



रामगुंडम फर्टिलाइजर्स एंड केमिकल्स लिमिटेड

Ramagundam Fertilizers And Chemicals Limited

रामगुंडम फर्टिलाइजर्स एंड केमिकल्स लिमिटेड

(A Joint Venture Company)

Site Office : Fertilizers City, Ramagundam - 505 210, Dist. Peddapalli, Telangana

Telephone : +91 8728 257488, E-mail : rfcl.ramagundam@rfcl.co.in

GSTIN : 36AAHCR2335P1ZY, CIN : U24100DL2015PLC276753

RFCL/TS/EMC/FY 23-24/05

Dated: 20.06.2023

To,
Director,
Regional Office,
Ministry of Environment, Forest and Climate Change,
1st and 2nd Floor, HEPC Building,
No:34, Cathedral Garden Road,
Nungambakkam,
Chennai-600034

Sub : Submission of Half Yearly Environmental Clearance (EC) Compliance Report for RFCL
Ramagundam, Telangana for the period of October'2022- March'2023.

Ref : F No.- J-11011/371/2013-IA II (I) dated 16th October, 2015.

Respected Sir,

Half-yearly Environmental Clearance Compliance Report along with the Environment monitoring data
for the period of October'2022- March'2023 is enclosed herewith.

Trust that you find the above information in order.

Yours Sincerely

G.P.Dabhi
(DGM-TS)

Enclosure: As above.

Copy to:

- Joint Chief Environmental Engineer (TSPCB), Hyderabad, Telangana.
- Zonal Office, CPCB, Bengaluru, Karnataka.
- Environmental Engineer, Ramagundam, Telangana.
- Chief Conservator of Forests (C), Regional Office (WZ), Bhopal-462016.
- Chief Conservator of Forests (C), Regional Office (EZ), Bhubaneswar-751023.

Corporate Office: 4th Floor, Wing-A, Kribhco Bhawan, Sector-1, Noida, Uttar Pradesh, Pin Code- 201301
Registered Office: Scope Complex, Core No. III, 7, Institutional Area, Lodhi Road, New Delhi-110003



Registered & Corporate Office : 3rd & 4th Floor, Mohta Building,
4, Bhikaji Cama Place, New Delhi - 110066.

RAMAGUNDAM FERTILIZERS AND CHEMICALS LIMITED, RAMAGUNDAM

Ammonia (2200 MTPD) / Urea (3850 MTPD) Fertilizer Complex

Subject : Six monthly compliance report of Environmental Clearance. (Period : October 2022-March 2023)

Ref: MoEF&CC letter No: J-11011/371/2013-IA II (I) dated 16th October, 2015.

A. SPECIFIC CONDITIONS		
S.NO	DESCRIPTION	COMPLIANCE STATUS
i)	<p>The gaseous emissions (SO₂, NO_x, NH₃, HC and Urea Dust) and Particulate matter from various process units shall conform to the norms prescribed by CPCB/ SPCB from time to time. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.</p> <p>Stack emissions shall be monitored continuously (24 x 7) as per CPCB guideline.</p>	<p>The Particulate matter and gaseous emissions from various process units conform to the norms prescribed by CPCB/ SPCB from time to time.</p> <p>Process stack emissions are being monitored continuously as per the CPCB guidelines. Details of Process Emissions (Stack Emission) are enclosed.</p> <p>(Doc No: RFCL-TS-EMC-Report-05)</p>
ii)	<p>Adequate stack height shall be provided to Ammonia Plant Reformer, Heat Recovery Steam Generator (HRSG), NG/RLNG fired Gas Turbine and Prilling Tower.</p> <p>Low NO_x burners shall be provided to control NO_x emissions.</p>	<p>Stack heights of Ammonia Plant Primary Reformer, Heat Recovery Steam Generator (HRSG), Utility Boiler & NG/RLNG fired Gas Turbine and Prilling Tower are as per the CPCB guidelines.</p> <p>Low NO_x burners have been installed in Primary reformer, HRSG & Utility Boiler to mitigate the NO_x emission.</p>
iii)	<p>In Urea Plant, particulate emissions shall not exceed 50 mg/Nm³. Monitoring of Prilling Tower shall be carried out as per CPCB guidelines.</p>	<p>Urea dust from the Prilling tower remains well below the prescribed limit as specified by CPCB (less than 50 mg/Nm³).</p>
iv)	<p>As proposed, Fertilizer plant shall be designed for Specific Energy Consumption of 5.0 Gcal/MT of Urea.</p>	<p>Urea Plant has been designed with Specific Energy Consumption of < 5.0 GCal/MT of Urea.</p>
v)	<p>Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S.R No. 826(E) dated 16th September, 2009 . The levels of PM₁₀ (Urea Dust), SO₂, NO_x, Ammonia, Ozone and HC shall be monitored in the ambient air and displayed at a convenient location near the main gate of the company and at important public places.</p> <p>The Company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to Regional Office of MoEF, the respective Zonal office of CPCB and the Telangana State Pollution Control Board (TSPCB).</p>	<p>Continuous Ambient Air quality monitoring stations are provided at two locations within the factory premises.</p> <p>Six monthly Environmental Compliance report along with results of monitored data has been uploaded in the company website and same will be updated periodically.</p> <p>PM₁₀, PM_{2.5}, Ammonia, SO₂, Ozone, HC & NO_x readings are being displayed at Factory Main Gate, Material Entry Gate and Technical Building Entrance. It is also connected to the TSPCB website.</p> <p>Environmental reports are being submitted to Regional office, RDM on monthly basis.</p> <p>Details of Ambient Air quality are enclosed.</p> <p>(Doc No: RFCL-TS-EMC-Report-04)</p>
vi)	<p>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 material storage area etc shall be regularly monitored. The emissions should conform to the limits stipulated by the TSPCB.</p>	<p>Ammonia & Urea plants are Natural Gas based plants. For both feed & fuel, Natural gas is used. Urea dust collection and recovery systems (De-dusting System) were commissioned in Nov'22 to control dust emissions during product handling.</p> <p>Work place monitoring is carried out at regular interval, which helps to maintain emission level within the prescribed limit.</p> <p>Gas sensors are provided at potential points to monitor and control the fugitive emissions.</p>
vii)	<p>The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards.</p> <p>Acoustic enclosure shall be provided to the DG set to mitigate the noise pollution.</p>	<p>Stack height of DG set is as per CPCB standards.</p> <p>Acoustic enclosure is provided to the DG set to mitigate the noise pollution.</p>

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S.NO	DESCRIPTION	COMPLIANCE STATUS
viii)	Fresh water requirement from Yellampalli Barrage should not exceed 30500M ³ /day. Prior permission shall be obtained from Competent Authority and a copy submitted to the Ministry's Regional office at Bangalore. Efforts shall be made to bring down the water consumption upto 6 m ³ /MT urea production or as per CPCB guideline.	Fresh water drawn is below 30500 m ³ /day from Yellampalli Barrage. Continuous efforts are being done for water conservation. Process Condensate & Turbine Condensate are reused in Process.
ix)	Industrial wastewater shall be treated in the ETP. As proposed, Urea plant process condensate shall be treated in a deep hydrolyser followed by stripping. Ammonia Plant process condensate(APC) shall be stripped with steam followed by activated carbon and demineralisation. Treated condensate shall be recycled/reused in the process. Utilities waste water shall be treated in the ETP and treated effluent shall be recycled/reused. Treated effluent shall be monitored for Ammonical Nitrogen, Nitrate, Fluoride, pH etc. No process effluent shall be discharged in and around the Project Site. Sewage shall be treated in STP.	<ul style="list-style-type: none"> Urea plant process condensate is being treated in a deep hydrolyser followed by stripping. Ammonia Plant process condensate is being stripped with steam followed by activated carbon. Total process condensate is converted into DM water and reused in the process. Utility waste water is treated in ETP and treated water collected in guard ponds (02 Nos). Online Monitoring system has been provided for the treated effluent parameters Ammoniacal Nitrogen, Flow & pH and same has been connected to the CPCB & TSPCB servers. Apart that BOD,COD & TSS also connected to the TSPCB server as per the directions from Task force. Details of Treated Effluent water Quality are enclosed.(Doc No: RFCL-TS-EMC-Report-02) Sewage generated inside the plant premises being treated in Plant STP. Seawage Treatment Plant (STP) with a capacity of 240 KLD × 2 nos for the Township was commissioned in Feb'23 and treated water is being utilized for development of Green belt area. Details of STP outlet analysis for Township & Plant are enclosed. (Doc No: RFCL-TS-EMC-Report-06)
x)	The treated effluent (not more than 250M ³ /Hr) shall be discharged in to the River Godavari after conforming to the standards prescribed for the effluent discharge and after obtaining permission from the State Pollution Control Board/CPCB. Treated effluent shall be passed through guard pond/holding pond before discharging outside the plant premises and Automatic/ online monitoring system (24 x 7 monitoring devices) for flow and relevant pollutants (i.e. pH, Ammonical Nitrogen, nitrate nitrogen etc) shall be provided with high level alarm system. The data to be made available to the respective SPCB and in the Company's website.	The treated effluent conforms to the specified standards before discharging to River Godavari. Consent For Operation received from TSPCB dated 07.06.2021 (Consent Order No: 21053004209). Automatic/ online monitoring system (24 x 7) for flow and relevant pollutants (pH, Ammonical Nitrogen, Nitrate Nitrogen etc) was provided with high level alarm system and same was connected to TSPCB & CPCB server. Apart that BOD,COD & TSS also connected to the TSPCB server as per the directions from Task force team. Treated effluent discharge to River Godavari always remains less than 250 m ³ /hr.
xii)	Regular monitoring of ground water by installing piezometric wells around the guard ponds and sludge disposal sites shall be periodically monitored and reports shall be submitted to the concerned Regional office of the Ministry, CPCB and SPCB.	Ground water quality is being monitored at eight different locations around the plant site & near by villages. Analysis reports are submitted to RO, Ramagundam on monthly basis. Details of Ground water quality are enclosed.(Doc No: RFCL-TS-EMC-Report-03)
xiii)	The company shall construct the garland drain all around the project site to prevent runoff of any chemical containing waste in to the nearby waterbodies. Effluent shall be properly treated and treated effluent shall conform to CPCB standards.	Garland drains were provided around project site. Storm water drains, effluent drains & oily water collection pits were constructed separately to avoid mixing of effluent with storm water.

S.NO	DESCRIPTION	COMPLIANCE STATUS
xiii)	The Company shall obtain Authorisation for Collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules,2008 and amended as on date for management of Hazardous wastes. Measures shall be taken for fire fighting facilities in case of emergencies.	Hazardous Waste Authorisation received from TSPCB (HWA No: 210523004209) dated 07.06.2021. Adequate fire-fighting equipment and Fire water network are in place. There is a separate Fire & Safety department with well trained and experienced professionals to handle any such untoward situation.
xiv)	Spent Catalysts and used oil shall be sold to authorised recyclers/re-processors only.	Being complied.
xv)	The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules 1989 as amended time to time . All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA) 1989.	RFCL strictly complies with the rules and regulations regarding Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules 1989 as amended time to time and transportation of Spent catalyst/ Used oil as per the Motor Vehicle Act (MVA) 1989.
xvi)	Remote Operated valve placed on NH ₃ line to avoid leakage/equipment check shall be performed to ensure that remote operated valve (ROV) is all time functional.	Remote Operated valves are placed on NH ₃ line to avoid leakage. Performance of the remote operated valve (ROV) is checked periodically for its all time functionality.
xvii)	The company shall strictly follow all the recommendations mentioned in the Chapter on Corporate Responsibility for Environment Protection (CREP).	Being Complied.
xviii)	All the commitments made during the Public Hearing / Public Consultation meeting held on 11th March, 2015 shall be satisfactorily implemented and adequate budget provisions shall be made accordingly.	Being Complied, as applicable.
xix)	Sufficient funds shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial & physical breakup/ details shall be prepared & submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured in a time bound manner.	Noted and complied with. Total Expenditure incurred for Environmental Management during FY2022-23 is Rs.10,88,36,218. Details are enclosed. (Doc No: RFCL-TS-EMC-Exp-01)
xx)	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance system is in place and records are being maintained as per the Factory Act.
xxi)	As proposed, green belt over 46 Hectares area shall be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of the Project Area in downward direction and along roadsides etc. Selection of plant species shall be as per CPCB guidelines in consultation with the DFO.	Green Belt Development under progress in a phased manner. 5600 plants were planted during FY2022-23.
xxii)	Provision shall be made for the housing of the Construction labour within the site with all necessary infrastructure & facilities. 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.	Complied during Construction phase.
B. GENERAL CONDITIONS		
(i)	The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and any other statutory authority	All the conditions stipulated in CFE & CFO issued by TSPCB as well as conditions imposed by state authorities are complied with.

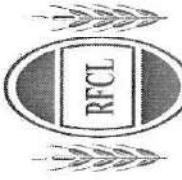
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S.NO	DESCRIPTION	COMPLIANCE STATUS
(ii)	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to access the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted.
(iii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the SPCB and it shall be ensured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	<p>Two Continuous Ambient Air Quality Monitoring Stations (AAQMS) are installed one each in the upwind and downwind directions at following locations</p> <ol style="list-style-type: none"> 1. Technical Building. 2. Material Gate. <p>All these monitoring stations are in operation. Real time data of Ambient air quality being transmitted to TSPCB website.</p> <p>As per the Task Force directions (SPCB), 3rd AAQMS procurement is in advance stage.</p>
(iv)	The overall noise level in and around the plant area shall be kept within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to Environmental (Protection) Act , 1986 Rules 1989 viz. 75 dBA (day time) and 70 dBA (night time).	<p>The selection of plant equipment have been done with the specifications of low noise levels.</p> <p>Adequate measures are being followed to control noise levels in the work environment and keep the noise levels below the prescribed limit.</p> <p>Persons working near the noisy machines like Ammonia plant compressor area, Urea Plant compressor area, Nitrogen blower, Passivation Air Compressor, GI' etc. have been provided with well designed ear muffs / plugs.</p> <p>Emergency DG sets are equipped with acoustic enclosure.</p> <p>The ambient noise levels are being monitored at different locations and strictly conforming to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989.</p> <p>Details of Ambient Noise levels are enclosed. (Doc No: RFCL-TS-EMC-Report-01)</p>
(v)	The company shall harvest rainwater from the roof-tops of buildings and stormwater drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	RFCL has adopted roof top rain water harvesting measures to harvest the run off water to recharge the ground water.
(vi)	During transfer of materials, Spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste water and storm water drains.	Garland drains have been constructed to avoid mixing of accidental spillages with domestic waste and storm drains.
(vii)	Usage of Personnel Protection Equipment by all employees/ workers shall be ensured	Necessary PPEs are made available for the plant personnel and being used.
(viii)	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.	<p>Training being provided for employees on safety and health aspects of chemical handling on regular basis.</p> <p>Periodic medical check-up of the working staff is being carried out.</p>
(ix)	The company shall also comply with all the environmental protection measures and safeguards proposed in the project report submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.	Being Complied, as applicable.

S.NO	DESCRIPTION	COMPLIANCE STATUS
(x)	The company shall undertake CSR activities and all relevant measures for improving the socio-economic conditions of the surrounding area.	Noted.
(xi)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Being complied.
(xii)	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be setup to carry out the Environmental Management and Monitoring functions.	Environmental Management Cell equipped with full fledged laboratory facilities to carry out the Environmental Management and Monitoring functions is in place and operational.
(xiii)	The company shall earmark sufficient funds for recurring cost per annum to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Noted and complied with. The funds earmarked for the environmental protection measures are not allowed to divert for other purpose. Total Expenditure incurred for Environmental Management during FY 2022-23 is Rs.10,88,36,218. (Doc No: RFCL-TS-EMC-Exp-01)
(xiv)	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/ representations, if any, were received while processing the proposal.	Complied.
(xv)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the State Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	Being complied.
(xvi)	The environmental statement for each financial year ending 31 st March in Form-'V' as is mandated shall be submitted to the WB 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 Bhubaneshwar Regional Offices of MoEF by e-mail.	The environmental statement for financial year ending 31 st March 2023 in Form-'V' shall be submitted on or before 30.09.2023.
(xvii)	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://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied.

S.NO	DESCRIPTION	COMPLIANCE STATUS
xviii)	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	Commercial Operation of Urea has been started on 22.03.2021 & same as intimated to the Regional Office and the Ministry.
8.0	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
9.0	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions.	Noted
10.0	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Air/ Water and HWA Consent order obtained on 07.06.2021 and valid for a period up to 31st March 2026. Public Liability Insurance policy is renewed and valid till 09.02.2024.

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राष्ट्रीय फसलों की संचयन निपटने का
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Ambient Noise Monitoring Report

Month

: October '22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

Doc No: RFCL-TS-EMC-Report-01

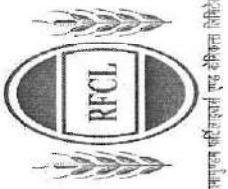
S. No	Location	Noise level- dB (A)			
		05.10.2022	12.10.2022	19.10.2022	26.10.2022
	Morning shift	Afternoon shift	Night shift	Morning shift	
1	Technical building	53	55	44	50
2	Cooling Towers	69	71	62	68
3	Main Stores	48	50	42	44
4	UB/HRSG (near Boundary Wall)	54	71	50	58
5	Captive Power Plant (CPP)	55	72	58	53
6	Urea plant	62	56	55	58
7	Bagging building	45	51	46	50
8	IA/PA plant (Near wall side)	73	71	69	72
9	Near DG set	49	55	52	56
10	Raw water pump house	62	61	63	59

Note: 1. Noise level limits (as per CFO) :

Day Time (6AM -10PM) : - 75 dB (A)
Night Time (10PM -6AM) : - 70 dB (A)

2. Morning shift Time : 6AM - 2PM
3. Afternoon shift Time : 2PM - 10PM
4. Night shift Time : 10PM - 6AM

S/



Ambient Noise Monitoring Report

Doc No: RFCL-TS-EMC-Report- 01

Month

: November '22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)		
		04.11.2022 Morning shift	11.11.2022 Afternoon shift	18.11.2022 Night shift
1	Technical building	52	55	50
2	Cooling Towers	70	72	69
3	Main Stores	49	47	44
4	UB/HRS(G (near Boundary Wall)	74	73	68
5	Captive Power Plant (CPP)	72	71	66
6	Urea plant	68	67	63
7	Bagging building	55	59	50
8	IA/PA plant (Near wall side)	72	74	69
9	Near DG set	56	62	59
10	Raw water pump house	68	66	63

Note:

1. Noise level limits (as per CFO) :

Day Time (6AM -10PM)
Night Time (10PM -6AM)

75 dB (A)
70 dB (A)

2. Morning shift Time :

6AM - 2PM

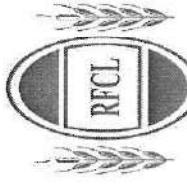
3. Afternoon shift Time :

2PM - 10PM

4. Night shift Time :

10PM - 6AM

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Ambient Noise Monitoring Report

Month

: December '22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

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Doc No: RFCL-TS-EMC-Report-01

S. No	Location	Noise level- dB (A)					
		01.12.2022	05.12.2022	13.12.2022	21.12.2022	29.12.2022	29.12.2022
		Morning shift	Afternoon shift	Night shift	Morning shift	Afternoon shift	Afternoon shift
1	Technical building	59	69	52	53	53	55
2	Cooling Towers	70	73	65	65	65	70
3	Main Stores	46	50	42	45	45	43
4	UB/HRSG (near Boundary Wall)	73	74	53	55	55	68
5	Captive Power Plant (CPP)	72	73	59	58	58	74
6	Urea plant	71	72	61	63	63	73
7	Bagging building	61	65	55	52	52	62
8	IA/PA plant (Near wall side)	70	74	69	72	72	74
9	Near DG set	60	65	53	54	54	66
10	Raw water pump house	72	69	41	52	52	66

Note: 1. Noise level limits (as per CFO) :

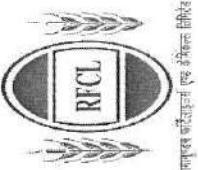
Day Time (6AM -10PM)
Night Time (10PM -6AM)

- 75 dB (A)
- 70 dB (A)

2. Morning shift Time : 6AM - 2PM

3. Afternoon shift Time : 2PM - 10PM

4. Night shift Time : 10PM - 6AM



Ambient Noise Monitoring Report

Month

: January'23

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

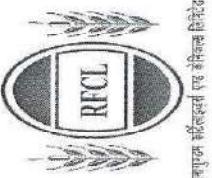
Doc No.: RFCL-TS-EMC-Report-01

S. No	Location	Noise level- dB (A)			
		02.01.2023	07.01.2023	13.01.2023	20.01.2023
1	Technical building	58	56	56	52
2	Cooling Towers	66	71	65	68
3	Main Stores	49	44	48	46
4	UB/HRSG (near Boundary Wall)	67	67	65	65
5	Captive Power Plant (CPP)	72	73	68	66
6	Urea plant	71	72	67	69
7	Bagging building	64	63	63	62
8	IA/PA plant (Near wall side)	72	71	69	74
9	Near DG set	60	61	60	58
10	Raw water pump house	65	64	64	65

Note:

1. Noise level limits (as per CFO) :
Day Time (6AM -10PM) : - 75 dB (A)
Night Time (10PM -6AM) : - 70 dB (A)
2. Morning shift Time : 6AM - 2PM
3. Afternoon shift Time : 2PM - 10PM
4. Night shift Time : 10PM - 6AM

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Ambient Noise Monitoring Report

Month

: February'23

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

Doc No: RFCL-TS-EMC-Report-01

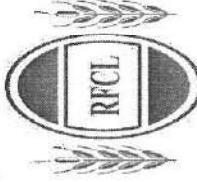
S. No	Location	Noise level- dB (A)		
		04.02.2023 Morning shift	10.02.2023 Afternoon shift	15.02.2023 Night shift
1	Technical building	56	51	51
2	Cooling Towers	65	67	66
3	Main Stores	45	46	45
4	UB/HRSG (near Boundary Wall)	54	61	66
5	Captive Power Plant (CPP)	59	62	68
6	Urea plant	60	63	65
7	Bagging building	53	53	61
8	IA/PA plant (Near wall side)	74	73	69
9	Near DG set	55	54	58
10	Raw water pump house	46	65	65

Note:

1. Noise level limits (as per CFO) :

Day Time (6AM -10PM)	-	75 dB (A)
Night Time (10PM -6AM)	-	70 dB (A)
2. Morning shift Time : 6AM - 2PM
3. Afternoon shift Time : 2PM - 10PM
4. Night shift Time : 10PM - 6AM

Qmz



गणराज्य कर्मचारी एवं कर्मचारिणी निपटन

Ambient Noise Monitoring Report

Doc No: RFCL-TS-EMC-Report-01

Month : March'23
Ambient Noise Monitored by : Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		03.03.2023	07.03.2023	15.03.2023	21.03.2023
	Morning shift	Afternoon shift	Night shift	Morning shift	Afternoon shift
1	Technical building	55	55	57	55
2	Cooling Towers	71	71	68	71
3	Main Stores	48	46	49	50
4	UB/HRSG (near Boundary Wall)	67	69	69	68
5	Captive Power Plant (CPP)	74	73	67	73
6	Urea plant	71	72	68	71
7	Bagging building	55	56	65	59
8	IA/PA plant (Near wall side)	72	74	69	74
9	Near DG set	59	61	60	59
10	Raw water pump house	65	72	65	67

Note:

1. Noise level limits (as per CFO) :
 Day Time (6AM -10PM) - 75 dB (A)
 Night Time (10PM -6AM) - 70 dB (A)

2. Morning shift Time : 6AM - 2PM
 3. Afternoon shift Time : 2PM - 10PM
 4. Night shift Time : 10PM - 6AM

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Treated Effluent Water Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-02

Month : Oct'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection : 07.10.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.72	7.80	7.42	8.05	7.78
2	Ammonical Nitrogen	mg/l as N	<50	6.20	1.53	2.71	27.50	4.35
3	Free Ammonical Nitrogen	mg/l as N	<2	0.19	0.05	0.05	1.65	0.08
4	Total kjeldahl Nitrogen	mg/l as N	<75	9.94	5.52	6.62	34.24	6.38
5	Nitrate nitrogen	mg/l as N	<10	0.84	1.22	2.84	2.40	1.05
6	Phosphate	mg/l as P	<5	1.36	1.28	0.60	1.85	1.34
7	Suspended Solids	mg/l	<100	10.00	14.00	5.00	8.00	12.00
8	BOD	mg/l	<30	8.00	8.40	2.20	12.40	8.40
9	COD	mg/l	<250	38.00	40.00	16.00	48.00	40.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

Date of Sample Collection: : 14.10.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.23	7.78	8.04	7.95	7.86
2	Ammonical Nitrogen	mg/l as N	<50	1.28	1.02	2.86	25.40	0.92
3	Free Ammonical Nitrogen	mg/l as N	<2	0.12	0.04	0.17	1.19	0.04
4	Total kjeldahl Nitrogen	mg/l as N	<75	4.42	3.31	8.83	29.80	3.31
5	Nitrate nitrogen	mg/l as N	<10	1.08	1.14	3.20	2.56	1.08
6	Phosphate	mg/l as P	<5	1.36	1.62	0.84	2.04	1.56
7	Suspended Solids	mg/l	<100	12.00	14.00	16.00	10.00	11.00
8	BOD	mg/l	<30	8.20	8.30	2.80	12.80	8.20
9	COD	mg/l	<250	40.00	42.00	16.00	50.00	40.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

Signature



राष्ट्रीय पर्यावरण एवं संतोष विभाग

Treated Effluent Water Quality Monitoring Results

Doc No: RFLC-TS-EMC-Report-t2

Month : Oct'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection: : 20.10.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.33	8.32	7.79	8.10	8.32
2	Ammonical Nitrogen	mg/l as N	<50	8.07	1.29	2.92	28.60	1.15
3	Free Ammonical Nitrogen	mg/l as N	<2	0.91	0.14	0.10	1.86	0.43
4	Total kjeldahl Nitrogen	mg/l as N	<75	11.04	4.42	7.73	33.13	9.53
5	Nitrate nitrogen	mg/l as N	<10	1.26	1.37	2.90	2.20	1.32
6	Phosphate	mg/l as P	<5	1.74	2.25	0.48	2.52	1.25
7	Suspended Solids	mg/l	<100	10.00	23.00	6.00	20.00	20.10
8	BOD	mg/l	<30	8.40	8.20	1.80	12.60	8.40
9	COD	mg/l	<250	42.00	40.00	12.00	48.00	38.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

Date of Sample Collection: : 27.10.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.25		7.50	7.65	8.22
2	Ammonical Nitrogen	mg/l as N	<50	0.43		1.84	2.93	0.61
3	Free Ammonical Nitrogen	mg/l as N	<2	0.04		0.04	0.08	0.05
4	Total kjeldahl Nitrogen	mg/l as N	<75	3.31		6.62	7.73	3.31
5	Nitrate nitrogen	mg/l as N	<10	0.74		2.54	1.85	0.72
6	Phosphate	mg/l as P	<5	0.84		0.40	2.04	0.84
7	Suspended Solids	mg/l	<100	22.00		4.00	12.00	21.00
8	BOD	mg/l	<30	8.20		2.00	11.60	8.20
9	COD	mg/l	<250	40.00		14.00	46.00	40.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Pond is under Maintenance

QMC



Treated Effluent Water Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-02

Month : Nov'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 02.11.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.23		7.42	8.08	8.20
2	Ammonical Nitrogen	mg/l as N	<50	15.02		2.13	21.32	24.86
3	Free Ammonical Nitrogen	mg/l as N	<2	1.35		0.04	1.38	1.19
4	Total Kjeldahl Nitrogen	mg/l as N	<.75	19.87		6.62	26.49	18.76
5	Nitrate nitrogen	mg/l as N	<10	0.69		2.68	1.96	0.72
6	Phosphate	mg/l as P	<5	0.51		0.21	1.35	0.51
7	Suspended Solids	mg/l	<100	22.00		4.00	11.00	12.00
8	BOD	mg/l	<30	7.60		3.00	9.60	7.50
9	COD	mg/l	<250	38.00		14.00	46.00	38.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Date of Sample Collection: : 09.11.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.39		7.25	8.09	7.27
2	Ammonical Nitrogen	mg/l as N	<50	5.23		1.24	12.43	4.49
3	Free Ammonical Nitrogen	mg/l as N	<2	0.08		0.01	0.81	0.05
4	Total Kjeldahl Nitrogen	mg/l as N	<.75	9.94		6.62	18.76	7.72
5	Nitrate nitrogen	mg/l as N	<10	0.85		3.62	3.22	1.20
6	Phosphate	mg/l as P	<5	1.27		0.19	1.60	1.18
7	Suspended Solids	mg/l	<100	18.00		4.00	10.00	14.00
8	BOD	mg/l	<30	7.20		3.20	9.40	7.00
9	COD	mg/l	<250	36.00		16.00	42.00	34.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

S/N/



Treated Effluent Water Quality Monitoring Results

Month : Nov'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection: : 19.11.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	6.60		7.34	7.90	6.53
2	Ammonical Nitrogen	mg/l as N	<50	36.17		3.32	9.53	33.75
3	Free Ammonical Nitrogen	mg/l as N	<2	-		0.04	0.43	-
4	Total Kjeldahl Nitrogen	mg/l as N	<75	40.84		8.83	17.66	38.63
5	Nitrate nitrogen	mg/l as N	<10	0.92		4.00	5.14	1.18
6	Phosphate	mg/l as P	<5	0.74		0.21	1.29	0.72
7	Suspended Solids	mg/l	<100	14.00		6.00	8.00	15.00
8	BOD	mg/l	<30	7.50		2.80	9.60	7.40
9	COD	mg/l	<250	38.00		12.00	48.00	36.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Date of Sample Collection: : 24.11.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.74		7.44	8.04	7.66
2	Ammonical Nitrogen	mg/l as N	<50	8.72		3.68	6.00	7.99
3	Free Ammonical Nitrogen	mg/l as N	<2	0.26		0.06	0.35	0.23
4	Total Kjeldahl Nitrogen	mg/l as N	<75	15.45		11.04	17.66	14.35
5	Nitrate nitrogen	mg/l as N	<10	0.97		3.93	4.75	0.96
6	Phosphate	mg/l as P	<5	0.86		0.19	1.22	0.84
7	Suspended Solids	mg/l	<100	10.00		5.00	12.00	11.00
8	BOD	mg/l	<30	7.40		3.00	9.20	7.40
9	COD	mg/l	<250	36.00		18.00	44.00	36.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

QMC



Treated Effluent Water Quality Monitoring Results

Month : Dec'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection : 01.12.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.20		7.64	7.80	7.18
2	Ammonical Nitrogen	mg/l as N	<50	19.54		2.23	3.81	19.05
3	Free Ammonical Nitrogen	mg/l as N	<2	0.20		0.06	0.13	0.19
4	Total Kjeldahl Nitrogen	mg/l as N	<75	24.44		6.66	11.10	24.44
5	Nitrate nitrogen	mg/l as N	<10	0.76		2.27	3.35	0.72
6	Phosphate	mg/l as P	<5	0.63		0.37	2.15	0.59
7	Suspended Solids	mg/l	<100	8.00		8.00	6.00	10.00
8	BOD	mg/l	<30	7.20		3.20	8.40	7.00
9	COD	mg/l	<250	32.00		16.00	42.00	30.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Date of Sample Collection: : 08.12.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.62		7.45	7.93	7.82
2	Ammonical Nitrogen	mg/l as N	<50	9.12		3.71	6.23	9.28
3	Free Ammonical Nitrogen	mg/l as N	<2	0.23		0.06	0.29	0.32
4	Total Kjeldahl Nitrogen	mg/l as N	<75	14.44		8.88	17.77	15.55
5	Nitrate nitrogen	mg/l as N	<10	1.45		2.39	3.80	1.55
6	Phosphate	mg/l as P	<5	0.76		0.44	2.45	0.55
7	Suspended Solids	mg/l	<100	7.00		6.00	13.00	10.00
8	BOD	mg/l	<30	7.30		3.00	8.80	7.40
9	COD	mg/l	<250	34.00		14.00	44.00	34.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

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Treated Effluent Water Quality Monitoring Results



Month : Dec'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection: : 15.12.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.24		7.60	8.36	8.20
2	Ammonical Nitrogen	mg/l as N	<50	6.52		2.42	1.09	6.71
3	Free Ammonical Nitrogen	mg/l as N	<2	0.59		0.06	0.12	0.54
4	Total Kjeldahl Nitrogen	mg/l as N	<75	11.10		6.66	8.88	12.22
5	Nitrate nitrogen	mg/l as N	<10	1.20		2.25	4.02	1.32
6	Phosphate	mg/l as P	<5	0.68		0.42	2.03	0.52
7	Suspended Solids	mg/l	<100	12.00		14.00	4.00	11.00
8	BOD	mg/l	<30	7.20		2.60	8.60	7.30
9	COD	mg/l	<250	32.00		15.00	40.00	34.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Date of Sample Collection: : 22.12.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.05		7.62	7.95	8.00
2	Ammonical Nitrogen	mg/l as N	<50	1.27		2.26	27.13	1.37
3	Free Ammonical Nitrogen	mg/l as N	<2	0.08		0.06	1.28	0.07
4	Total Kjeldahl Nitrogen	mg/l as N	<75	6.66		8.88	38.87	6.66
5	Nitrate nitrogen	mg/l as N	<10	1.12		2.96	4.75	0.96
6	Phosphate	mg/l as P	<5	0.60		0.36	1.77	0.64
7	Suspended Solids	mg/l	<100	10.00		12.00	6.00	8.00
8	BOD	mg/l	<30	7.50		2.90	8.70	7.40
9	COD	mg/l	<250	38.00		16.00	46.00	36.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

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Report No.: RFCL-TS-EMC-Report-02

Treated Effluent Water Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-02

Month : Dec'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection: : 29.12.2022

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Storm water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.75		7.55	8.10	7.22
2	Ammonical Nitrogen	mg/l as N	<50	1.69		3.29	16.47	1.55
3	Free Ammonical Nitrogen	mg/l as N	<2	0.06		0.07	1.07	0.05
4	Total Kjeldahl Nitrogen	mg/l as N	<75	6.82		13.64	26.14	5.68
5	Nitrate nitrogen	mg/l as N	<10	1.08		3.68	4.75	1.12
6	Phosphate	mg/l as P	<5	0.71		0.24	1.22	0.72
7	Suspended Solids	mg/l	<100	6.00		10.00	12.00	8.00
8	BOD	mg/l	<30	7.80		2.40	9.20	7.60
9	COD	mg/l	<250	38.00		14.00	44.00	38.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Pond is Under Maintenance

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Treated Effluent Water Quality Monitoring Results

Month : Jan'23
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 05.01.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.00		7.58	7.80	8.03
2	Ammonical Nitrogen	mg/l as N	<50	21.96		0.75	4.13	27.61
3	Free Ammonical Nitrogen	mg/l as N	<2	1.09		0.02	0.14	1.65
4	Total Kjeldahl Nitrogen	mg/l as N	<75	27.49		6.60	15.39	35.18
5	Nitrate nitrogen	mg/l as N	<10	1.21		2.60	3.77	1.17
6	Phosphate	mg/l as P	<5	0.59		1.35	2.11	0.71
7	Suspended Solids	mg/l	<100	7.00		10.00	8.00	8.00
8	BOD	mg/l	<30	7.00		3.00	8.80	7.40
9	COD	mg/l	<250	34.00		18.00	46.00	36.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Date of Sample Collection: : 12.01.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.51		7.55	8.10	7.45
2	Ammonical Nitrogen	mg/l as N	<50	12.59		1.45	8.94	11.62
3	Free Ammonical Nitrogen	mg/l as N	<2	0.25		0.03	0.58	0.17
4	Total Kjeldahl Nitrogen	mg/l as N	<75	19.79		7.70	18.69	20.89
5	Nitrate nitrogen	mg/l as N	<10	1.11		2.13	2.96	1.18
6	Phosphate	mg/l as P	<5	0.95		0.81	1.67	0.88
7	Suspended Solids	mg/l	<100	10.00		4.00	12.00	8.00
8	BOD	mg/l	<30	7.80		2.80	9.00	7.60
9	COD	mg/l	<250	38.00		16.00	48.00	38.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

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Treated Effluent Water Quality Monitoring Results

Month : Jan'23
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection: : 19.01.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.75		7.48	8.03	
2	Ammonical Nitrogen	mg/l as N	<50	1.40		1.63	3.91	
3	Free Ammonical Nitrogen	mg/l as N	<2	0.05		0.03	0.23	
4	Total Kjeldahl Nitrogen	mg/l as N	<75	6.60		6.60	14.29	
5	Nitrate nitrogen	mg/l as N	<10	0.85		2.66	3.93	
6	Phosphate	mg/l as P	<5	0.71		1.04	2.23	
7	Suspended Solids	mg/l	<100	6.00		14.00	6.00	
8	BOD	mg/l	<30	7.40		2.20	8.60	
9	COD	mg/l	<250	36.00		14.00	44.00	
10	Oil & Grease	mg/l	<10	<10		<10	<10	
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	

Date of Sample Collection: : 26.01.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.76		7.62	8.05	7.90
2	Ammonical Nitrogen	mg/l as N	<50	3.39		2.06	16.31	6.81
3	Free Ammonical Nitrogen	mg/l as N	<2	0.11		0.05	0.98	0.30
4	Total Kjeldahl Nitrogen	mg/l as N	<75	10.99		9.89	30.78	15.39
5	Nitrate nitrogen	mg/l as N	<10	1.20		2.47	4.41	1.27
6	Phosphate	mg/l as P	<5	1.11		0.93	2.54	1.08
7	Suspended Solids	mg/l	<100	12.00		15.00	8.00	11.00
8	BOD	mg/l	<30	7.20		2.10	9.10	7.30
9	COD	mg/l	<250	34.00		15.00	50.00	36.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

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Treated Effluent Water Quality Monitoring Results

Month : February'23
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection : 02.02.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.20		7.44	8.25	6.85
2	Ammonical Nitrogen	mg/l as N	<50	26.80		0.82	3.97	26.16
3	Free Ammonical Nitrogen	mg/l as N	<2	0.27		0.01	0.36	-
4	Total Kjeldahl Nitrogen	mg/l as N	<75	33.06		6.60	12.10	33.06
5	Nitrate nitrogen	mg/l as N	<10	1.11		2.00	3.87	1.18
6	Phosphate	mg/l as P	<5	0.37		0.59	1.09	0.39
7	Suspended Solids	mg/l	<100	16.00		18.00	10.00	15.00
8	BOD	mg/l	<30	6.40		2.80	8.20	6.20
9	COD	mg/l	<250	28.00		16.00	44.00	26.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND

Date of Sample Collection: : 09.02.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.01		7.50	8.08	8.21
2	Ammonical Nitrogen	mg/l as N	<50	7.07		1.07	5.48	6.68
3	Free Ammonical Nitrogen	mg/l as N	<2	0.35		0.02	0.35	0.53
4	Total Kjeldahl Nitrogen	mg/l as N	<75	13.23		5.51	14.33	12.12
5	Nitrate nitrogen	mg/l as N	<10	1.25		0.92	3.16	1.29
6	Phosphate	mg/l as P	<5	0.64		0.71	1.52	0.61
7	Suspended Solids	mg/l	<100	22.00		6.00	18.00	20.00
8	BOD	mg/l	<30	6.40		3.10	8.50	6.50
9	COD	mg/l	<250	30.00		20.00	50.00	30.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND		ND	ND	ND



Treated Effluent Water Quality Monitoring Results

Month : February'23
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection: : 16.02.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.15		7.65	8.11	8.26
2	Ammonical Nitrogen	mg/l as N	<50	11.20		0.91	21.34	6.19
3	Free Ammonical Nitrogen	mg/l as N	<2	0.81		0.02	1.39	0.55
4	Total Kjeldahl Nitrogen	mg/l as N	<75	17.64		7.71	31.97	12.12
5	Nitrate nitrogen	mg/l as N	<10	1.18		1.72	3.44	1.07
6	Phosphate	mg/l as P	<5	0.68		0.61	1.35	0.69
7	Suspended Solids	mg/l	<100	16.00		12.00	10.00	18.00
8	BOD	mg/l	<30	5.80		2.40	7.90	6.00
9	COD	mg/l	<250	32.00		18.00	48.00	34.00
10	Oil & Grease	mg/l	<10	<10		<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

Date of Sample Collection: : 23.02.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.35	8.40	7.48	8.02	7.95
2	Ammonical Nitrogen	mg/l as N	<50	0.83	15.82	0.84	4.75	0.79
3	Free Ammonical Nitrogen	mg/l as N	<2	0.09	1.98	0.02	0.24	0.04
4	Total Kjeldahl Nitrogen	mg/l as N	<75	5.51	33.07	5.51	19.84	5.51
5	Nitrate nitrogen	mg/l as N	<10	0.69	2.34	1.25	3.12	0.70
6	Phosphate	mg/l as P	<5	0.54	1.17	0.75	1.45	0.62
7	Suspended Solids	mg/l	<100	24.00	38.00	9.00	8.00	18.00
8	BOD	mg/l	<30	6.20	22.00	2.50	7.40	6.40
9	COD	mg/l	<250	34.00	124.00	16.00	46.00	36.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

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Treated Effluent Water Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-02

Month : March'23
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection : 03.03.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.40	8.15	7.62	8.15	7.52
2	Ammonical Nitrogen	mg/l as N	<50	28.42	19.10	0.75	5.13	26.74
3	Free Ammonical Nitrogen	mg/l as N	<2	0.42	1.38	0.02	0.37	0.53
4	Total kjeldahl Nitrogen	mg/l as N	<75	38.60	25.35	6.61	15.40	30.90
5	Nitrate nitrogen	mg/l as N	<10	1.01	1.16	1.21	2.81	1.08
6	Phosphate	mg/l as P	<5	0.95	0.85	0.68	1.27	0.88
7	Suspended Solids	mg/l	<100	26.00	22.00	12.00	8.00	20.00
8	BOD	mg/l	<30	6.80	17.00	2.50	5.60	7.20
9	COD	mg/l	<250	29.00	90.00	14.00	28.00	38.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

Date of Sample Collection: : 13.03.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.20	8.24	7.54	7.92	8.13
2	Ammonical Nitrogen	mg/l as N	<50	0.20	6.72	0.92	4.16	0.24
3	Free Ammonical Nitrogen	mg/l as N	<2	0.01	0.60	0.02	0.19	0.01
4	Total kjeldahl Nitrogen	mg/l as N	<75	5.51	12.12	5.51	13.22	5.51
5	Nitrate nitrogen	mg/l as N	<10	0.86	0.95	1.40	3.18	0.92
6	Phosphate	mg/l as P	<5	1.11	1.01	0.81	1.32	1.05
7	Suspended Solids	mg/l	<100	32.00	36.00	15.00	12.00	30.00
8	BOD	mg/l	<30	7.10	15.50	3.00	7.10	7.60
9	COD	mg/l	<250	37.00	75.00	18.00	36.00	42.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

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Treated Effluent Water Quality Monitoring Results

Month : March'23
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection: : 20.03.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	8.20	7.23	7.55	8.18	8.20
2	Ammonical Nitrogen	mg/l as N	<50	16.87	22.93	0.83	18.84	14.76
3	Free Ammonical Nitrogen	mg/l as N	<2	1.35	0.23	0.02	1.51	1.18
4	Total Kjeldahl Nitrogen	mg/l as N	<75	24.25	30.86	6.61	28.66	22.04
5	Nitrate nitrogen	mg/l as N	<10	1.04	1.26	1.82	2.84	1.08
6	Phosphate	mg/l as P	<5	1.05	1.15	0.74	1.67	1.08
7	Suspended Solids	mg/l	<100	18.00	24.00	8.00	14.00	20.00
8	BOD	mg/l	<30	8.40	12.60	2.80	7.60	8.80
9	COD	mg/l	<250	50.00	64.00	16.00	40.00	54.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

Date of Sample Collection: : 29.03.2023

S.No.	Parameters	Unit	Limiting Standards	Guard Pond 1	Guard Pond 2	Material Gate Trench	Strom water Pit	Treated Effluent Pump Discharge
1	pH.		6.5-8.5	7.56	7.32	7.62	8.31	7.55
2	Ammonical Nitrogen	mg/l as N	<50	25.04	22.40	0.91	3.12	23.06
3	Free Ammonical Nitrogen	mg/l as N	<2	0.63	0.22	0.02	0.31	0.52
4	Total Kjeldahl Nitrogen	mg/l as N	<75	33.06	31.97	5.51	11.02	33.06
5	Nitrate nitrogen	mg/l as N	<10	1.18	1.26	1.60	2.42	1.20
6	Phosphate	mg/l as P	<5	1.30	0.94	1.61	2.20	1.24
7	Suspended Solids	mg/l	<100	49.00	30.00	14.00	18.00	38.00
8	BOD	mg/l	<30	7.10	14.00	2.30	7.40	6.40
9	COD	mg/l	<250	39.00	54.00	15.00	46.00	52.00
10	Oil & Grease	mg/l	<10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	<0.2	ND	ND	ND	ND	ND

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Ground Water Quality Monitoring Results

Month : Oct'2022 **Nature of Sampling :** Ground Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection :- : 03.10.2022

TEST RESULTS

S.No.	Parameters	Limiting Standards	Township Premises	Factory Premises					Nearby Villages	
				RFCL Guest House	Near Guard Pond	Central Workshop	Technical Building	Veerlapalli	Gouthami Nagar	Elkalapalli
1	Temperature	30 degC	27.50	27.50	28.00	27.50	28.00	27.50	27.50	28.00
2	pH	6.5-8.5	7.58	7.14	6.92	7.21	7.08	6.84	6.99	6.75
3	Conductivity	< 2600 $\mu\text{S}/\text{cm}$	700.00	1150.00	1820.00	820.00	750.00	2260.00	1080.00	1385.00
4	BOD	< 2.0 mg/L	1.10	1.20	1.30	1.15	1.20	1.40	1.25	1.25
5	Nitrate as N	< 45 mg/L	0.98	1.98	1.88	1.32	1.36	25.03	7.25	12.90
6	Chloride	< 250 mg/L	49.52	55.23	122.60	50.60	54.50	175.20	108.20	118.10
7	Ammonia as N	< 0.5 mg/L	0.05	0.05	0.16	0.05	0.08	0.10	0.05	0.10
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/L	6.20	6.15	6.10	6.20	6.10	6.15	6.20	6.20

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Ground Water Quality Monitoring Results

Month : Nov'2022
Nature of Sampling : Ground Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection :- : 02.11.2022

TEST RESULTS

S.No.	Parameters	Limiting Standards	Factory Premises				Nearby Villages			
			Township Premises	RFCL Guest House	Near Guard Pond	Central Workshop	Technical Building	Veerlapalli	Gouthami Nagar	Elkapalli
1	Temperature	30 degC	26.50	27.00	26.00	26.50	26.00	26.50	26.50	26.50
2	pH	6.5-8.5	7.95	7.09	6.85	7.05	7.02	7.03	7.26	6.90
3	Conductivity	< 2600 $\mu\text{S}/\text{cm}$	485.00	1335.00	1885.00	725.00	755.00	2036.00	1269.00	1304.00
4	BOD	< 2.0 mg/l	1.20	1.20	1.40	1.00	1.00	1.30	1.20	1.20
5	Nitrate as N	< 45 mg/l	0.80	1.82	1.46	1.34	1.27	26.64	4.37	10.55
6	Chloride	< 250 mg/l	41.76	54.05	127.74	46.68	49.13	167.10	147.40	132.70
7	Ammonia as N	< 0.5 mg/l	0.05	0.05	0.09	0.05	0.05	0.11	0.14	0.10
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/l	6.15	6.25	6.20	6.20	6.20	6.15	6.20	6.20



Ground Water Quality Monitoring Results

Month : Dec'2022
Nature of Sampling : Ground Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection :- : 06.12.2022

TEST RESULTS

S.No.	Parameters	Limiting Standards	Factory Premises					Nearby Villages		
			Township Premises	RFCL Guest House	Near Guard Pond	Central Workshop	Technical Building	Veerlapalli	Gouthami Nagar	Elkapalli
1	Temperature	30 degC	27.50	28.00	27.00	27.00	27.50	26.50	27.00	27.50
2	pH	6.5-8.5	7.40	6.95	6.90	7.02	7.02	6.92	7.10	6.90
3	Conductivity	< 2600 uS/cm	760.00	1311.00	1950.00	950.00	800.00	2002.00	1180.00	1316.00
4	BOD	< 2.0 mg/l	1.25	1.15	1.25	1.10	1.00	1.30	1.10	1.15
5	Nitrate as N	< 45 mg/l	1.12	1.81	1.55	1.46	1.27	28.58	5.00	10.96
6	Chloride	< 250 mg/l	43.79	68.12	121.64	51.09	48.66	160.57	116.78	131.38
7	Ammonia as N	< 0.5 mg/l	0.08	0.05	0.10	0.05	0.05	0.11	0.09	0.06
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/l	6.20	6.25	6.10	6.15	6.20	6.05	6.15	

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Project Report - 17th March 2023

Ground Water Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-03

Month : Jan '2023

Nature of Sampling : Ground Water

Sample collected and tested by : In- House Laboratory

Date of Sample Collection :- : 04.01.2023

TEST RESULTS

S.No.	Parameters	Limiting Standards	Factory Premises					Nearby Villages	
			Township Premises	RFCL Guest House	Near Guard Pond	Central Workshop	Technical Building	Veerlapalli	Gouthami Nagar
1	Temperature	30 degC	28.00	27.50	27.50	27.50	28.00	27.00	27.50
2	pH	6.5-8.5	7.32	7.02	6.95	7.10	7.08	6.88	7.08
3	Conductivity	< 2600 $\mu\text{S}/\text{cm}$	810.00	1250.00	1865.00	860.00	845.00	2010.00	1420.00
4	BOD	< 2.0 mg/L	1.20	1.05	1.30	1.25	1.00	1.40	1.20
5	Nitrate as N	< 45 mg/L	1.24	1.76	1.68	1.62	1.17	24.60	4.80
6	Chloride	< 250 mg/L	46.22	63.26	136.24	53.52	55.96	170.30	121.65
7	Ammonia as N	< 0.5 mg/L	0.05	0.05	0.11	0.05	0.05	0.09	0.07
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/L	6.15	6.20	6.10	6.20	6.10	6.15	6.10

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Ground Water Quality Monitoring Results

Month : Feb '2023
Nature of Sampling : Ground Water
Sample collected and tested by
Date of Sample Collection :-

TEST RESULTS

S.No.	Parameters	Limiting Standards	Factory Premises				Nearby Villages	
			Township Premises	RFCL Guest House	Near Guard Pond	Central Workshop	Technical Building	Veerlapalli
1	Temperature	30 degC	27.50	27.50	28.00	28.00	28.50	28.00
2	pH	6.5-8.5	7.28	7.08	6.84	7.25	7.15	6.95
3	Conductivity	<2600 uS/cm	860.00	1215.00	1810.00	955.00	900.00	2140.00
4	BOD	<2.0 mg/L	1.15	1.20	1.40	1.30	1.10	1.50
5	Nitrate as N	<45 mg/L	1.34	1.84	1.80	1.71	1.20	22.45
6	Chloride	<250 mg/L	48.60	68.10	141.10	56.00	58.40	165.40
7	Ammonia as N	<0.5 mg/L	0.05	0.05	0.08	0.05	0.05	0.12
8	Total coliform (MNP/100ml)	<50	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	>6 mg/L	6.30	6.25	6.20	6.15	6.10	6.20



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Ground Water Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-03

Month : March '2023

Nature of Sampling

: Ground Water

Sample collected and tested by

: In- House Laboratory

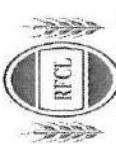
Date of Sample Collection :-

: 03.03.2023

TEST RESULTS

S.No.	Parameters	Limiting Standards	Factory Premises				Nearby Villages	
			Township Premises	RFCL Guest House	Near Guard Pond	Central Workshop	Technical Building	Veerlapalli
1	Temperature	30 degC	28.00	28.00	27.50	27.50	28.00	28.00
2	pH	6.5-8.5	7.35	7.02	7.00	7.18	7.20	7.06
3	Conductivity	< 2600 uS/cm	910.00	1160.00	1760.00	980.00	950.00	2240.00
4	BOD	< 2.0 mg/l	1.00	0.90	1.25	1.10	1.05	1.40
5	Nitrate as N	< 45 mg/l	1.28	1.84	2.10	1.60	1.32	24.80
6	Chloride	< 250 mg/l	53.50	73.00	155.70	53.50	63.20	175.20
7	Ammonia as N	< 0.5 mg/l	0.05	0.05	0.10	0.05	0.05	0.10
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/l	6.25	6.25	6.30	6.20	6.25	6.20

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Ambient Air Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-04

Month : Oct'2022
Nature of Sampling : Ambient Air
Sample collected and tested by : In-House Laboratory

TEST RESULTS

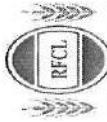
Location : Technical Building

S.No.	Parameters	Unit	Permissible limits (NAAQS)	04.10.2022	11.10.2022	18.10.2022	25.10.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	48.0	54.0	59.0	82.0
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	8.4	12.2	16.8	36.0
3	SOx	$\mu\text{g}/\text{m}^3$	80	9.2	10.2	10.9	12.6
4	NOx	$\mu\text{g}/\text{m}^3$	80	8.2	8.6	8.5	8.8
5	NH3	$\mu\text{g}/\text{m}^3$	400	18.4	20.4	15.0	24.8

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	04.10.2022	11.10.2022	18.10.2022	25.10.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	54.0	58.0	71.0	92.0
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	10.6	14.2	26.0	42.0
3	SOx	$\mu\text{g}/\text{m}^3$	80	8.6	9.6	10.5	11.5
4	NOx	$\mu\text{g}/\text{m}^3$	80	7.8	8.4	8.8	9.3
5	NH3	$\mu\text{g}/\text{m}^3$	400	16.2	22.6	12.6	20.7

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Ambient Air Quality Monitoring Results

प्रतिवार्षिक वायु शुद्धीकरण अधिकारी

Doc No: RFCL-TS-EMC-Report-04

Month : Nov'2022
Nature of Sampling : Ambient Air
Sample collected and tested by : In-House Laboratory

TEST RESULTS

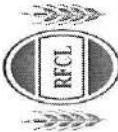
Location : Technical Building

S.No.	Parameters	Unit	Permissible limits (NAAQS)	02.11.2022	09.11.2022	16.11.2022	23.11.2022	30.11.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	85.3	87.3	95.3	82.7	88.4
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	25.5	28.5	39.0	28.5	40.5
3	SOx	$\mu\text{g}/\text{m}^3$	80	12.7	13.2	15.4	12.3	14.6
4	NOx	$\mu\text{g}/\text{m}^3$	80	12.2	10.8	15.1	11.2	10.4
5	NH3	$\mu\text{g}/\text{m}^3$	400	80.0	87.3	96.4	86.5	94.5

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	02.11.2022	09.11.2022	16.11.2022	23.11.2022	30.11.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	92.5	88.8	98.6	94.7	92.8
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	29.7	32.5	42.5	36.6	44.2
3	SOx	$\mu\text{g}/\text{m}^3$	80	11.8	11.9	14.1	11.5	15.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	10.9	10.2	13.6	10.0	12.8
5	NH3	$\mu\text{g}/\text{m}^3$	400	70.0	83.9	90.8	51.5	80.6

Om



Ambient Air Quality Monitoring Results

Month : Dec'2022
Nature of Sampling : Ambient Air
Sample collected and tested by : In-House Laboratory

TEST RESULTS

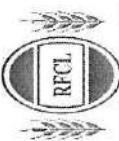
Location : Technical Building

S.No.	Parameters	Unit	Permissible limits (NAAQS)	07.12.2022	14.12.2022	21.12.2022	28.12.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	80.8	85.0	90.2	87.2
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	24.4	32.5	28.4	32.5
3	SOx	$\mu\text{g}/\text{m}^3$	80	11.7	12.4	10.8	12.6
4	NOx	$\mu\text{g}/\text{m}^3$	80	8.8	9.8	8.4	11.9
5	NH3	$\mu\text{g}/\text{m}^3$	400	61.2	71.3	64.0	85.1

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	07.12.2022	14.12.2022	21.12.2022	28.12.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	83.1	91.1	94.7	90.1
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	24.2	32.5	40.6	36.6
3	SOx	$\mu\text{g}/\text{m}^3$	80	12.4	10.6	9.6	11.7
4	NOx	$\mu\text{g}/\text{m}^3$	80	9.6	9.2	8.0	11.2
5	NH3	$\mu\text{g}/\text{m}^3$	400	53.4	67.2	57.1	73.6

Page 1



राष्ट्रीय रिसर्च और कॉनसल्टेंस लिमिटेड

Ambient Air Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-04

Month : Jan'2023
Nature of Sampling : Ambient Air
Sample collected and tested by : In- House Laboratory

TEST RESULTS

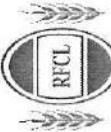
Location : Technical Building

S.No.	Parameters	Unit	Permissible limits (NAAQS)	04.01.2023	11.01.2023	18.01.2023	25.01.2023
1	PM10	$\mu\text{g}/\text{m}^3$	100	88.6	90.6	92.4	82.4
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	40.7	38.6	39.9	36.8
3	SOx	$\mu\text{g}/\text{m}^3$	80	13.2	12.8	14.6	13.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	10.4	10.2	11.4	10.6
5	NH3	$\mu\text{g}/\text{m}^3$	400	72.4	84.5	76.4	78.6

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	04.01.2023	11.01.2023	18.01.2023	25.01.2023
1	PM10	$\mu\text{g}/\text{m}^3$	100	92.4	94.6	93.6	91.2
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	42.8	40.7	44.4	40.4
3	SOx	$\mu\text{g}/\text{m}^3$	80	12.6	11.6	13.0	12.8
4	NOx	$\mu\text{g}/\text{m}^3$	80	10.0	9.0	10.8	10.2
5	NH3	$\mu\text{g}/\text{m}^3$	400	64.2	68.4	64.2	68.0

Qm



Ambient Air Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-04

Month : Feb'2023
Nature of Sampling : Ambient Air
Sample collected and tested by : In-House Laboratory

TEST RESULTS

Location : Technical Building

S.No.	Parameters	Unit	Permissible limits (NAAQS)	01.02.2023	08.02.2023	15.02.2023	22.02.2023
1	PM10	$\mu\text{g}/\text{m}^3$	100	80.0	87.5	83.6	92.2
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	36.6	40.6	37.2	45.5
3	SOx	$\mu\text{g}/\text{m}^3$	80	12.6	13.9	11.2	14.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	10.1	11.8	9.7	12.1
5	NH3	$\mu\text{g}/\text{m}^3$	400	85.1	94.3	85.6	103.5

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	01.02.2023	08.02.2023	15.02.2023	22.02.2023
1	PM10	$\mu\text{g}/\text{m}^3$	100	86.4	96.2	93.2	98.7
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	41.3	45.5	44.9	45.2
3	SOx	$\mu\text{g}/\text{m}^3$	80	11.7	12.1	10.9	13.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	9.5	10.4	9.8	11.0
5	NH3	$\mu\text{g}/\text{m}^3$	400	75.9	81.9	79.2	86.5

Ranjan



राष्ट्रीय विद्युत विभाग

Ambient Air Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-04

Month : March'2023
Nature of Sampling : Ambient Air
Sample collected and tested by : In- House Laboratory

TEST RESULTS

Location : Technical Building

S.No.	Parameters	Unit	Permissible limits (NAAQS)	01.03.2023	08.03.2023	15.03.2023	22.03.2023	29.03.2023
1	PM10	$\mu\text{g}/\text{m}^3$	100	88.6	92.5	94.8	96.4	91.0
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	41.5	42.8	40.8	46.4	40.4
3	SOx	$\mu\text{g}/\text{m}^3$	80	13.0	13.6	12.8	13.2	13.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	10.8	11.2	10.5	11.0	10.6
5	NH3	$\mu\text{g}/\text{m}^3$	400	96.2	105.6	99.4	115.6	88.6

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	01.03.2023	08.03.2023	15.03.2023	22.03.2023	29.03.2023
1	PM10	$\mu\text{g}/\text{m}^3$	100	90.6	98.0	96.4	98.2	94.8
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	42.6	46.2	44.4	48.0	45.1
3	SOx	$\mu\text{g}/\text{m}^3$	80	11.8	12.5	12.0	11.5	12.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	9.8	10.1	9.5	10.4	10.8
5	NH3	$\mu\text{g}/\text{m}^3$	400	82.5	88.5	90.6	94.5	79.5

संग्रहीत



Stack Emission Monitoring Readings

Doc No: RFCL-TS-EMC-Report-05

Month:-
Nature of Sampling :-
Sample collected and tested by:-

October'22
Stack Emission
In- house Laboratory

TEST RESULTS

Location :-

Primary Reformer Stack

S.No	Parameters	Permissible limits	17.10.2022
1	SPM	10 mg/Nm ³	<5.0
2	SOx	50 mg/Nm ³	3.2
3	NOx	400 mg/Nm ³	62.0

Location :-

Utility Boiler Stack

S.No	Parameters	Permissible limits	17.10.2022
1	SPM	10 mg/Nm ³	<5.0
2	SOx	50 mg/Nm ³	2.8
3	NOx	400 mg/Nm ³	105.0

Location :-

HRSG Stack

S.No	Parameters	Permissible limits	17.10.2022
1	SPM	10 mg/Nm ³	<5.0
2	SOx	50 mg/Nm ³	3.8
3	NOx	400 mg/Nm ³	112.0

Location :-

Prilling Tower

S.No	Parameters	Permissible limits	01.10.2022 to 31.10.2022
1	Particulate Matter	50 mg/Nm ³	Shutdown
2	NH ₃	150 mg/Nm ³	Shutdown

Note : Ammonia, UB & HRSG remained shutdown from 01.10.2022 to 15.10.2022 & 18.10.2022 to 31.10.2022.
Urea plant remained shut down for the entire month.

RNN/-



Stack Emission Monitoring Readings

Doc No: RFCL-TS-EMC-Report-05

Month:-
Nature of Sampling :-
Sample collected and tested by:-

November'22
Stack Emission
In-house Laboratory

TEST RESULTS

Location :- Primary Reformer Stack

S.No	Parameters	Permissible limits	05.11.2022	12.11.2022	19.11.2022	26.11.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.8	2.6	2.2	2.4
3	NOx	400 mg/Nm ³	72.0	76.0	72.0	64.0

Location :- Utility Boiler Stack

S.No	Parameters	Permissible limits	05.11.2022	12.11.2022	19.11.2022	26.11.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.4	2.9	2.8	2.5
3	NOx	400 mg/Nm ³	108.0	102.0	108.0	104.0

Location :- HRSG Stack

S.No	Parameters	Permissible limits	05.11.2022	12.11.2022	19.11.2022	26.11.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.0	2.6	2.6	2.8
3	NOx	400 mg/Nm ³	114.0	124.0	120.0	132.0

Location :- Piling Tower

S.No	Parameters	Permissible limits	07.11.2022	14.11.2022	21.11.2022	28.11.2022
1	Particulate Matter	50 mg/Nm ³	39.70	40.40	41.60	43.42
2	NH3	150 mg/Nm ³	59.00	67.80	69.30	115.35

QWV



Stack Emission Monitoring Readings

Doc No: RFCL-TS-EMC-Report-05

Month:-
Nature of Sampling :-
Sample collected and tested by:-

December'22
Stack Emission
In- house Laboratory

TEST RESULTS

Location :- Primary Reformer Stack

S.No	Parameters	Permissible limits	03.12.2022	28.12.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.2	2.0
3	NOx	400 mg/Nm ³	58.0	64.0

Location :- Utility Boiler Stack

S.No	Parameters	Permissible limits	03.12.2022	28.12.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.8	2.4
3	NOx	400 mg/Nm ³	104.0	108.0

Location :- HRSG Stack

S.No	Parameters	Permissible limits	03.12.2022	28.12.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.6	3.0
3	NOx	400 mg/Nm ³	118.0	116.0

Location :- Piling Tower

S.No	Parameters	Permissible limits	03.12.2022	28.12.2022
1	Particulate Matter	50 mg/Nm ³	36.0	28.0
2	NH ₃	150 mg/Nm ³	76.0	52.0

Q/H/



Stack Emission Monitoring Readings

Month:- January'23
Nature of Sampling :-
Sample collected and tested by:-

Doc No: RFCL-TS-EMC-Report-05

Stack Emission
In- house Laboratory

TEST RESULTS

Location :-

Primary Reformer Stack

S.No	Parameters	Permissible limits	04.01.2023	11.01.2023	18.01.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.0	1.8	2.0
3	NOx	400 mg/Nm ³	62.0	60.0	66.0

Location :-

Utility Boiler Stack

S.No	Parameters	Permissible limits	04.01.2023	11.01.2023	18.01.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.6	2.2	2.8
3	NOx	400 mg/Nm ³	106.0	108.0	104.0

Location :-

HRSG Stack

S.No	Parameters	Permissible limits	04.01.2023	11.01.2023	18.01.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.8	3.0	2.6
3	NOx	400 mg/Nm ³	114.0	122.0	118.0

Location :-

Prilling Tower

S.No	Parameters	Permissible limits	04.01.2023	11.01.2023	18.01.2023
1	Particulate Matter	50 mg/Nm ³	26.0	32.0	28.0
2	NH ₃	150 mg/Nm ³	68.0	72.0	64.0

Qntr



Stack Emission Monitoring Readings

Month:-

Nature of Sampling :-

Sample collected and tested by:-

February'23

Stack Emission

In-house Laboratory

TEST RESULTS

Location:-

Primary Reformer Stack

S.No	Parameters	Permissible limits	17.02.2023	24.02.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0
2	SOx	50 mg/Nm ³	1.8	1.6
3	NOx	400 mg/Nm ³	72.0	68.0

Location:-

Utility Boiler Stack

S.No	Parameters	Permissible limits	17.02.2023	24.02.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.2	2.4
3	NOx	400 mg/Nm ³	108.0	102.0

Location:-

HRSG Stack

S.No	Parameters	Permissible limits	17.02.2023	24.02.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0
2	SOx	50 mg/Nm ³	2.4	2.2
3	NOx	400 mg/Nm ³	116.0	111.0

Location:-

Prilling Tower

S.No	Parameters	Permissible limits	17.02.2023	24.02.2023
1	Particulate Matter	50 mg/Nm ³	32.0	35.4
2	NH ₃	150 mg/Nm ³	87.0	78.0

Q.M.T

Doc No: RFCL-TS-EMC-Report-05



Stack Emission Monitoring Readings

Month:- March'23
Nature of Sampling :- Stack Emission
Sample collected and tested by:- In-house Laboratory

Doc No: RFCL-TS-EMC-Report-05

TEST RESULTS

Location :-

Primary Reformer Stack

S.No	Parameters	Permissible limits	04.03.2023	11.03.2023	18.03.2023	25.03.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	1.2	1.4	1.0	1.2
3	NOx	400 mg/Nm ³	54.0	48.0	50.0	52.0

Location :-

Utility Boiler Stack

S.No	Parameters	Permissible limits	04.03.2023	11.03.2023	18.03.2023	25.03.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	1.6	1.8	1.7	1.5
3	NOx	400 mg/Nm ³	62.0	58.0	60.0	57.0

Location :-

HRSG Stack

S.No	Parameters	Permissible limits	04.03.2023	11.03.2023	18.03.2023	25.03.2023
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	1.8	1.6	1.4	1.6
3	NOx	400 mg/Nm ³	128.0	125.0	132.0	130.0

Location :-

Prilling Tower

S.No	Parameters	Permissible limits	04.03.2023	11.03.2023	18.03.2023	25.03.2023
1	Particulate Matter	50 mg/Nm ³	43.5	40.7	46.0	37.9
2	NH ₃	150 mg/Nm ³	76.0	66.6	91.0	75.3

80/1



राष्ट्रीय रसायन उत्पादन समिति

Sewage Treated Plant Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-06

Month	:	Oct'22
Nature of Sampling	:	Sewage Treated Plant Outlet
Sample collected and tested by	:	In-House Laboratory
Date of Sample Collection	:	15.10.2022 & 28.10.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	15.10.2022	28.10.2022
1	pH.		5.5-9.0	8.20	8.18
2	Total Suspended Solids (TSS)	mg/l	< 100	18.00	22.00
3	BOD (3 days at 27 °C)	mg/l	< 30	18.50	20.00
4	COD	mg/l	< 250	98.00	108.00
5	Oil & Grease	mg/l	< 10	< 10	< 10
6	Total Dissolved Solids (TDS)	mg/l	< 2100	956.00	980.00

Om



RFCL - Sewage Treatment Plant

Sewage Treated Plant Quality Monitoring Results

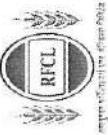
Doc No: RFCL-TS-EMC-Report-06

Month : Nov'22
Nature of Sampling : Sewage Treated Plant Outlet
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 10.11.2022 & 20.11.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	10.11.2022	20.11.2022
1	pH.		5.5-9.0	8.05	8.10
2	Total Suspended Solids (TSS)	mg/l	<100	16.00	20.00
3	BOD (3 days at 27 °C)	mg/l	<30	17.60	18.80
4	COD	mg/l	<250	102.00	106.00
5	Oil & Grease	mg/l	<10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	885.00	915.00

Q/N/
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Sewage Treated Plant Quality Monitoring Results

RFCL - Regd. Office & Head Office

Doc No: RFCL-TS-EMC-Report-06

Month : Dec'22
Nature of Sampling : Sewage Treated Plant Outlet
Sample collected and tested by : In-House Laboratory
Date of Sample Collection : 09.12.2022 & 23.12.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	09.12.2022	23.12.2022
1	pH.		5.5-9.0	8.25	8.30
2	Total Suspended Solids (TSS)	mg/l	< 100	25.00	22.00
3	BOD (3 days at 27 °C)	mg/l	< 30	19.20	19.50
4	COD	mg/l	< 250	114.00	124.00
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	950.00	985.00

R.M./-



Project Srinivas - Phase 002

Sewage Treated Plant Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-06

Month	: Jan'23
Nature of Sampling	: Sewage Treated Plant Outlet
Sample collected and tested by	: In-House Laboratory
Date of Sample Collection	: 06.01.2023 & 20.01.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	06.01.2023	20.01.2023
1	pH.		5.5-9.0	8.18	8.25
2	Total Suspended Solids (TSS)	mg/l	< 100	18.00	16.00
3	BOD (3 days at 27 °C)	mg/l	< 30	18.60	19.00
4	COD	mg/l	< 250	118.00	122.00
5	Oil & Grease	mg/l	< 10	< 10	< 10
6	Total Dissolved Solids (TDS)	mg/l	< 2100	1040.00	1005.00

QWV



RFCL
Rajya Vidyalaya Chaitanya

Sewage Treated Plant Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-06

Month	:	Feb'23
Nature of Sampling	:	Sewage Treated Plant Outlet
Sample collected and tested by	:	In-House Laboratory
Date of Sample Collection	:	02.02.2023 & 16.02.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	02.02.2023	16.02.2023
1	pH.		5.5-9.0	7.65	7.56
2	Total Suspended Solids (TSS)	mg/l	< 100	12.00	10.00
3	BOD (3 days at 27 °C)	mg/l	< 30	15.40	16.00
4	COD	mg/l	< 250	106.00	110.00
5	Oil & Grease	mg/l	< 10	< 10	< 10
6	Total Dissolved Solids (TDS)	mg/l	< 2100	860.00	895.00

RV ~



Sewage Treated Plant Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-06

Month	: March'23
Nature of Sampling	: Sewage Treatment Plant Analysis (Inside Plant Premises)
Sample collected and tested by	: In-House Laboratory
Date of Sample Collection	: 04.03.2023 & 20.03.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	04.03.2023	20.03.2023
1	pH.		5.5-9.0	7.60	7.58
2	Total Suspended Solids (TSS)	mg/l	< 100	8.00	6.00
3	BOD (3 days at 27 °C)	mg/l	< 30	14.00	12.00
4	COD	mg/l	< 250	80.00	72.00
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	780.00	760.00

Quesar



राष्ट्रीय फैक्टरी कंट्रोल लिमिटेड

Sewage Treated Plant Quality Monitoring Results

Doc No: RFCL-TS-EMC-Report-06

Month	: March '23
Nature of Sampling	: Sewage Treatment Plant Analysis (Township)
Sample collected and tested by	: In- House Laboratory
Date of Sample Collection	: 06.03.2023, 13.03.2023, 20.03.2023 & 29.03.2023

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	06.03.2023	13.03.2023	20.03.2023	29.03.2023
1	pH.		5.5-9.0	8.18	8.08	7.76	7.77
2	Total Suspended Solids (TSS)	mg/l	< 100	<10	<10	<10	<10
3	BOD (3 days at 27 °C)	mg/l	< 30	<10	<10	<10	<10
4	COD	mg/l	< 250	20.00	14.00	16.00	14.00

Page



Ammonia in atmosphere at different locations in plant area

Doc No: RFCL-TS-EMC-Report-07

Month : March '2023
Nature of Sampling : Ammonia Concentration
Sample collected and tested by : In- House Laboratory
Date of Sample Collection :- : 23.03.2023 & 30.03.2023

TEST RESULTS

S.No	Location of sample collection	Ammonia Concentration in PPM (23.03.2023)	Ammonia Concentration in PPM (30.03.2023)
1	Near Ammonia Converter -1	<1 ppm	<1 ppm
2	Near Ammonia Converter -2	<1 ppm	<1 ppm
3	Near product hydrogen sample point (CHRU)	<1 ppm	<1 ppm
4	Near Ammonia Chillers	2 ppm	<1 ppm
5	Near Ammonia Separator	<1 ppm	<1 ppm
6	Near Ammonia Accumulator	<1 ppm	<1 ppm
7	Near C 551 sample point (Purge gas recovery unit)	2 ppm	2.5 ppm
8	Near Ammonia recovery pump	<1 ppm	<1 ppm
9	Near 551B HP circulation pump	<1 ppm	<1 ppm
10	Near 503 flash vessel	20 ppm	15 ppm
11	Near Ammonia Filter	<1 ppm	<1 ppm
12	Near P1 pump	<1 ppm	<1 ppm
13	Near P2 pump	<1 ppm	<1 ppm
14	Near P5 pump	<1 ppm	<1 ppm
15	Near P9 pump	<1 ppm	<1 ppm
16	Near battery limits (Ammonia storage section)	2 ppm	<1 ppm
17	Near Ammonia pump	<1 ppm	<1 ppm
18	Near Ammonia tranfer pump	<1 ppm	<1 ppm

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