



Ramagundam Fertilizers And Chemicals Limited

रामगुंडम फर्टिलाइजर्स एण्ड केमिकल्स लिमिटेड

(A Joint Venture Company)

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

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GSTIN : 36AAHCR2335P1ZY, CIN : U24100DL2015PLC276753

RFCL/TS/EMC/FY 22-23/22

Dated:19.11.2022

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 April'22- September'22.

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 April'22- September'22 is enclosed herewith.

Trust that you find the above information in order.

Yours Sincerely

Uday Rajhansa
GM (O&M)

Enclosure: As above.

Copy to:

- Joint Chief Environmental Engineer (TSPCB), Hyderabad, Telangana.
- Zonal Office, CPCB, Bengaluru, Karnataka.
- Environmental Engineer, Ramagundam, Telangana.

UDAY RAJHANSA
GM (O&M)
Ramagundam, Dist. Peddapalli (T.S.)

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, Moha 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 : April 2022-September2022)

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)	The gaseous emissions (SO ₂ , NO _x , NH ₃ , 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. Stack emissions shall be monitored continuously (24 x 7) as per CPCB guideline.	The Particulate matter and gaseous emissions from various process units conform to the norms prescribed by CPCB/ SPCB from time to time. In the event of emission exceeding beyond the stipulated norms, necessary corrective action being taken immediately to bring the emissions within the prescribed norms. Process stack emissions are being monitored continuously as per the CPCB guidelines. Details of Process Emissions (Stack Emission) are enclosed in Annexure -V
ii)	Adequate stack height shall be provided to Ammonia Plant Reformer, Heat Recovery Steam Generator (HRSG), NG/RLNG fired Gas Turbine and Prilling Tower. Low NO _x burners shall be provided to control NO _x emissions.	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. Low NO _x burners have been installed in Primary reformer, HRSG & Utility Boiler to mitigate the NO _x emission.
iii)	In Urea Plant, particulate emissions shall not exceed 50 mg/Nm ³ . Monitoring of Prilling Tower shall be carried out as per CPCB guidelines.	Urea dust from the Prilling tower remains well below the prescribed limit as specified by CPCB (less than 50 mg/Nm ³) .
iv)	As proposed, Fertilizer plant shall be designed for Specific Energy Consumption of 5.0 Gcal/MT of Urea.	Urea Plant has been designed with Specific Energy Consumption of < 5.0 GCal/MT of Urea.
v)	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 PM ₁₀ (Urea Dust), SO ₂ , 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. 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).	Continuous Ambient Air quality monitoring stations have been provided at two locations within the factory premises. PM ₁₀ , PM _{2.5} , Ammonia, SO ₂ , 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. Environmental reports are being submitted to Regional office, Ramagundam on monthly basis. Details of Ambient Air quality are enclosed in Annexure -IV
vi)	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.	Ammonia & Urea plants are Natural Gas based plants. For both feed & fuel, Natural gas is used. Therefore very limited fugitive emissions are generated during Urea product manufacturing . Urea dust collection and recovery systems (De-dusting System) commissioning under progress in phase wise. Work place monitoring is carried out at regular interval, which helps to maintain emission level within the prescribed limit. Gas sensors are provided at potential points to monitor and control the fugitive emissions.

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S.NO	DESCRIPTION	COMPLIANCE STATUS
vii)	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG set to mitigate the noise pollution.	Stack height of DG set is as per CPCB standards. Acoustic enclosure has been provided to the DG set to mitigate the noise pollution.
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 drawl from Yellampalli Barrage does not exceed 30500 m ³ /day. 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.	• Urea plant process condensate is treated in a deep hydrolyser followed by stripping. • Ammonia Plant process condensate is 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 in Annexure -II. • Sewage being treated in Sewage Treatment Plant (STP). Details of STP outlet Quality are enclosed in Annexure -VI.
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) has been provided with high level alarm system and same is connected to TSPCB & CPCB server. Apart that BOD,COD &TSS also connected to the TSPCB server as per the directions from Task force. Treated effluent discharge always remains less than 250 m ³ /hr.
xi)	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 and reports are submitted to RO, Ramagundam on monthly basis. Details of Ground water quality are enclosed in Annexure -III

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S.NO	DESCRIPTION	COMPLIANCE STATUS
xii)	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 have been provided around project site. Storm water drains, effluent drains & oily water collection pits are constructed separately to avoid mixing of effluent with storm water.
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.	Noted.
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.
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.

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S.NO	DESCRIPTION	COMPLIANCE STATUS
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.	Construction labours involved were mostly local & residing in nearby areas. Safe drinking water , medical facilities etc had been provided to construction labours during construction phase of the project.
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.
(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 assess 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.	Two Continuous Ambient Air Quality Monitoring Stations are installed one each in the upwind and downwind directions at following locations 1. Technical Building. 2. Material Gate. All these monitoring stations are in operation. Real time data of Ambient air quality is connected to TSPCB website.
(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).	The selection of plant equipment have been done with the specifications of low noise levels. An adequate measure for the control of noise has been taken so as to keep the noise levels below the prescribed limit in the work environment. Persons working near the noisy machines like Ammonia plant compressor area, Urea Plant compressor area, GT etc. have been provided with well designed ear muffs / plugs. Emergency DG sets are equipped with acoustic enclosure. The ambient noise levels are being monitored at different locations and strictly conforming to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989. Details of Ambient Noise levels are enclosed in Annexure -I
(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.

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S.NO	DESCRIPTION	COMPLIANCE STATUS
(vii)	Usage of Personnel Protection Equipment by all employees/workers shall be ensured	Necessary PPEs are made available for the plant personnel.
(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.	Training being provided for employees on safety and health aspects of chemical handling on regular basis. Periodic medical check-up of the working staff is being carried out.
(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.
(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.
(xiv)	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 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.	Complied.

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S.NO	DESCRIPTION	COMPLIANCE STATUS
(xvi)	The environmental statement for each financial year ending 31" 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 Bhubaneswar Regional Offices of MoEF by e-mail.	The environmental statement for the financial year ending 31" March'2022 in Form-'V' has been submitted to Regional Office, TSPCB Ramagundam.
(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.
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 09.02.2023.

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Ambient Noise Monitoring Report

Annexure-I

Month

: April'22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		06.04.22 Morning shift	14.04.22 Afternoon shift	21.04.22 Night shift	28.04.22 Morning shift
1	Technical building	58	63	55	57
2	Cooling Towers	67	61	57	69
3	Main Stores	62	60	59	61
4	UB/HRSH (near Boundary Wall)	72	72	69	73
5	Capatative Power Plant (CPP)	71	73	69	72
6	Urea plant	70	69	63	70
7	Bagging building	68	67	66	67
8	IA/PA plant (Near wall side)	72	73	69	72
9	Near DG set	65	66	65	66
10	Raw water pump house	62	60	60	63

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

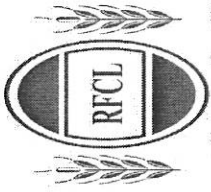
3. Afternoon shift Time :

2PM - 10PM

4. Night shift Time :

10PM - 6AM

RFCL



Ambient Noise Monitoring Report

Month

: May'22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

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S. No	Location	Noise level- dB (A)			
		02.05.22	10.05.22	18.05.22	26.05.22
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	57	59	56	58
2	Cooling Towers	68	65	58	69
3	Main Stores	61	60	59	62
4	UB/HRSH (near Boundary Wall)	73	72	68	73
5	Capatative Power Plant (CPP)	72	73	69	72
6	Urea plant	71	69	66	71
7	Bagging building	67	68	65	68
8	IA/PA plant (Near wall side)	73	72	68	73
9	Near DG set	66	65	64	65
10	Raw water pump house	61	62	59	62

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

6/5/22

Ambient Noise Monitoring Report

Month

: June '22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		06.06.22 Morning shift	13.06.22 Afternoon shift	20.06.22 Night shift	27.06.22 Morning shift
1	Technical building	57	58	55	59
2	Cooling Towers	69	70	66	70
3	Main Stores	59	58	55	60
4	UB/HRSH (near Boundary Wall)	72	73	69	73
5	Capatative Power Plant (CPP)	73	72	68	71
6	Urea plant	70	69	66	71
7	Bagging building	69	68	65	67
8	IA/PA plant (Near wall side)	74	73	69	72
9	Near DG set	67	68	63	67
10	Raw water pump house	60	61	57	63

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

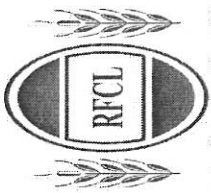
3. Afternoon shift Time :

2PM - 10PM

4. Night shift Time :

10PM - 6AM

60/7



Ambient Noise Monitoring Report

Month

: July '22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

समृद्धि कर्मचारी संघ के अधिकार क्षेत्र

S. No	Location	Noise level- dB (A)				
		06.07.22	18.07.22	21.07.22	26.07.22	
		Morning shift	Afternoon shift	Night shift	Morning shift	
1	Technical building	55	56	52	55	
2	Cooling Towers	74	72	69	70	
3	Main Stores	49	50	50	48	
4	UB/HRSH (near Boundary Wall)	74	74	68	74	
5	Capatative Power Plant (CPP)	73	72	69	72	
6	Urea plant	71	72	68	71	
7	Bagging building	60	62	62	63	
8	IA/PA plant (Near wall side)	71	71	69	74	
9	Near DG set	59	58	56	58	
10	Raw water pump house	71	72	68	70	

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 :

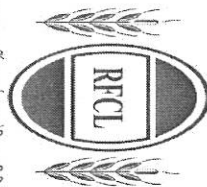
6AM - 2PM

3. Afternoon shift Time :

2PM - 10PM

4. Night shift Time :

10PM - 6AM



Ambient Noise Monitoring Report

Month : August '22
Ambient Noise Monitored by : Environmental Monitoring Cell (EMC)

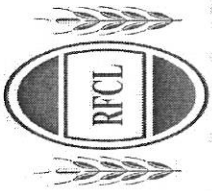
S. No	Location	Noise level- dB (A)			
		05.08.22 Morning shift	12.08.22 Afternoon shift	19.08.22 Night shift	26.08.22 Morning shift
1	Technical building	59	55	53	55
2	Cooling Towers	68	70	67	68
3	Main Stores	52	56	46	46
4	UB/HRSH (near Boundary Wall)	74	74	69	73
5	Capatative Power Plant (CPP)	73	73	68	72
6	Urea plant	72	71	66	70
7	Bagging building	63	62	62	64
8	IA/PA plant (Near wall side)	74	74	69	74
9	Near DG set	62	61	60	69
10	Raw water pump house	69	70	65	71

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

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

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

8/17



Ambient Noise Monitoring Report

Month : September'22
Ambient Noise Monitored by : Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		05.09.22	15.09.22	20.09.22	28.09.22
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	54	53	46	48
2	Cooling Towers	70	68	65	73
3	Main Stores	49	48	40	47
4	UB/HRSH (near Boundary Wall)	74	60	50	55
5	Capatative Power Plant (CPP)	73	61	54	56
6	Urea plant	72	58	51	61
7	Bagging building	65	53	49	48
8	IA/PA plant (Near wall side)	74	73	68	74
9	Near DG set	59	53	48	50
10	Raw water pump house	66	64	63	64

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

8/9/22

Treated Effluent Water Quality Monitoring Results

Annexure-II

Month : April'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 05.04.2022

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	6.98	8.19	8.16	8.1	6.93
2	Ammonical Nitrogen	mg/l as N	< 50	36.82	23.58	1.29	30.68	34.72
3	Free Ammonical Nitrogen	mg/l as N	< 2	-	1.89	0.09	1.99	-
4	Total kjeldahl Nitrogen	mg/l as N	< 75	41.47	31.65	5.45	36.02	40.38
5	Nitrate nitrogen	mg/l as N	< 10	1.92	1.14	1.33	1.96	1.66
6	Phosphate	mg/l as P	< 5	1.38	1.59	0.32	1.59	1.15
7	Suspended Solids	mg/l	< 100	38	22	5	30	26
8	BOD	mg/l	< 30	19.3	15	5.8	17.5	16.4
9	COD	mg/l	< 250	58	46	22	52	49
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: : 11.04.2022

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	7.54	8.16	8.02	8.09	7.41
2	Ammonical Nitrogen	mg/l as N	< 50	35.52	24.38	1.93	29.71	36.17
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.8	1.77	0.11	1.93	0.54
4	Total kjeldahl Nitrogen	mg/l as N	< 75	40.38	28.38	7.64	36.02	41.47
5	Nitrate nitrogen	mg/l as N	< 10	1.05	1.2	1.65	3.58	0.93
6	Phosphate	mg/l as P	< 5	2.37	2.74	0.9	3.65	2.47
7	Suspended Solids	mg/l	< 100	19	37	40	8	28
8	BOD	mg/l	< 30	21.5	18.4	6.2	18.8	20
9	COD	mg/l	< 250	62	52	22	58	56
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 : April'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection: : 18.04.2022

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	7.78	8.4	7.68	8.2	7.77
2	Ammonical Nitrogen	mg/l as N	< 50	44.09	14.85	0.19	24.54	45.22
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.54	1.86	0.01	1.96	1.58
4	Total kjeldahl Nitrogen	mg/l as N	< 75	51.29	20.74	3.27	34.92	50.2
5	Nitrate nitrogen	mg/l as N	< 10	1.12	1.44	1.2	6.28	1.28
6	Phosphate	mg/l as P	< 5	2.23	1.55	0.61	2.79	1.89
7	Suspended Solids	mg/l	< 100	24	18	8	16	21
8	BOD	mg/l	< 30	19.8	20.4	3	17.2	19.8
9	COD	mg/l	< 250	66	68	16	58	65
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: : 25.04.2022

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	8.26	8.25	7.67	7.77	7.73
2	Ammonical Nitrogen	mg/l as N	< 50	20.18	21.8	0.05	46.18	20.67
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.82	1.96	0.002	1.62	0.72
4	Total kjeldahl Nitrogen	mg/l as N	< 75	24.01	27.29	6.54	51.3	25.1
5	Nitrate nitrogen	mg/l as N	< 10	2.3	1.54	1.1	6.24	2.33
6	Phosphate	mg/l as P	< 5	1.01	0.42	0.27	1.76	0.74
7	Suspended Solids	mg/l	< 100	19	21	11	14	18
8	BOD	mg/l	< 30	20.5	21.5	5.8	19.4	20.8
9	COD	mg/l	< 250	68	71	18	62	70
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]

Treated Effluent Water Quality Monitoring Results

Month : May'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 02.05.2022

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	6.78	6.69	7.71	7.3	6.68
2	Ammonical Nitrogen	mg/l as N	< 50	22.55	26	0.21	16.67	21
3	Free Ammonical Nitrogen	mg/l as N	< 2	NT	NT	0.01	0.17	NT
4	Total kjeldahl Nitrogen	mg/l as N	< 75	29.46	32.74	4.36	27.28	26.2
5	Nitrate nitrogen	mg/l as N	< 10	2.84	2.01	1.65	5.16	2.28
6	Phosphate	mg/l as P	< 5	2.07	3.49	0.22	4.73	1.79
7	Suspended Solids	mg/l	< 100	26	28	6	16	26
8	BOD	mg/l	< 30	16.5	14.6	4.6	16.6	16
9	COD	mg/l	< 250	52	48	18	54	51
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: : 09.05.2022

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	8.42	8.2	7.95	8.32	8.2
2	Ammonical Nitrogen	mg/l as N	< 50	11.14	22.93	13.3	8.59	24.06
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.43	1.83	0.63	0.9	1.92
4	Total kjeldahl Nitrogen	mg/l as N	< 75	15.28	28.38	20.73	16.37	29.46
5	Nitrate nitrogen	mg/l as N	< 10	0.99	1.33	3.05	3.49	1.29
6	Phosphate	mg/l as P	< 5	2.35	2.06	0.35	2.59	2.1
7	Suspended Solids	mg/l	< 100	22	26	12	16	24
8	BOD	mg/l	< 30	17.2	15.5	5.8	16.4	16.3
9	COD	mg/l	< 250	56	50	20	54	55
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

Treated Effluent Water Quality Monitoring Results

Month : May'22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection: : 16.05.2022

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	8.39	8.4	7.65	8.21	8.28
2	Ammonical Nitrogen	mg/l as N	< 50	11.63	12.6	25.52	20.51	16.31
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.45	1.58	0.7	1.64	1.63
4	Total kjeldahl Nitrogen	mg/l as N	< 75	15.28	19.64	34.92	29.47	20.73
5	Nitrate nitrogen	mg/l as N	< 10	1.2	1.85	3.98	3.26	1.35
6	Phosphate	mg/l as P	< 5	2.7	2.79	0.72	3.51	2.54
7	Suspended Solids	mg/l	< 100	18	22	10	19	21
8	BOD	mg/l	< 30	17.8	16.2	12	16.8	17
9	COD	mg/l	< 250	60	54	36	56	58
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: : 23.05.2022

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	8.08	8.1	7.22	8.2	8.1
2	Ammonical Nitrogen	mg/l as N	< 50	28.32	30.04	0.11	24.29	29.8
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.84	1.95	0.001	1.94	1.94
4	Total kjeldahl Nitrogen	mg/l as N	< 75	33.83	37.1	6.54	31.65	36.01
5	Nitrate nitrogen	mg/l as N	< 10	1.02	1.38	2.98	3.42	1.31
6	Phosphate	mg/l as P	< 5	1.08	0.72	0.31	3.62	0.72
7	Suspended Solids	mg/l	< 100	21	25	6	20	24
8	BOD	mg/l	< 30	17.4	17.2	5.6	18.1	17
9	COD	mg/l	< 250	64	62	20	68	62
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

Treated Effluent Water Quality Monitoring Results

Month : May/22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In-House Laboratory
 Date of Sample Collection: : 30.05.2022

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	8.05	8.04	7.6	8.34	8.03
2	Ammonical Nitrogen	mg/l as N	< 50	31	30.84	2.9	4.13	30.36
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.86	1.85	0.07	0.46	1.67
4	Total kjeldahl Nitrogen	mg/l as N	< 75	37.1	36.02	7.64	10.91	36.02
5	Nitrate nitrogen	mg/l as N	< 10	1.41	1.54	2.72	3.12	1.52
6	Phosphate	mg/l as P	< 5	1.34	0.88	0.35	3.34	0.85
7	Suspended Solids	mg/l	< 100	26	28	8	21	24
8	BOD	mg/l	< 30	17.8	16.9	4.8	18	17
9	COD	mg/l	< 250	65	64	18	68	64
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 : June'22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection : 06.06.2022

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	7.95	7.75	7.85	8.14	7.85
2	Ammonical Nitrogen	mg/l as N	< 50	38.5	42.4	1.5	8.11	39.73
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.81	1.38	0.06	0.59	1.59
4	Total kjeldahl Nitrogen	mg/l as N	< 75	44.75	49.11	7.64	17.46	46.9
5	Nitrate nitrogen	mg/l as N	< 10	2.05	1.68	2.16	4.08	1.74
6	Phosphate	mg/l as P	< 5	1.85	1.06	0.28	3.78	1.25
7	Suspended Solids	mg/l	< 100	18	20	10	12	20
8	BOD	mg/l	< 30	14.8	15.4	5.2	13.2	15.2
9	COD	mg/l	< 250	50	56	22	46	54
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: : 13.06.2022

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	7.95	8.16	8.01	8.1	8.1
2	Ammonical Nitrogen	mg/l as N	< 50	33.59	4.91	3.39	29.31	6.82
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.58	0.36	0.17	1.91	0.44
4	Total kjeldahl Nitrogen	mg/l as N	< 75	39.29	10.91	9.82	38.2	12
5	Nitrate nitrogen	mg/l as N	< 10	1.68	1.46	2.02	3.65	1.55
6	Phosphate	mg/l as P	< 5	1.72	0.96	0.4	3.25	1.24
7	Suspended Solids	mg/l	< 100	26	24	15	11	25
8	BOD	mg/l	< 30	15	15.8	4.6	16.8	15.5
9	COD	mg/l	< 250	51	53	19	61	53
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

Treated Effluent Water Quality Monitoring Results

Month : June'22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection: : 20.06.2022

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	8.2	7.95	8.1	8.39	8.05
2	Ammonical Nitrogen	mg/l as N	< 50	24.63	32.37	24	10.25	32.13
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.97	1.52	1.56	1.28	1.93
4	Total kjeldahl Nitrogen	mg/l as N	< 75	30.56	38.2	28.38	20.73	37.1
5	Nitrate nitrogen	mg/l as N	< 10	1.05	0.94	0.88	6.64	0.86
6	Phosphate	mg/l as P	< 5	2.43	1.6	1.19	1.19	2.38
7	Suspended Solids	mg/l	< 100	26	20	8	12	24
8	BOD	mg/l	< 30	14.2	14.4	7.8	21.5	14.2
9	COD	mg/l	< 250	48	52	21	88	50
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: : 27.06.2022

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	8.02	7.95	7.9	7.85
2	Ammonical Nitrogen	mg/l as N	< 50	37.79	34.56	16.96	43.28	36.82
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.89	1.9	0.8	1.95	1.47
4	Total kjeldahl Nitrogen	mg/l as N	< 75	43.66	41.47	25.1	52.39	42.56
5	Nitrate nitrogen	mg/l as N	< 10	1.24	0.98	1.36	5.86	0.96
6	Phosphate	mg/l as P	< 5	2.16	1.57	0.95	1.42	1.86
7	Suspended Solids	mg/l	< 100	18	16	8	14	18
8	BOD	mg/l	< 30	15.1	15.6	8.1	20.2	15.2
9	COD	mg/l	< 250	54	56	25	88	54
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 : July'22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection : 04.07.2022

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	7.97	8.05	7.75	7.95	8
2	Ammonical Nitrogen	mg/l as N	< 50	34.23	23.9	36.17	40.53	24.87
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.71	1.43	1.18	1.9	1.24
4	Total kjeldahl Nitrogen	mg/l as N	< 75	38.2	29.46	45.84	49.11	30.56
5	Nitrate nitrogen	mg/l as N	< 10	0.7	1.46	4.36	4.4	1.1
6	Phosphate	mg/l as P	< 5	1.34	1.29	0.29	2.7	1.34
7	Suspended Solids	mg/l	< 100	18	16	18	8	17
8	BOD	mg/l	< 30	15.6	14.8	10.4	16.5	15.1
9	COD	mg/l	< 250	52	50	41	66	51
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: : 11.07.2022

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	8.2	8	7.95	7.89	8.02
2	Ammonical Nitrogen	mg/l as N	< 50	22.61	38.11	34.55	42.79	20.51
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.81	1.9	1.62	1.92	1.13
4	Total kjeldahl Nitrogen	mg/l as N	< 75	29.47	42.56	41.47	56.75	27.28
5	Nitrate nitrogen	mg/l as N	< 10	1.14	1.52	2.57	4.92	1.42
6	Phosphate	mg/l as P	< 5	1.32	1.08	0.3	2.09	0.99
7	Suspended Solids	mg/l	< 100	17	12	25	15	14
8	BOD	mg/l	< 30	15	14.5	9.2	17.2	14.6
9	COD	mg/l	< 250	51	46	38	70	46
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 : July'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory

Date of Sample Collection: : 18.07.2022

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	7.69	7.03	7.87	7.95	7.4
2	Ammonical Nitrogen	mg/l as N	< 50	16.47	42.95	32.94	37.78	18.41
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.49	-	1.4	1.78	0.28
4	Total kjeldahl Nitrogen	mg/l as N	< 75	21.83	49.11	43.65	52.39	22.92
5	Nitrate nitrogen	mg/l as N	< 10	0.83	2.59	6.27	7.4	1.17
6	Phosphate	mg/l as P	< 5	1.27	1.25	0.47	2.1	1.48
7	Suspended Solids	mg/l	< 100	16	19	28	18	18
8	BOD	mg/l	< 30	8.5	10.4	8.6	17.4	9.4
9	COD	mg/l	< 250	36	42	34	72	38
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: : 27.07.2022

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	7.42	7.99	7.92	8	7.43
2	Ammonical Nitrogen	mg/l as N	< 50	7.43	16.31	41.18	35.85	9.12
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.11	0.82	1.89	1.79	0.16
4	Total kjeldahl Nitrogen	mg/l as N	< 75	10.91	24.01	51.29	48.02	14.19
5	Nitrate nitrogen	mg/l as N	< 10	0.7	3.38	6.88	6.54	1.45
6	Phosphate	mg/l as P	< 5	0.89	1.2	0.2	1.6	1.05
7	Suspended Solids	mg/l	< 100	28	24	46	32	28
8	BOD	mg/l	< 30	9.2	14.8	7.5	18.6	9.8
9	COD	mg/l	< 250	40	65	30	79	42
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

Treated Effluent Water Quality Monitoring Results

Month : August'22

Nature of Sampling : Treated Effluent Water

Sample collected and tested by : In- House Laboratory

Date of Sample Collection : 03.08.2022

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	6.75	6.99	8.05	7.95	6.93
2	Ammonical Nitrogen	mg/l as N	< 50	1.29	3.81	3.16	32.64	3.46
3	Free Ammonical Nitrogen	mg/l as N	< 2	-	-	0.19	1.53	-
4	Total kjeldahl Nitrogen	mg/l as N	< 75	4.36	7.64	8.73	41.47	6.55
5	Nitrate nitrogen	mg/l as N	< 10	0.9	1.04	2.52	5.74	0.99
6	Phosphate	mg/l as P	< 5	1.24	1.62	1.02	2.84	1.44
7	Suspended Solids	mg/l	< 100	11	15	22	18	12
8	BOD	mg/l	< 30	10.8	12.4	4.2	15.6	11.2
9	COD	mg/l	< 250	44	48	18	68	45
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: : 10.08.2022

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	6.81	6.62	8.24	7.85	6.77
2	Ammonical Nitrogen	mg/l as N	< 50	23.25	19.86	3.68	33.59	18.57
3	Free Ammonical Nitrogen	mg/l as N	< 2	-	-	0.33	1.34	-
4	Total kjeldahl Nitrogen	mg/l as N	< 75	27.29	25.1	7.64	44.75	22.92
5	Nitrate nitrogen	mg/l as N	< 10	0.67	0.7	2.14	6.89	0.7
6	Phosphate	mg/l as P	< 5	1.56	2.33	0.84	3.63	1.72
7	Suspended Solids	mg/l	< 100	18	8	7	26	17
8	BOD	mg/l	< 30	11.7	10.6	3.8	16.1	11
9	COD	mg/l	< 250	46	42	16	72	44
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

Treated Effluent Water Quality Monitoring Results

Month : August'22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In-House Laboratory

Date of Sample Collection: : 17.08.2022

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	8.01	7.89	8.08	8.12	7.94
2	Ammonical Nitrogen	mg/l as N	< 50	34.23	36.17	2.82	28.26	35.36
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.72	1.63	0.18	1.94	1.66
4	Total kjeldahl Nitrogen	mg/l as N	< 75	39.29	40.38	8.73	38.2	39.29
5	Nitrate nitrogen	mg/l as N	< 10	0.86	0.82	2.48	5.7	0.83
6	Phosphate	mg/l as P	< 5	1.18	1.5	1.05	3.1	1.37
7	Suspended Solids	mg/l	< 100	20	12	14	32	16
8	BOD	mg/l	< 30	11.6	13.5	4	17.2	12.8
9	COD	mg/l	< 250	48	54	16	70	50
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: : 24.08.2022

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	8.13	8.08	8.22	8.15	8.05
2	Ammonical Nitrogen	mg/l as N	< 50	25.84	29.71	2.28	22.93	26.64
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.87	1.93	0.19	1.66	1.6
4	Total kjeldahl Nitrogen	mg/l as N	< 75	32.74	36.01	6.54	33.83	32.74
5	Nitrate nitrogen	mg/l as N	< 10	0.92	1.14	2.28	6.06	1.08
6	Phosphate	mg/l as P	< 5	1.22	1.31	0.89	3.51	1.25
7	Suspended Solids	mg/l	< 100	16	18	8	26	18
8	BOD	mg/l	< 30	10.4	10.8	3.8	16.6	10.2
9	COD	mg/l	< 250	46	48	18	70	46
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

Treated Effluent Water Quality Monitoring Results

Month : August'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection: : 31.08.2022

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	8.02	8.1	8.11	8.15	8.04
2	Ammonical Nitrogen	mg/l as N	< 50	29.39	27.61	2.39	23.9	28.58
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.62	1.79	0.16	1.73	1.71
4	Total kjeldahl Nitrogen	mg/l as N	< 75	34.93	33.83	7.64	36.01	36.01
5	Nitrate nitrogen	mg/l as N	< 10	0.82	0.94	2.54	6.89	0.88
6	Phosphate	mg/l as P	< 5	0.92	1.05	0.84	2.88	1.01
7	Suspended Solids	mg/l	< 100	18	10	8	14	12
8	BOD	mg/l	< 30	10.9	11.5	4.2	17.4	11
9	COD	mg/l	< 250	50	54	20	78	50
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 : September'22
Nature of Sampling : Treated Effluent Water
Sample collected and tested by : In-House Laboratory
Date of Sample Collection : 05.09.2022

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	7.49	7.83	7.38	8.1	7.62
2	Ammonical Nitrogen	mg/l as N	< 50	15.02	16.31	4.32	28.42	14.37
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.3	0.65	0.06	1.85	0.36
4	Total kjeldahl Nitrogen	mg/l as N	< 75	20.7	21.8	9.82	36	20.7
5	Nitrate nitrogen	mg/l as N	< 10	0.89	1.09	3.77	3.75	0.94
6	Phosphate	mg/l as P	< 5	1.89	2.03	0.97	1.5	1.82
7	Suspended Solids	mg/l	< 100	18	16	14	12	16
8	BOD	mg/l	< 30	10	9.8	3.6	15.5	9.5
9	COD	mg/l	< 250	47	42	18	64	40
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: : 14.09.2022

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	7.75	8.09	8.04	7.95	7.85
2	Ammonical Nitrogen	mg/l as N	< 50	15.18	25.68	2.86	32.4	19.78
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.49	1.67	0.17	1.52	0.79
4	Total kjeldahl Nitrogen	mg/l as N	< 75	20.98	32.03	7.73	40.87	25.4
5	Nitrate nitrogen	mg/l as N	< 10	0.92	1.18	3.2	3.86	1.04
6	Phosphate	mg/l as P	< 5	1.64	1.8	0.84	1.46	1.72
7	Suspended Solids	mg/l	< 100	14	12	16	10	14
8	BOD	mg/l	< 30	9.6	9.8	2.8	14.8	9.6
9	COD	mg/l	< 250	40	46	16	58	44
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

Treated Effluent Water Quality Monitoring Results

Month : September'22
 Nature of Sampling : Treated Effluent Water
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection: : 24.09.2022

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	7.6	8.31	7.95	8.07	8.02
2	Ammonical Nitrogen	mg/l as N	< 50	16.31	14.21	3.24	24.4	15.99
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.41	1.42	0.15	1.59	0.96
4	Total kjeldahl Nitrogen	mg/l as N	< 75	22.1	19.88	8.83	32.03	23.2
5	Nitrate nitrogen	mg/l as N	< 10	1.04	1.26	2.8	3.04	1.18
6	Phosphate	mg/l as P	< 5	1.74	1.82	0.8	1.42	1.8
7	Suspended Solids	mg/l	< 100	12	14	10	11	13
8	BOD	mg/l	< 30	8.6	8.2	2.6	13.6	8.3
9	COD	mg/l	< 250	38	36	14	56	36
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: : 30.09.2022

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	7.17	6.99	8.08	8.05	7
2	Ammonical Nitrogen	mg/l as N	< 50	16.39	8.72	2.64	28.1	10.33
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.16	-	0.17	1.69	-
4	Total kjeldahl Nitrogen	mg/l as N	< 75	22.1	13.25	7.73	37.55	16.56
5	Nitrate nitrogen	mg/l as N	< 10	1.13	1.96	2.46	2.88	1.36
6	Phosphate	mg/l as P	< 5	1.94	1.88	0.73	1.4	1.9
7	Suspended Solids	mg/l	< 100	16	14	9	8	13
8	BOD	mg/l	< 30	8.4	8	2.4	12.8	8.1
9	COD	mg/l	< 250	36	32	14	51	34
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

Ground Water Quality Monitoring Results

Annexure-III

Month : April 2022
 Nature of Sampling : Ground Water
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection :- : 05.04.2022

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	Elkalapalli
1	Temperature	30 degC	27.5	28	28.5	27.5	28.5	28	28.5	28
2	pH	6.5-8.5	8.03	7.22	6.98	7.84	7.92	7.36	7.46	7.11
3	Conductivity	< 2600 uS/cm	880	1185	1845	725	526	1665	745	948
4	BOD	< 2.0 mg/L	1.3	1.8	1.8	1.6	1.4	1.7	1.4	1.5
5	Nitrate as N	< 45 mg/L	0.47	2.83	0.98	0.51	0.48	30.54	3.45	2.15
6	Chloride	< 250 mg/L	42.02	61.12	96.5	47.75	59.21	133.7	57.3	61.12
7	Ammonia as N	< 0.5 mg/L	0.05	0.05	0.25	0.18	0.08	0.07	0.1	0.05
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/L	6.05	6.20	6.10	6.10	6.20	6.10	6.20	6.15

28/04/22

Ground Water Quality Monitoring Results

Month : May'2022
Nature of Sampling : Ground Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection :- : 02.05.2022

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	27.5	27.5	28.5	28.0	28.0	28.0	28.0	27.5	
2	pH	6.5-8.5	8.23	8.09	7.02	7.43	7.85	7.47	7.36	7.34	
3	Conductivity	< 2600 uS/cm	600	601	1795	858	545	1735	910	965	
4	BOD	< 2.0 mg/L	1.50	1.60	1.70	1.40	1.50	1.80	1.50	1.60	
5	Nitrate as N	< 45 mg/L	0.54	0.58	1.04	0.69	0.50	27.65	2.35	1.68	
6	Chloride	<250 mg/L	59.59	57.67	98.04	49.98	61.51	174.93	73.05	63.44	
7	Ammonia as N	<0.5 mg/L	0.05	0.05	0.22	0.05	0.06	0.08	0.15	0.05	
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT	
9	Dissolved Oxygen	>6 mg/L	6.15	6.20	6.05	6.15	6.10	6.05	6.15	6.20	

RFCL

Ground Water Quality Monitoring Results

Month : June 2022
 Nature of Sampling : Ground Water
 Sample collected and tested by : In-House Laboratory
 Date of Sample Collection :- : 01.06.2022

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	27.0	28.0	27.5	27.5	28.0	27.5	27.5	27.0
2	pH	6.5-8.5	8.05	7.85	7.40	7.48	7.65	7.52	7.45	7.36
3	Conductivity	< 2600 uS/cm	850	640	1810	865	620	1750	940	940
4	BOD	< 2.0 mg/l	1.60	1.50	1.80	1.60	1.60	1.70	1.20	1.40
5	Nitrate as N	< 45 mg/l	0.62	0.62	1.24	0.64	0.54	28.92	1.85	1.84
6	Chloride	<250 mg/l	61.51	57.66	103.80	46.13	67.28	169.16	74.97	73.04
7	Ammonia as N	<0.5 mg/l	0.05	0.05	0.26	0.05	0.08	0.10	0.18	0.05
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	>6 mg/l	6.20	6.10	6.10	6.25	6.15	6.10	6.20	6.15

Sign

Ground Water Quality Monitoring Results

Month : July '2022
Nature of Sampling : Ground Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection :- : 04.07.2022

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	Elkalapalli
1	Temperature	30 degC	26.5	27.0	26.0	26.5	26.5	27.0	26.5	26.5
2	pH	6.5-8.5	7.25	7.14	7.10	7.55	7.54	6.98	7.33	6.87
3	Conductivity	< 2600 uS/cm	664	1058	1745	745	680	1688	706	1159
4	BOD	< 2.0 mg/L	1.50	1.60	1.70	1.20	1.40	1.70	1.30	1.50
5	Nitrate as N	< 45 mg/L	0.64	2.56	1.54	0.58	0.68	24.40	1.42	1.68
6	Chloride	< 250 mg/L	65.36	69.20	108.50	47.52	61.51	154.20	72.50	78.40
7	Ammonia as N	< 0.5 mg/L	0.08	0.05	0.22	0.05	0.10	0.12	0.05	0.05
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/L	6.15	6.15	6.05	6.30	6.20	6.15	6.25	6.20

8/7/22

Ground Water Quality Monitoring Results

Month : August '2022
Nature of Sampling : Ground Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection :- : 03.08.2022

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	Elkalapalli
1	Temperature	30 degC	26.5	26.5	27.0	27.0	27.0	26.5	27.0	27.0
2	pH	6.5-8.5	7.81	7.18	6.95	7.15	6.98	6.97	6.95	6.8
3	Conductivity	< 2600 uS/cm	710	1130	1805	745	640	1814	1002	1456
4	BOD	< 2.0 mg/L	1.00	1.20	1.50	1.10	1.30	1.40	1.10	1.30
5	Nitrate as N	< 45 mg/L	1.02	1.53	1.11	1.08	0.90	28.87	9.58	16.67
6	Chloride	<250 mg/L	57.14	60.95	102.85	53.33	47.62	123.8	85.71	92.71
7	Ammonia as N	<0.5 mg/L	0.05	0.05	0.15	0.05	0.10	0.13	0.10	0.08
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	6.15	6.10	6.25	6.15

8/8/22

Ground Water Quality Monitoring Results

Month : September '2022
Nature of Sampling : Ground Water
Sample collected and tested by : In- House Laboratory
Date of Sample Collection :- : 05.09.2022

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	Elkalapalli
1	Temperature	30 degC	27.0	27.0	27.5	27.5	27.0	26.5	27.5	27.5
2	pH	6.5-8.5	7.65	7.12	6.88	7.08	7.04	7.02	7.08	6.95
3	Conductivity	< 2600 uS/cm	740	980	1780	760	675	1860	985	1445
4	BOD	< 2.0 mg/L	1.05	1.10	1.35	1.05	1.10	1.30	1.20	1.20
5	Nitrate as N	< 45 mg/L	1.30	1.80	1.36	1.24	1.05	26.56	9.72	15.24
6	Chloride	< 250 mg/L	58.60	62.40	114.20	51.50	49.40	119.40	82.40	90.10
7	Ammonia as N	< 0.5 mg/L	0.05	0.05	0.18	0.05	0.12	0.10	0.08	0.06
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	> 6 mg/L	6.20	6.20	6.20	6.25	6.10	6.15	6.20	6.25

2/9/22

Ambient Air Quality Monitoring Results

Annexure-IV

Month : April'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)	04.04.2022	12.04.2022	20.04.2022	25.04.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	80.9	68.5	92.7	94.5
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	50.6	42.5	51	53.9
3	SOx	$\mu\text{g}/\text{m}^3$	80	11.8	9.4	6.4	10.7
4	NOx	$\mu\text{g}/\text{m}^3$	80	9.2	7.5	5.8	5.1
5	NH3	$\mu\text{g}/\text{m}^3$	400	47.2	24.3	22.8	21.9

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	04.04.2022	12.04.2022	20.04.2022	25.04.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	78.9	70.5	70.2	81.4
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	54.8	43.5	51.5	55.2
3	SOx	$\mu\text{g}/\text{m}^3$	80	9.5	7.2	5.2	9.7
4	NOx	$\mu\text{g}/\text{m}^3$	80	7.2	6.3	5.5	5.2
5	NH3	$\mu\text{g}/\text{m}^3$	400	14.9	10.5	12.6	14.5

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Ambient Air Quality Monitoring Results

Month : May'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)	02.05.2022	10.05.2022	17.05.2022	24.05.2022	31.05.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	95.2	90.8	65.8	94.9	86.8
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	48.6	44.2	34	42.7	44.8
3	SOx	$\mu\text{g}/\text{m}^3$	80	9.5	11.8	8.4	8.6	9.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	6.2	11.9	7.0	6.4	5.8
5	NH3	$\mu\text{g}/\text{m}^3$	400	26.5	56.1	42.7	28.2	36.4

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	02.05.2022	10.05.2022	17.05.2022	24.05.2022	31.05.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	89.6	92.5	62.4	85.6	90.4
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	50.5	36.9	34.2	38.4	40.6
3	SOx	$\mu\text{g}/\text{m}^3$	80	7.3	8.5	6.5	6.7	7.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	5.8	5.3	5.0	5.1	4.9
5	NH3	$\mu\text{g}/\text{m}^3$	400	10.9	33.5	39.7	16.5	24.6

RFCL

Ambient Air Quality Monitoring Results

Month : June'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)	07.06.2022	14.06.2022	21.06.2022	28.06.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	84.5	81.2	78.4	47
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	38.8	40.5	36	24.7
3	SOx	$\mu\text{g}/\text{m}^3$	80	8.4	8.2	10.8	9.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	6.2	7.4	8.4	8.0
5	NH3	$\mu\text{g}/\text{m}^3$	400	66.4	58.4	72.5	63.3

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	07.06.2022	14.06.2022	21.06.2022	28.06.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	91.4	88.6	82.5	53.5
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	44.6	46.2	39.2	30.6
3	SOx	$\mu\text{g}/\text{m}^3$	80	7.6	8.8	7.4	8.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	4.8	5.6	6.1	6.0
5	NH3	$\mu\text{g}/\text{m}^3$	400	41.8	38.6	48.4	58.5

8/6/22

Ambient Air Quality Monitoring Results

Month : July'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)	05.07.2022	12.07.2022	19.07.2022	26.07.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	52.5	42.6	40.8	45.6
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	21.3	18.4	17.6	18.4
3	SOx	$\mu\text{g}/\text{m}^3$	80	7.6	6.8	8.2	7.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	5.2	5.4	5.8	5.4
5	NH3	$\mu\text{g}/\text{m}^3$	400	65.5	108.5	82.4	68.6

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	05.07.2022	12.07.2022	19.07.2022	26.07.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	56.6	50.5	46.4	49.6
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	23.6	20.2	19.2	18.8
3	SOx	$\mu\text{g}/\text{m}^3$	80	6.6	5.4	6.2	6.4
4	NOx	$\mu\text{g}/\text{m}^3$	80	5	3.8	4.2	4.4
5	NH3	$\mu\text{g}/\text{m}^3$	400	58.6	81.4	80.5	66.6

Signature

Ambient Air Quality Monitoring Results

Month : August'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)	02.08.2022	09.08.2022	16.08.2022	23.08.2022	30.08.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	47.5	52.9	43.1	48.6	60.4
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	16.8	21	12.7	16.4	29.5
3	SOx	$\mu\text{g}/\text{m}^3$	80	11.7	14	12.9	16.5	17
4	NOx	$\mu\text{g}/\text{m}^3$	80	9.5	10.9	9.8	12.4	10.6
5	NH3	$\mu\text{g}/\text{m}^3$	400	80.8	93.9	112.9	108.6	90.5

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	02.08.2022	09.08.2022	16.08.2022	23.08.2022	30.08.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	52.4	61.6	48.8	56.2	68.4
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	18.6	25.2	20	18.8	28.4
3	SOx	$\mu\text{g}/\text{m}^3$	80	9.9	12.4	10.6	14.5	15.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	7.2	8.4	8.4	9.6	10.2
5	NH3	$\mu\text{g}/\text{m}^3$	400	66.4	78.6	98.2	100.4	86.4

Signature

Ambient Air Quality Monitoring Results

Month : September'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)	06.09.2022	13.09.2022	20.09.2022	27.09.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	52.2	35.6	38.5	44.6
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	18.5	13.9	10.2	14.6
3	SOx	$\mu\text{g}/\text{m}^3$	80	10.8	8.7	7.2	7.8
4	NOx	$\mu\text{g}/\text{m}^3$	80	7.4	6.5	6.3	6.6
5	NH3	$\mu\text{g}/\text{m}^3$	400	52.7	33.2	23.4	20.8

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	06.09.2022	13.09.2022	20.09.2022	27.09.2022
1	PM10	$\mu\text{g}/\text{m}^3$	100	59.5	33.9	40	54
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	23.2	12.7	13	18.5
3	SOx	$\mu\text{g}/\text{m}^3$	80	9	7.8	6.7	7.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	7.1	6.2	6.4	6.8
5	NH3	$\mu\text{g}/\text{m}^3$	400	41	29.3	19.5	16.4

Signature



Stack Emission Monitoring Readings

Annexure-V

April'22

Stack Emission

In-house Laboratory

Month:-

Nature of Sampling :-

Sample collected and tested by:-

TEST RESULTS

Location :-

Primary Reformer Stack

S.No	Parameters	Permissible limits	05.04.2022	12.04.2022	22.04.2022	28.04.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.2	3.0	3.2	3.4
3	NOx	400 mg/Nm ³	36	40	36	19

Location :-

Utility Boiler Stack

S.No	Parameters	Permissible limits	05.04.2022	12.04.2022	21.04.2022	28.04.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.2	3.4	3.2	3.6
3	NOx	400 mg/Nm ³	46	44	43	48

Location :-

HRS G Stack

S.No	Parameters	Permissible limits	05.04.2022	12.04.2022	21.04.2022	28.04.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	6.8	4.8	6.2	5.2
3	NOx	400 mg/Nm ³	65	71	89	107

Location :-

Prilling Tower

S.No	Parameters	Permissible limits	07.04.2022	15.04.2022	21.04.2022	28.04.2022
1	Particulate Matter	50 mg/Nm ³	42.5	35.3	38.6	36.3
2	NH ₃	150 mg/Nm ³	63.0	48.5	58.5	52.5

Signature

Stack Emission Monitoring Readings

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

May'22
 Stack Emission
 In- house Laboratory

TEST RESULTS

Location :- Primary Reformer Stack

S.No	Parameters	Permissible limits	05.05.2022	12.05.2022	19.05.2022	27.05.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.6	3.0	3.2	3.8
3	NOx	400 mg/Nm ³	32	38	36	42

Location :- Utility Boiler Stack

S.No	Parameters	Permissible limits	05.05.2022	12.05.2022	19.05.2022	27.05.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.4	3.2	3	3.4
3	NOx	400 mg/Nm ³	48	42	52	56

Location :- HRSG Stack

S.No	Parameters	Permissible limits	05.05.2022	12.05.2022	19.05.2022	27.05.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	4.8	4.4	4.6	4.2
3	NOx	400 mg/Nm ³	100	88	98	106

Location :- Prilling Tower

S.No	Parameters	Permissible limits	05.05.2022	12.05.2022	19.05.2022	27.05.2022
1	Particulate Matter	50 mg/Nm ³	42.5	46.4	48	44.8
2	NH ₃	150 mg/Nm ³	48.4	42	86.4	125.2

Ref



Stack Emission Monitoring Readings

Month:-

June'22

Nature of Sampling :-

Stack Emission

Sample collected and tested by:-

In-house Laboratory

TEST RESULTS

Location :-

Primary Reformer Stack

S.No	Parameters	Permissible limits	03.06.2022	10.06.2022	17.06.2022	24.06.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.2	3.8	3.4	3.6
3	NOx	400 mg/Nm ³	46	44	48	46

Location :-

Utility Boiler Stack

S.No	Parameters	Permissible limits	03.06.2022	10.06.2022	17.06.2022	24.06.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.8	3.4	3.6	3.4
3	NOx	400 mg/Nm ³	52	58	60	54

Location :-

HRS G Stack

S.No	Parameters	Permissible limits	03.06.2022	10.06.2022	17.06.2022	24.06.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	5	4.6	4.8	5.2
3	NOx	400 mg/Nm ³	104	92	96	100

Location :-

Prilling Tower

S.No	Parameters	Permissible limits	03.06.2022	10.06.2022	17.06.2022	24.06.2022
1	Particulate Matter	50 mg/Nm ³	44.5	40.6	42.3	46.2
2	NH ₃	150 mg/Nm ³	104.3	91.8	97.2	108.2

Signature

Stack Emission Monitoring Readings

Month:- July'22
 Nature of Sampling :- Stack Emission
 Sample collected and tested by:- In- house Laboratory

TEST RESULTS

Location :- Primary Reformer Stack

S.No	Parameters	Permissible limits	01.07.2022	08.07.2022	15.07.2022	22.07.2022	29.07.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.1	3.4	3	3.2	3.4
3	NOx	400 mg/Nm ³	52	48	47	46	50

Location :- Utility Boiler Stack

S.No	Parameters	Permissible limits	01.07.2022	08.07.2022	15.07.2022	22.07.2022	29.07.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.2	3.6	3.8	3.4	3.6
3	NOx	400 mg/Nm ³	96	85	92	94	98

Location :- HRSG Stack

S.No	Parameters	Permissible limits	01.07.2022	08.07.2022	15.07.2022	22.07.2022	29.07.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	4.6	5	5.2	4.8	5.0
3	NOx	400 mg/Nm ³	125	118	122	124	120

Location :- Prilling Tower

S.No	Parameters	Permissible limits	01.07.2022	08.07.2022	15.07.2022	22.07.2022	29.07.2022
1	Particulate Matter	50 mg/Nm ³	39.82	42.07	37.07	43.32	35.33
2	NH3	150 mg/Nm ³	94.02	85.01	97.24	113.34	102.4

[Signature]



Stack Emission Monitoring Readings

Month:-

August'22

Nature of Sampling :-

Stack Emission

Sample collected and tested by:-

In-house Laboratory

TEST RESULTS

Location :-

Primary Reformer Stack

S.No	Parameters	Permissible limits	05.08.2022	12.08.2022	19.08.2022	26.08.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.6	2.8	3.2	3.0
3	NOx	400 mg/Nm ³	56	52	50	54

Location :-

Utility Boiler Stack

S.No	Parameters	Permissible limits	05.08.2022	12.08.2022	19.08.2022	26.08.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	3.4	3.2	3	3.2
3	NOx	400 mg/Nm ³	98	104	108	92

Location :-

HRS G Stack

S.No	Parameters	Permissible limits	05.08.2022	12.08.2022	19.08.2022	26.08.2022
1	SPM	10 mg/Nm ³	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm ³	5.0	5.6	5.8	5.4
3	NOx	400 mg/Nm ³	112	108	122	106

Location :-

Prilling Tower

S.No	Parameters	Permissible limits	05.08.2022	12.08.2022	19.08.2022	26.08.2022
1	Particulate Matter	50 mg/Nm ³	40.73	36.32	37.41	43.25
2	NH ₃	150 mg/Nm ³	87.42	104.91	100.46	98.22

Ans

Stack Emission Monitoring Readings

Month:- September'22
 Nature of Sampling :- Stack Emission
 Sample collected and tested by:- In- house Laboratory

TEST RESULTS

Location :- Primary Reformer Stack

S.No	Parameters	Permissible limits	03.09.2022
1	SPM	10 mg/Nm ³	<5.0
2	SOx	50 mg/Nm ³	3.8
3	NOx	400 mg/Nm ³	58

Location :- Utility Boiler Stack

S.No	Parameters	Permissible limits	03.09.2022
1	SPM	10 mg/Nm ³	<5.0
2	SOx	50 mg/Nm ³	3.0
3	NOx	400 mg/Nm ³	76

Location :- HRSG Stack

S.No	Parameters	Permissible limits	03.09.2022
1	SPM	10 mg/Nm ³	<5.0
2	SOx	50 mg/Nm ³	4.4
3	NOx	400 mg/Nm ³	94

Location :- Prilling Tower

S.No	Parameters	Permissible limits	03.09.2022
1	Particulate Matter	50 mg/Nm ³	38.5
2	NH ₃	150 mg/Nm ³	90.5

Remarks:

1. Plant was under shutdown from 07.09.2022 to 30.09.22 for Annual maintenance.

[Signature]

Sewage Treated Plant Quality Monitoring Results

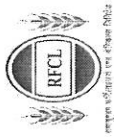
Annexure-VI

Month : April'22
Nature of Sampling : Sewage Treated Plant Outlet
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 06.04.2022 & 19.04.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	06.04.2022	19.04.2022
1	pH.		5.5-9.0	7.55	7.42
2	Total Suspended Solids (TSS)	mg/l	< 100	14.0	18.0
3	BOD (3 days at 27 °C)	mg/l	< 30	26	24
4	COD	mg/l	< 250	84.0	78.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	865.0	885.0

Signature



Sewage Treated Plant Quality Monitoring Results

Month : May'22
Nature of Sampling : Sewage Treated Plant Outlet
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 03.05.2022 & 18.05.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	03.05.2022	18.05.2022
1	pH.		5.5-9.0	7.48	7.50
2	Total Suspended Solids (TSS)	mg/l	< 100	22.0	16.0
3	BOD (3 days at 27 °C)	mg/l	< 30	25.4	23.5
4	COD	mg/l	< 250	92.0	86.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	846.0	825.0

Signature

Sewage Treated Plant Quality Monitoring Results

Month : June'22
 Nature of Sampling : Sewage Treated Plant Outlet
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection : 08.06.2022 & 22.06.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	08.06.2022	22.06.2022
1	pH.		5.5-9.0	7.68	7.85
2	Total Suspended Solids (TSS)	mg/l	< 100	18.0	21.0
3	BOD (3 days at 27 °C)	mg/l	< 30	22.5	24.6
4	COD	mg/l	< 250	105.0	125.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	895.0	950.0

By



Sewage Treated Plant Quality Monitoring Results

Month : July'22
Nature of Sampling : Sewage Treated Plant Outlet
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 05.07.2022 & 19.07.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	05.07.2022	19.07.2022
1	pH.		5.5-9.0	7.88	7.94
2	Total Suspended Solids (TSS)	mg/l	< 100	25.0	22.0
3	BOD (3 days at 27 °C)	mg/l	< 30	20.5	19.6
4	COD	mg/l	< 250	94.0	92.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	845.0	820.0

Signature

Sewage Treated Plant Quality Monitoring Results

Month : August'22
 Nature of Sampling : Sewage Treated Plant Outlet
 Sample collected and tested by : In- House Laboratory
 Date of Sample Collection : 11.08.2022 & 25.08.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	11.08.2022	25.08.2022
1	pH.		5.5-9.0	8.01	8.07
2	Total Suspended Solids (TSS)	mg/l	< 100	18.0	20.0
3	BOD (3 days at 27 °C)	mg/l	< 30	18.4	19.2
4	COD	mg/l	< 250	90.0	96.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	884.0	875.0

Signature

Sewage Treated Plant Quality Monitoring Results

Month : September'22
Nature of Sampling : Sewage Treated Plant Outlet
Sample collected and tested by : In- House Laboratory
Date of Sample Collection : 13.09.2022 & 27.09.2022

TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	13.09.2022	27.09.2022
1	pH.		5.5-9.0	7.95	8.15
2	Total Suspended Solids (TSS)	mg/l	< 100	12.0	16.0
3	BOD (3 days at 27 °C)	mg/l	< 30	17.5	18.4
4	COD	mg/l	< 250	86.0	90.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	860.0	885.0

By