shall be limited to 2 days.	This has been addressed in the Feasibility Report and RRA conducted for the Project and recommendation shall be complied with in the Plant during operation.
xiii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	All the construction workers are ensured to be equipped with PPEs such as helmets, hand gloves, boots etc. before entering into construction site. Regular health check-up/monitoring of the construction labourers is being done by contractors and records are being maintained for the same. The same shall also be complied with in the plant during operation phase.
xiv)	Storage of hazardous raw material shall not exceed more than 7 days.	The raw material required for construction activities are being stored in the designated place isolated from the construction area. The storage of raw materials has been addressed in the Feasibility Report and EIA report of the Project and shall be complied with in the plant during operation.
xv)	Urea dust shall be controlled by prescribed standard technique.	This has been addressed in the Feasibility Report and EMP of the Project and shall be complied with in the plant during operation.
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.	HURL shall strictly comply with the conditions laid by UPPCB, UP State Government and any other statutory authority during construction and

		operation phase of the plant.
ii)	No further expansion or modifications in the Plant shall 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.	This condition will be complied with.
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.	The locations of ambient air quality monitoring have been decided in consultation with the UP State Pollution Control Board (UPPCB) and HURL officials for monitoring of Air Quality during construction phase. 6Nos. of AAQMS have been installed in the project area out of which two stations are selected in up-wind and two stations are selected in down-wind directions.
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.	All efforts are being made to contain the fugitive dust emission within the standard limits at construction site. This will also be complied with during operation phase.
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).	All efforts are being made to contain the noise levels within the standard limits at construction site round the clock. All construction equipments deployed at site are ensured to have acoustic hoods and silencers/enclosures on sources of noise generation. The construction workers at site are equipped with ear muffs. This condition will also be complied with during operation phase of the

		plant.
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.	This condition will be complied with as given in <i>Annexure II</i> while designing the buildings.
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.	This condition will be complied with during operation phase of the plant.
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.	This condition will be complied with.
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.	Once the plant becomes operational, CSR activities will be undertaken by involving local villages and administration as per rules and government guidelines.
x)	The company shall undertake all eco-developmental measures including community welfare measures for overall improvement of the environment.	Once the plant becomes operational, CSR activities will be undertaken by involving local villages and administration as per rules 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.	This has been addressed in the Feasibility Report of the Project and shall be complied with in the Plant during operation.
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	This has been addressed in the Feasibility Report of the Project and shall be complied with in the Pant during operation.

	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.	
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.	The copy of Environment Clearance letter issued by MoEF&CC have been uploaded to company website www.hurl.net.in and also advertised in the local editions of English and Hindi news papers.
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 mail) 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.	Environmental monitoringw.r.t. Air, Water & Noise during construction phase is being carried out by the CPCB recognised Laboratory in consultation with UPPCBsince February 2018 by M/s PDIL and the results of monitoring data from March 2019 to September 2019 have been provided in the six-monthly compliance reportwhich is attached as Annexure-I.
xv)	The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF& CC by-mail.	The Environment Statement is submitted in each financial year ending 31 st Marchin From-V.

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.	Environment Clearance granted by Ministry vide MoEF& CC letter no J-11011/166/2016-IA II(I) DATED 31/07/2017 has already been updated on Company website www.hurl.net.in . The same was also advertised on 16.09.2017 on page .13 in Hindustan in (Hindi) and page 09 in Hindustan Times in (English) published from Gorakhpur, UP and submitted herewith as Annexure- VI along with the Compliance Report November 2018.
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.	This shall be complied with and requisite information will be furnished.


2/12/19
(Subodh Dixit)

Senior Manager

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Telefax – 0551-2261177

Compliance of EC conditions for the period 16th March 2019 – 15th September 2019 for Proposed Ammonia-Urea (2200MTPD & 3850 MTPD) plants of HURL at Gorakhpur

ANNEXURE- I

This Compliance Report is the fulfillments of the condition of the Environmental Clearance (EC) vide File No. EC [IA/UP/IND2/54269/2016, J – 11011/166/2016- IA II (I)] for the period of 16th March 2019 to 15th September 2019. This report has been prepared by Projects and Development India Limited (PDIL) 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 CPCB accredited Laboratory at PDIL Sindri under the strict supervision of the Government Analyst namely Ms. Gyanlata Deshmukh and Mr. Akosh Chhoker.

The proposed project is located at Gorakhpur with the capacity of 2200MTPD Ammonia and 3850MTPD Urea in the District Gorakhpur in the state of Uttar Pradesh. The area falls in the agricultural belt of the Uttar Pradesh.

The compliance report fulfills the 15 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, Gol (2000)

Manual on Artificial Recharge of Ground Water, Central Water Ground Board, Ministry of Water Resources, Gol (2007)

Rain Water Harvesting and Conservation: Manual, Consultancy Services Organization, CPWD, Gol (2002)

The green belt proposed by MoEF&CC is under review for selection of suitable plant species in consultation with local experts of the area.

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 PM₁₀, PM_{2.5}, NO_x, SO₂. 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 IS10500:2012. The analysis consists of five No. of physical parameters, thirteen No. of chemical parameters, nine No. of Heavy metals and three No. 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 16th March 2019 to 15th September 2019.

आमोड (म.प्र.)
वि.सं.सं.सं.
पर्यावरण अभियंता
कॉन्वेन्स एंड डेवलपमेंट इंडिया लिमिटेड
(भारत सरकार का उपकरण)

Compliance of EC conditions for the period 16th March 2019 – 15th September 2019 for Proposed Ammonia-Urea (2200MTPD & 3850 MTPD) plants of HURL at Gorakhpur

ANNEXURE- I

HURL, GORAKHPUR, AIR QUALITY DATA--2019

MONTH	Parameters	Main Gate HURL Plant (SA1)	Admin Building HURL (SA2)	HURL Residential Campus Quarter No B-9 (SA3)	HURL Residential Campus Quarter No E-13 (SA4)	Karmaha Village (SA5)	Bargadwah (SA6)	NAAQ Standard
16 th March to 15 th April 2019	PM10	115.4	108.6	99	97.5	96	100.3	100
	PM 2.5	65.9	62.3	57.4	54.5	55.3	60.6	60
	SO2	12	11.9	11.2	9.9	9.9	10.9	80
	NOx	26.7	23.5	22.1	20.4	20.2	20.9	80
	CO	0.62	0.6	0.59	0.59	0.59	0.62	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.62	2.18	2.54	2.5	2.68	2.76	-
	MHC	4.52	4.1	3.68	3.44	4.08	4.08	-
VOC	3.07	3.14	3.08	3.34	2.88	2.88	-	
16 th April to 15 th May 2019	PM10	118.8	111.9	102	100.4	98.9	103.3	100
	PM 2.5	67.9	64.1	59.1	56.1	56.9	62.4	60
	SO2	12.3	12.3	11.6	10.2	10.2	11.2	80
	NOx	27.5	24.2	22.8	21	20.8	21.5	80
	CO	0.64	0.62	0.61	0.61	0.61	0.64	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.69	2.25	2.61	2.58	2.76	2.85	-
	MHC	4.65	4.23	3.79	3.54	4.2	4.2	-
VOC	3.16	3.24	3.17	3.44	2.96	2.97	-	
16 th May to 15 th June 2019	PM10	117.6	110.5	101	99.5	98	102.2	100
	PM 2.5	67.2	63.6	58.8	55.8	56.7	62	60
	SO2	12.2	12.1	11.4	10.1	10.1	11.1	80
	NOx	27.2	24	22.6	20.8	20.6	21.3	80
	CO	0.64	0.61	0.6	0.6	0.61	0.63	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.67	2.23	2.59	2.55	2.73	2.82	-
	MHC	4.61	4.19	3.75	3.51	4.16	4.16	-
VOC	3.13	3.21	3.14	3.41	2.93	2.94	-	
16 th June to 15 th July 2019	PM10	116.3	109.4	99.5	98.4	96.5	100.3	100
	PM 2.5	66.2	62.9	57.7	55	53.9	60.8	60
	SO2	12.1	12	11.3	9.9	9.7	11	80
	NOx	26.8	23.7	22.5	20.4	20	21	80
	CO	0.63	0.6	0.6	0.59	0.58	0.63	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.64	2.25	2.57	2.53	2.47	2.77	-
	MHC	4.59	4.15	3.68	3.47	3.4	4.12	-
VOC	3.16	3.17	3.12	3.38	3.31	2.94	-	
16 th July to 15 th August 2019	PM10	114.3	107.5	97.6	96.5	94.5	98.3	100
	PM 2.5	65.2	62	56.7	54	53	59.8	60
	SO2	11.9	11.7	11.2	9.7	9.5	10.8	80
	NOx	26.2	23.3	22	20	19.6	20.6	80
	CO	0.63	0.59	0.59	0.58	0.57	0.62	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.59	2.2	2.51	2.48	2.43	2.71	-
	MHC	4.49	4.07	3.61	3.4	3.34	4.04	-
VOC	3.1	3.11	3.06	3.32	3.25	2.88	-	
16 th August to 15 th Sept. 2019	PM10	106.6	98.8	92.8	89.9	95.6	96.6	100
	PM 2.5	56.2	58	51.8	49.8	54.6	49.8	60
	SO2	11.4	12.2	11.8	10.2	9.9	11.2	80

विभाग अध्यक्ष
 पर्यावरण अभियंता
 प्रोसेस एंड इंजिनियरिंग विभाग, लिमिटेड.

Compliance of EC conditions for the period 16th March 2019 – 15th September 2019 for Proposed Ammonia-Urea (2200MTPD & 3850 MTPD) plants of HURL at Gorakhpur

	NOx	24.7	21.9	23.4	21.6	18.8	21.4	80
	CO	0.54	0.62	0.52	0.59	0.55	0.58	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.23	2.41	2.34	2.65	2.63	2.94	-
	MHC	3.86	4.17	3.44	3.8	3.74	3.24	-
	VOC	3.2	3.62	3.21	3.12	3.24	2.98	-
AVG. 16 th March. 2019 to 15 th Sept. 2019	PM10	114.8	107.8	98.7	97.0	96.6	100.2	100
	PM 2.5	64.8	62.2	56.9	54.2	55.1	59.2	60
	SO2	12.0	12.0	11.4	10.0	9.9	11.0	80
	NOx	26.5	23.4	22.6	20.7	20.0	21.1	80
	CO	0.62	0.61	0.59	0.59	0.59	0.62	02
	NH3	BDL	BDL	BDL	BDL	BDL	BDL	400
	NMHC	2.57	2.25	2.53	2.55	2.62	2.81	-
	MHC	4.45	4.15	3.66	3.53	3.82	3.97	-
VOC	3.14	3.25	3.13	3.34	3.10	2.93	-	

NOTE: BDL = Below Detection Limit
 ($\mu\text{g}/\text{m}^3$) = PM₁₀, PM_{2.5}, SO₂, NO_x, NH₃
 (ppm) = NMHC, MHC
 (mg/m^3) = CO, VOC

श्रीमती
 ज्ञानलता विशुख
 विभागाध्यक्ष
 पर्यावरण अभियंत्रण
 प्रोत्सव एवं हेल्थमैट इण्डिया लिमिटेड
 (भारत सरकार का उपक्रम)

Compliance of EC conditions for the period 16th March 2019 – 15th September 2019 for Proposed Ammonia-Urea (2200MTPD & 3850 MTPD) plants of HURL at Gorakhpur

ANNEXURE-I

HURL, GORAKHPUR, GROUND WATER QUALITY DATA-2019
AVG. (16th MARCH 2019 TO 15th SEPTEMBER 2019)

(Results are expressed in mg/l, unless otherwise stated)

Sl. No	Parameters	Analysis Results			Requirement (Acceptable) / Permissible Limits (IS:10500:2012)
		Hand Pump Adm. Bldg. (Project Site) (GW1)	Hand Pump Quarter No B-8 (GW2)	Hand Pump Bargadwaha (GW3)	
PHYSICAL					
1	pH	7.5	7.6	7.5	6.5-8.5
2	Temperature (°C)	25.0	25.4	25.6	-
3	Colour, HU	<5	<5	<5	5/15
4	Odour	Unobj.	Unobj.	Unobj.	Unobj.
5	Taste	Agreeable	Agreeable	Agreeable	Agreeable
6	Turbidity (NTU)	<5	<5	<5	1/5
7	Total Suspended Solid	14	12	13	-
8	Total Dissolved Solids	370	338	438	500/2000
CHEMICAL					
1	P- Alkalinity as CaCO ₃	NIL	NIL	NIL	-
2	Total Alkalinity as CaCO ₃	258	240	281	200/600
3	Chloride as Cl ₂	38	31	60	250/1000
4	Sulphate as SO ₄	17	20	26	200/400
5	Nitrate as NO ₃	4	3	4	45/NR
6	Fluoride as F	<0.4	<0.4	<0.4	1.0/1.5
7	Total Hardness as CaCO ₃	279	221	310	200/600
8	Ca. Hardness as CaCO ₃	183	147	211	75/200
9	Mg. Hardness as CaCO ₃	97	75	100	30/100**
10	Sodium as Na	23	36	36	-
11	Potassium as K	4	5	6	-
12	Silica as SiO ₂	16	16	16	-
13	Iron as Fe	1.27	0.05	0.22	0.3/NR
HEAVY METALS					
1	Manganese as Mn	<0.05	<0.05	<0.05	0.1/0.3
2	Total Chromium as Cr	<0.01	<0.01	<0.01	0.05/NR
3	Lead as Pb	<0.01	<0.01	<0.01	0.01/NR
4	Zinc as Zn	0.31	0.33	0.27	5.0/15
5	Cadmium as Cd	<0.003	<0.003	<0.003	0.003/NR
6	Copper as Cu	<0.01	<0.01	<0.01	0.05/1.5
7	Nickel as Ni	<0.01	<0.01	<0.01	0.02/NR
8	Arsenic as As	<0.01	<0.01	<0.01	0.01
9	Selenium as Se	<0.01	<0.01	<0.01	0.01/NR
OTHERS					
1	Oil & Grease	<0.01	<0.01	<0.01	0.01/0.03
2	Ph.Compound as C ₆ H ₅ OH	<0.001	<0.01	<0.01	0.001/0.002
3	Coliform (MPN/100ml)	<50	<50	<50	-

जागरूकता
विभाग

Compliance of EC conditions for the period 16th March 2019 – 15th September 2019 for Proposed Ammonia-Urea (2200MTPD & 3850 MTPD) plants of HURL at Gorakhpur

ANNEXURE-I

HURL, GORAKHPUR, SURFACE WATER QUALITY DATA-2019
AVG. (16th MARCH 2019 TO 15th SEPTEMBER 2019)

(Results are expressed in mg/l, unless otherwise stated)

Sl. No	Parameters	Rohini River (SW1)	Dismantle d Pump House ChilwaTaal, (SW2)	Near New Bridge ChilwaTaal (SW3)	Requirement (Acceptable) / Permissible Limits(IS:1050 0:2012)
PHYSICAL					
1	Temperature (°C)	27.2	27.1	26.8	-
2	Colour,HU	19	24	18	5/25
3	Turbidity (NTU)	45	38	47	5/10
4	pH	7.3	7.3	7.4	6.5-8.5
5	Total Dissolved Solids	259	276	265	500/2000
6	Suspended Solids	55	44	37	-
CHEMICAL					
1	Total Alkalinity as CaCO ₃	178	171	167	200/600
2	Chloride as Cl	20	25	29	250/1000
3	Sulphate as SO ₄	26	33	28	200/400
4	Nitrate as NO ₃	3.7	3.8	4.2	45/NR
5	Fluoride as F	<4	<4	<4	1.0/1.5
6	Total Hardness as CaCO ₃	171	163	162	200/600
7	Calcium Hardness as CaCO ₃	102	103	107	75/200
8	Magnesium Hardness as CaCO ₃	69	60	55	30/100
9	Dissolve Oxygen	6.4	6.4	6.4	-
10	COD	12.9	14.6	13.3	-
11	BOD _(3 days at 27° C)	3.9	4.6	4.3	-
12	Sodium as Na	28	36	35	-
13	Potassium as K	4.2	5.1	4.8	-
HEAVY METALS					
1	Iron as Fe	0.04	0.03	0.03	0.3/NR
2	Manganese as Mn	<0.05	<0.05	<0.05	0.1/0.3
3	Total Chromium as Cr	<0.01	<0.01	<0.01	0.05/NR
4	Lead as Pb	<0.01	<0.01	<0.01	0.01/NR
5	Zinc as Zn	0.26	0.29	0.26	5.0/15
6	Cadmium as Cd	<0.003	<0.003	<0.003	0.003/NR
7	Copper as Cu	<0.01	<0.01	<0.01	0.05/1.5
8	Nickel as Ni	<0.01	<0.01	<0.01	0.02/NR
9	Arsenic as As	<0.01	<0.01	<0.01	0.01
10	Selenium as Se	<0.01	<0.01	<0.01	0.01/NR
OTHERS					
1	Oil & grease	<0.01	<0.01	<0.01	0.01/0.03
2	Phenolic Compound	<0.01	<0.01	<0.01	0.001/0.002
3	Coliform Organisms (MPN/100ml)	561	433	413	-

जायसिंह वैरागुल
विभागाध्यक्ष
पर्यावरण अभियंत्रण
प्रोजेक्ट एंड डेवलपमेंट इंडिया लिमिटेड
(भारत सरकार का उपक्रम)

Compliance of EC conditions for the period 16th March 2019 – 15th September 2019 for Proposed Ammonia-Urea (2200MTPD & 3850 MTPD) plants of HURL at Gorakhpur

HURL, GORAKHPUR, NOISE QUALITY DATA-2019

ANNEXURE- I

MONTH	Parameters	Main Gate HURL Plant (SA1)	Admin Building HURL (SA2)	HURL Residential Campus Quarter No B-9 (SA3)	HURL Residential Campus Quarter No E-13 (SA4)	Karmaha Village (SA5)	Bargadwah (SA6)	Prescribed Limits in dB(A) as per NAAQS (Ind. / Res. Area)
16 th March to 15 th April 2019	24-hrs Avg L _{eq} Value dB(A)	64.3	62.9	50.6	49.8	50.3	59	-
	Day time L _{eq} Value dB(A)	65.8	64.5	51.7	51.1	51.6	60.6	75/55
	Night time L _{eq} Value dB(A)	56.4	53.4	46.7	44.9	45.6	49.7	70/45
16 th April to 15 th May 2019	24-hrs Avg L _{eq} Value dB(A)	64.4	63.0	50.7	49.9	50.4	59.1	-
	Day time L _{eq} Value dB(A)	66.0	64.6	51.8	51.2	51.7	60.7	75/55
	Night time L _{eq} Value dB(A)	56.6	53.5	46.8	44.9	45.7	49.8	70/45
16 th May to 15 th June 2019	24-hrs Avg L _{eq} Value dB(A)	64.7	63.3	50.9	50.1	50.6	59.4	-
	Day time L _{eq} Value dB(A)	66.1	64.8	51.9	51.3	51.8	60.8	75/55
	Night time L _{eq} Value dB(A)	56.7	53.6	46.9	45.0	45.8	49.9	70/45
16 th June to 15 th July 2019	24-hrs Avg L _{eq} Value dB(A)	64.6	63.2	50.8	50.0	50.5	59.2	-
	Day time L _{eq} Value dB(A)	66.1	64.8	51.9	51.3	51.8	60.8	75/55
	Night time L _{eq} Value dB(A)	56.7	53.6	46.9	45.0	45.8	49.9	70/45
16 th July to 15 th August 2019	24-hrs Avg L _{eq} Value dB(A)	64.7	63.3	50.9	50.9	50.6	59.3	-
	Day time L _{eq} Value dB(A)	66.3	64.9	52.0	51.4	51.9	61	75/55
	Night time L _{eq} Value dB(A)	56.8	53.7	47.0	45.1	45.9	50	70/45
16 th August to 15 th Sept. 2019	24-hrs Avg L _{eq} Value dB(A)	63.6	62.9	52.2	51.9	51.0	55.6	-
	Day time L _{eq} Value dB(A)	65.8	64.4	53.4	53.4	52.4	57.8	75/55
	Night time L _{eq} Value dB(A)	58.6	57.6	45.8	46.1	45.2	50.4	70/45
AVG. 16 th March 2019 to 15 th Sept. 2019	24-hrs L _{eq} Value dB(A)	64.4	63.1	51.0	50.4	50.6	58.6	-
	Day time L _{eq} Value dB(A)	66.0	64.7	52.1	51.6	51.9	60.3	75/55
	Night time L _{eq} Value dB(A)	57.0	54.2	46.7	45.2	45.7	50.0	70/45

ज्ञानिदा
 विभागाध्यक्ष
 पर्यावरण अभियंत्रण
 प्रोजेक्ट एण्ड डेवलपमेंट इन्डिया लिमिटेड
 भारत सरकार का उपकरण

RAINWATER HARVESTING

The rain water collected from the roof of the permanent buildings shall be harvested for ground water recharge as a compensation to meet the requirement due to loss of permeable area promoting ground water recharge, maintenance of existing hydro-dynamic pattern of the area and to conserve the salinity of ground water in the area. The excess rainwater shall be sent to the trap through storm water drain and attempts shall be made not to mix any process waste with the storm water. The trap shall have two compartments, one consisting of sized boulders and the other, sized hard coke. The excess water from sized hard coke shall be collected in another tank before discharge in to natural drainage system. The drainage system of project area shall be aligned as per the existing natural drainage pattern of the area.

Rain water harvesting and recharging system shall be installed as per the relevant the central ground water board guidelines applicable for the area. The rain water harvesting/aquifer recharging system have been proposed as water conservation measure. The systems shall be installed at such location of the project area close to the Administrative building so as to facilitate collection of most of the rain water from the roofs of the building in the project area. Similarly, same system of rain water harvesting shall be implemented in the township.

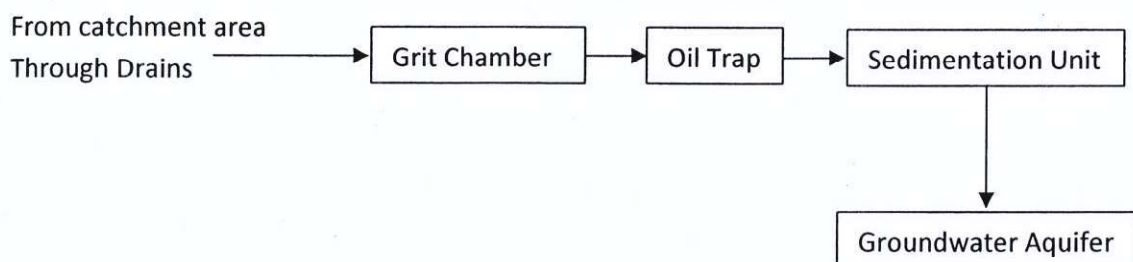
The bores shall be provided within 3 m deep enclosures, which will comprise layers of boulders, gravel and coarse sand so as to separate suspended matter from the rainwater. Three nos. of ground water recharging systems have been proposed to be developed in the township area and three nos. in the factory area. Rainwater harvesting system will consist of the following units:

1. Rainwater Collection System
2. Rainwater Filtration System
3. Rainwater Recharging Pond including an active well of depth 20m and dia 100-150mm.

The system will be cleaned during dry season and will be made ready to collect water for harvesting from its command area during monsoon. Provision shall also be made in the rainwater harvesting system for Chlorination/disinfection especially during the first phase of monsoon. The system shall be designed as per the guidelines for rainwater harvesting prepared by Central Ground Water Board (Ministry of Water Resources).

The scheme of rain water harvesting and aquifer recharging is presented below:

Block Diagram for Proposed Rain Water Harvesting / Aquifer Recharging System



HURL	<u>COMPLIANCE OF EC CONDITIONS FOR THE PERIOD April '19 – September'19</u>	Page 9
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The rainwater harvesting system for the fertilizer plant will follow the guidelines laid out by different Departments/Ministries as far as possible.

- a) Guidelines on Artificial Recharge of Water, Central Water Ground Board, Ministry of Water Resources, Gol (2000);
- b) Manual on Artificial Recharge of Ground Water, Central Water Ground Board, Ministry of Water Resources, Gol (2007);
- c) Rain Water Harvesting and Conservation: Manual, Consultancy Services Organization, CPWD, Gol (2002);

The sizing of the rain water collection drain and sub-units including the harvesting pond shall be calculated depending upon the maximum rain intensity within 50 years and roof area of the building after finalization of the building design.

GREEN BELT DEVELOPMENT & PLANTATION OF TREES

The project proponent shall develop greenbelt in an area of 33% i.e., nearly 130 acres out of 350 acres plant area of the project. The greenbelt of 10m width around periphery shall be provided (Plate A)

5000 trees per year in 5 year shall be planted in nearby village with the consultation of the villagers. Survival rate of plants shall be reported to RO, MoEF&CC in 6 monthly compliance reports.

Purpose

Trees and plants are an essential component of healthy environment. In addition to maintaining the oxygen-carbon dioxide balance in the atmosphere through photosynthesis, trees and plants control air and noise pollution, control soil erosion, provide food and shelter to domestic and wild animals including birds and insects, and improve the aesthetic value of the environment. The utility of the green belt predominantly lies in its capacity to attenuate the fugitive emission and spillage. Thus, the objectives of the proposed green belt program are as follows:

- a) To control air pollution due to fugitive emissions and spillage.
- b) To attenuate noise generated by various machines.
- c) To attenuate the effect of accidental release of toxic gases.
- d) To reduce the effect to fire and explosion.
- e) To improve the general appearance and aesthetics of the area.
- f) To provide food and habitat for wildlife.
- g) To control soil erosion.
- h) To obscure the proposed facilities from general view.

Areas to be afforested

Gorakhpur Fertilizer plant shall be established in vacant land in the battery limit of FCI of 350 acres of land. Green-belt development program shall be undertaken in 33% of the plant area including 10 m wide green belt around the battery limit of the plant. There exists a green cover around the existing abandoned fertilizer plant. The existing township is well planned with a proper forestation. While preparing the layout plan for locating the different facilities, extreme care has been exercised to preserve the existing plantation to the extent possible. Trees, lawns and gardens shall be developed within the premises to cover all the vacant areas. Extreme care shall be taken to utilize all available areas for forestation.

Scheme and Species for Green Belt

The general approach for selection of species for green belt development is their potential for attenuation of fugitive emissions and noise, diversity of vegetation, introduction of species attracting birds and animals, and to create a natural habitat. It is proposed to develop trees of different heights so as to provide cover from ground level up to the canopy of tall tree species. Further, trees with big

foliage and those known to prosper well in the area will be developed. Preference will be given to fruit bearing trees so as to provide food and shelter to birds and insects.

The plan for development of green belt is as given below:

- a) The distance between two plants should not be less than 3.0 m so that a 10 m width green belt will have three to four rows of plantations. Thus, a 10 m wide green belt within a plant boundary of 1.0 km will have 1110 plants.
- b) A pit of 45 cm x 45 cm x 45 cm must be dug for plantation of saplings which are at least 6 months old.
- c) Saplings must be planted at the onset of monsoon.

Different species in the green belt suggested to have dense stratified 3 to 5 layer canopy so as to form a visible barrier and wind breaker

- a) On the outer ring of the green belt facing fugitive emissions from the open surface and roads close plantation of 2 to 3 rows of evergreen *Alstoniascholaris* intermixed with *FicusCunea* and Babul.
- b) Behind the outer layer, fast growing evergreen plants having good fugitive emission removing capacity like evergreen *MahualIndica* and *Derris Indica*, Sagwan, Gambhar and Putranjiya.
- c) Middle layer may be planted with Silver Oak which is tall, hardy and evergreen.
- d) In the next layer some typical hard and fast growing plants like *Leucaena*, *Acacia auri-culiformis*, *Cassia fistula*, *C. Siamea*, *Inga ducis* may also be considered.
- e) In the inner periphery Bouganvella may be planted as it has high capacity for absorbing toxic gases.
- f) Some plants having good timber value like *Dalbergiasissoo*, *Albizzialebbek*, *Azadiractaindica*, *Tectonsgrandis* along with fruit trees like Ber, Guava, Jamun, Jack fruit and Bel may also be planted to attract birds.
- g) For fencing purpose plants from *Asclepiadaceae* and *Apocynaceae* families like *AlstoniaCalotropis* which are resistant to grazing may be considered.
- h) The entire green belt may be interspersed with climbers.

Efforts would be made by M/s HURL in collaboration with State Forest Department to explore mutual areas of interest in the area of identifying trees/plants to maintain/enhance the current biodiversity index.

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Annexure IV

**Government of India
Ministry of Environment, Forests and Climate Change (MoEF&CC)
Regional Office – Lucknow**

MONITORING REPORT

PART I

DATA SHEET

File No

1		Project Type	Fertilizer
2		Name of the project	Ammonia-Urea Fertilizer Project Hindustan Urvarak&Rasayan Limited, Gorakhpur
3		Clearance letters/Om No. and dated	J-11011/166/2016-IAII(I)
4		Locations	Gorakhpur
	a	Taluk(S) District	Gorakhpur
	b	State(S)	Uttar Pradesh
	c	Latitudes/Longitudes	Location Longitude Latitude Elevation (m) Northern Boundary, 83 ⁰ 21'50"E 26 ⁰ 49'26"N 84 NW Boundary 83 ⁰ 21'50"E 26 ⁰ 49'15"N 83 Eastern Boundary 83 ⁰ 22'10"E 26 ⁰ 49'08"N 87 Western Boundary 83 ⁰ 21'25"E 26 ⁰ 48'58"N 85 South-West Boundary 83 ⁰ 21'27"E 26 ⁰ 48'54"N 84 South-East Boundary 83 ⁰ 21'58"E 26 ⁰ 48'53"N 84 Source: GPS
5		Address for correspondence	
	a	Address of concerned Project Chief Engineer (with Pin Code & Telephone/Telex/fax nos)	The Sr. Vice President Hindustan Urvarak & Rasayan Ltd. (HURL) Admin Building, Fertilizer Township Gorakhpur PO-Fertilizer Factory, Dist. - Gorakhpur- 273007 Telefax – 0551-2261178
	b	Address of Executive Project Engineer (with Pin Code/fax numbers)	Senior Manager Hindustan Urvarak & Rasayan Ltd. (HURL) Admin Building, Fertilizer Township Gorakhpur PO-Fertilizer Factory, Dist. - Gorakhpur- 273007

			Telefax – 0551-2261177
6		Salient Features	
	a	Salient features of the project	<p>The Ammonia and Urea plants shall be one of the latest mega capacity plants (2200 MTPD for Ammonia and 3850 MTPD for Urea). The technology suppliers shall consider the latest technological features with an objective to have lowest energy consumption & high reliability of plant having state of the art technology with latest technological features. Ammonia and Urea plants planned shutdown shall be once in two years. One blast proof central control room for location of control & monitoring of operation of all Ammonia/Urea/Offsite & utility plants shall be provided by LSTK Contractor.</p> <p>The ETP facility shall treat all effluents, continuous, intermittent or emergency discharges from ammonia/urea plants. All liquid treated effluent from various sections of the plants shall be collected in final effluent pond made of RCC. The treated effluent shall be pre-treated with chemicals to make it Suitable for feeding to RO plant. The RO plant shall be two stage RO systems. The treated water from RO shall be recycled back to filtered water tank in WTP. The final reject waste water from WTP(ZLD Unit)units shall be further treated in thermal evaporation unit using low pressure steam to achieve zero liquid discharge from ETP plant.</p> <p>All Liquid & gaseous effluents generated from various plans & facilities shall be treated before final discharge to meet the requirements of Central/State pollution control board.</p>
	b	Of the environmental management plans.	<p>An Environmental Management Plan (EMP) has been prepared keeping in view all possible strategies oriented towards the impact minimization. The EMP for the proposed project is divided into three phases i.e. Planning, Construction and Operational phase.</p> <p>During the planning stage, Energy efficient</p>

			<p>machines with 5star rating shall be utilised along with LED street lights and use of solar energy. Ultra low NOx burners shall be integrated into the system to reduce NOx emissions. All piping and instrumentation diagrams and plant layout shall be reviewed as a part of HAZOP/HAZAN studies to assess the risks involved. Noise suppression measures such as enclosures and buffers will be used to limit noise levels in areas frequented by personnel to below 85 dB(A).</p> <p>The overall impact of the pollution on the environment during construction phase is localised in nature and is for a short period at all sites. In order to develop effective mitigation plan, all the construction activities shall be undertaken, controlled and managed by LST/Non-LSTK contractor under the guidance of PMC(PDIL). It is mandatory for these contractors to develop site/project specific HSE Policy, HSE Plan, HSE management system.</p> <p>The environmental management plan during the operational phase of the plant shall be directed towards the following:</p> <ul style="list-style-type: none"> • Ensuring the operation of various process units as per specified operating guidelines/operating manuals. • Strict adherence to maintenance schedule for various machinery/equipment. • Good Housekeeping practices. • Post project environmental monitoring
7		Breakup of the project area	
	a	Project area	598.22ACRE (Plant Buildings-272Acre, Non-plant Building & Storage-326.22Acre)
8		Breakup of project affected population with enumeration of those losing house/dwelling units only, agriculture land only, both dwelling units and agriculture land and landless labours/artisans	No Project Affected Persons are involved as there is no displacement of population. The project is coming up in old plant complex of FCIL, Gorakhpur.

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	a	SC, ST/Adivasis	NA	
	b	Others	NA	
9		Financial Details		
	a	Project cost as originally planned and subsequent revised estimates and the years of price reference	Rs. 7085crore (Feb' 2017) Revised Estimate : Rs. 7085 crore (May 2019)	
	b	Allocation made for environmental management plans with item wise and year wise breakup	It is included in the project cost. Actual cost will be furnished after finalisation of engineering details.	
	c	Benefit cost ratio/internal rate of return and the years of assessment	Debt Service Coverage Ratio*	1.68
			Internal rate of Return*	11.85
			*As per Project Feasibility Report	
	d	Whether © includes the cost of environmental management as shown in (b) above	Yes	
	e	Total expenditure on the Project so far	Rs. 2088.97crore	
	f	Actual expenditure incurred on the environmental management plans so far	Rs. 90.00 Lac	
10		Forest land requirement	No Forest Land is involved	
	a	The status of approval for a diversion of forest land for non-forestry use	NA	
	b	The status of compensatory afforestation, if any	NA	
	c	The status of clear felling	NA	
	d	Comments on the viability and sustainability of compensatory afforestation in the light of actual field experience so far	NA	
11		The status of clear felling in no-forest area (such as submergence area of reservoir, approach road) if any with quantitative information	NA	
12		Status of Construction	Construction of main plant is being done by M/s Toyo (TEIPL) and Off sites by other non LSTK	

			contractors. Progress report is attached.
	a	Date of commencement	27 February 2018
	b	Date of completion (actual and / or planned)	36 months
13		Reasons for the delay if the project is yet to start	NA
14		Date of site visit	
	a	The dates on which the project was monitored by the Regional Office on previous occasions, if any	Visit to be done.
	b	Date of site visit for this monitoring report	Visit to be done



(Subodh Dixit)

Sr Manager

Hindustan Urvarak & Rasayan Ltd. (HURL)
Admin Building, Fertilizer Township Gorakhpur
PO-Fertilizer Factory, Dist. - Gorakhpur-273007
Telefax – 0551-2261177

Prilling Tower



Auxiliary boiler Structure



Fire Filter and Drinking water Tank foundation



UFT, DM & CS Tanks



Rubber Dam (before flooding)



Ammonia Storage Tank



GTG-HRSG Sub-Station



Main Sub-station

