



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 22-23/11

Dated:22.06.2022

To,  
Director,  
Regional Office,  
Ministry of Environment, Forest and Climate Change,  
1<sup>st</sup> and 2<sup>nd</sup> 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'21- March'22.

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

Respected Sir,

Half-yearly Environmental Clearance Compliance report along with the Environment monitoring data for the period of October'21- March'22. is enclosed herewith.

Trust that you find the above information in order.

Yours Sincerely

  
General Manager (Projects)  
S.K. Jha  
Ramagundam Fertilizers and Chemicals Limited  
GM (Project)  
Dist. Peddapalli-505 210, Telangana State

Enclosure: As above.

Copy to:

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

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 : 3<sup>rd</sup> & 4<sup>th</sup> 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 : October 2021-March 2022)

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

A. SPECIFIC CONDITIONS		
S.NO	DESCRIPTION	COMPLIANCE STATUS
i)	The gaseous emissions (SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> , 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 <sub>x</sub> burners shall be provided to control NO <sub>x</sub> 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 <sub>x</sub> burners have been installed in Primary reformer, HRSG & Utility Boiler to mitigate the NO <sub>x</sub> emission.
iii)	In Urea Plant, particulate emissions shall not exceed 50 mg/Nm <sup>3</sup> . 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 <sup>3</sup> ) .
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 <sub>10</sub> (Urea Dust), SO <sub>2</sub> , NO <sub>x</sub> , 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 <sub>10</sub> , PM <sub>2.5</sub> , Ammonia, SO <sub>2</sub> , Ozone, HC & NO <sub>x</sub> 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.

*[Signature]*

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 <sup>3</sup> /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 <sup>3</sup> /MT urea production or as per CPCB guideline.	Fresh water drawl from Yellampalli Barrage does not exceed 30500 m <sup>3</sup> /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.	<ul style="list-style-type: none"> <li>• Urea plant process condensate is treated in a deep hydrolyser followed by stripping.</li> <li>• 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.</li> <li>• Utility waste water is treated in ETP and treated water collected in guard ponds (02 Nos).</li> <li>• Online Monitoring system has been provided for the treated effluent parameters Ammoniacal Nitrogen, Flow &amp; pH and same has been connected to the CPCB &amp; TSPCB servers. Details of Treated Effluent water Quality are enclosed in Annexure -II.</li> <li>• Sewage being treated in Sewage Treatment Plant (STP). Details of STP outlet Quality are enclosed in Annexure -VI.</li> </ul>
x)	The treated effluent (not more than 250M <sup>3</sup> /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. Treated effluent discharge always remains less than 250 m <sup>3</sup> /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
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.

*Scanned*

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.	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 <sub>3</sub> 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 <sub>3</sub> 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 Charter 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. 21600 trees were planted during FY 21-22.
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.

*gaur*

S.NO	DESCRIPTION	COMPLIANCE STATUS
<b>B. GENERAL CONDITIONS</b>		
(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.
(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.

*By*

S.NO	DESCRIPTION	COMPLIANCE STATUS
(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. Total Expenditure incurred for Environmental Management during FY 21-22 is Rs 8,93,88,156. Details are enclosed in Annexure - VII.
(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.
(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.	Noted.

*Signature*

S.NO	DESCRIPTION	COMPLIANCE STATUS
(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 <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely 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.

*Ryan*



# Ambient Noise Monitoring Report

Annexure - I

Month

: October'21

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		05.10.21	13.10.21	21.10.21	28.10.21
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	58	59	58	59
2	Cooling Towers	65	64	63	65
3	Main stores	58	59	56	58
4	UB/HRSH (near Boundary wall)	62	60	69	72
5	Capitative Power Plant (CPP)	61	62	69	73
6	Urea plant	60	61	67	69
7	bagging building	58	59	58	61
8	IA/PA plant (Near wall side)	72	73	70	73
9	Near DG set	58	59	57	60
10	Raw water pump house	62	63	62	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

*Signature*



## Ambient Noise Monitoring Report

Month

: November'21

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		04.11.21	11.11.21	19.11.21	26.11.21
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	58	58	57	59
2	Cooling Towers	65	68	65	68
3	Main stores	59	58	56	57
4	UB/HRSH (near Boundary wall)	73	72	69	72
5	Capitative Power Plant (CPP)	73	72	69	74
6	Urea plant	67	66	65	68
7	bagging building	60	62	59	64
8	IA/PA plant (Near wall side)	72	74	69	73
9	Near DG set	59	58	56	60
10	Raw water pump house	63	64	62	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

*Signature*



## Ambient Noise Monitoring Report

Month

: December'21

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		06.12.21	13.12.21	20.12.21	27.12.21
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	58	58	56	60
2	Cooling Towers	64	65	63	65
3	Main stores	63	62	58	61
4	UB/HRSH (near Boundary wall)	71	72	69	70
5	Capitative Power Plant (CPP)	73	72	69	74
6	Urea plant	68	68	66	69
7	bagging building	62	61	63	64
8	IA/PA plant (Near wall side)	74	73	70	72
9	Near DG set	60	59	56	61
10	Raw water pump house	63	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

*Shan*



## Ambient Noise Monitoring Report

**Month**

: January'22

**Ambient Noise Monitored by**

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		03.01.22	11.01.22	17.01.22	27.01.22
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	57	59	57	51
2	Ammonia Plant (Near cooling Tower)	69	69	66	62
3	Ammonia plant (near Flue gas stack)	71	73	69	65
4	UB/HRSH (near MCR)	69	70	68	63
5	GT (near SS-1)	74	72	69	63
6	Urea plant	66	67	65	61
7	bagging building	61	63	61	62
8	IA/PA plant (Near wall side)	72	71	68	70
9	Near DG set	67	65	65	63
10	Raw water pump house	59	60	57	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

*Syam*



## Ambient Noise Monitoring Report

Month

: February'22

Ambient Noise Monitored by

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		02.02.22	12.02.22	18.02.22	28.02.22
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	51	59	57	59
2	Cooling Towers	62	68	66	69
3	Main Stores	62	60	60	62
4	UB/HRSH (near Boundary Wall)	63	72	67	71
5	Capitative Power Plant (CPP)	69	72	69	74
6	Urea plant	61	69	67	66
7	bagging building	62	65	64	63
8	IA/PA plant (Near wall side)	72	72	71	72
9	Near DG set	63	66	66	67
10	Raw water pump house	62	65	66	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

*Syau*



## Ambient Noise Monitoring Report

**Month**

: March'22

**Ambient Noise Monitored by**

: Environmental Monitoring Cell (EMC)

S. No	Location	Noise level- dB (A)			
		04.03.22	09.03.22	19.03.22	29.03.22
		Morning shift	Afternoon shift	Night shift	Morning shift
1	Technical building	57	58	56	59
2	Cooling Towers	66	67	69	68
3	Main Stores	60	62	62	60
4	UB/HRSH (near Boundary Wall)	67	73	69	72
5	Capitative Power Plant (CPP)	69	74	68	72
6	Urea plant	67	68	66	69
7	bagging building	64	63	67	65
8	IA/PA plant (Near wall side)	71	74	69	72
9	Near DG set	66	69	67	66
10	Raw water pump house	66	70	66	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

*gaw*



## Treated Effluent Water Quality Monitoring Results

Annexure-II

Month : October'21  
Nature of Sampling : Treated Effluent Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 12.10.2021

### 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	8.45	8.4	7.62	8.4	8.43
2	Ammonical Nitrogen	mg/l as N	< 50	0.45	0.49	0.13	0.16	0.51
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.06	0.06	Nil	0.02	0.07
4	Total kjeldahl Nitrogen	mg/l as N	< 75	7.84	6.72	8.97	10.08	7.1
5	Nitrate nitrogen	mg/l as N	< 10	2.24	2.16	4.09	4.98	2.11
6	Phosphate	mg/l as P	< 5	2.58	2.24	2.18	2.37	2.18
7	Suspended Solids	mg/l	< 100	8	26	5	9	28
8	BOD	mg/l	< 30	6.4	3.8	3.2	3.2	4.2
9	COD	mg/l	< 250	38	27	24	23	26
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: : 27.10.2021

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	8.45	7.57	7.53	7.76	7.6
2	Ammonical Nitrogen	mg/l as N	< 50	0.37	3.16	3.36	3.26	3.16
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.05	0.08	0.08	0.11	0.08
4	Total kjeldahl Nitrogen	mg/l as N	< 75	6.72	8.97	7.84	11.21	8.97
5	Nitrate nitrogen	mg/l as N	< 10	1.83	2.33	1.55	4.33	2.24
6	Phosphate	mg/l as P	< 5	2.1	2.86	1.82	3.29	2.7
7	Suspended Solids	mg/l	< 100	10	28	8	14	29
8	BOD	mg/l	< 30	9.5	5.2	6.1	4.2	5.4
9	COD	mg/l	< 250	62	34	37	24	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

Syam



## Treated Effluent Water Quality Monitoring Results

Month : November'21  
Nature of Sampling : Treated Effluent Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 14.11.2021

### 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	8.4	7.97	7.63	8.4	7.79
2	Ammonical Nitrogen	mg/l as N	< 50	7.83	6.14	0.16	4.94	5.81
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.98	0.3	0	0.65	0.2
4	Total kjeldahl Nitrogen	mg/l as N	< 75	15.69	12.34	7.85	12.34	11.21
5	Nitrate nitrogen	mg/l as N	< 10	1.89	3.29	5.9	4.57	3.18
6	Phosphate	mg/l as P	< 5	3.45	3.75	1.05	3.85	3.57
7	Suspended Solids	mg/l	< 100	32	14	4	9	22
8	BOD	mg/l	< 30	7.4	5.2	3.5	4.2	5.1
9	COD	mg/l	< 250	59	28	15	21	27
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: : 28.11.2021

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	8.32	7.88	7.44	8.45	7.95
2	Ammonical Nitrogen	mg/l as N	< 50	2.26	19.54	1.98	1.04	17.28
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.23	0.88	0.03	0.14	0.81
4	Total kjeldahl Nitrogen	mg/l as N	< 75	7.52	23.65	7.52	8.6	21.51
5	Nitrate nitrogen	mg/l as N	< 10	2.18	1.59	5.5	6	1.5
6	Phosphate	mg/l as P	< 5	1.75	0.89	0.36	1.69	1.23
7	Suspended Solids	mg/l	< 100	35	18	5	27	15
8	BOD	mg/l	< 30	6.6	5.4	3.6	5.6	6
9	COD	mg/l	< 250	45	31	18	32	35
10	Oil & Grease	mg/l	< 10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	< 0.2	ND	ND	ND	ND	ND

*By*



## Treated Effluent Water Quality Monitoring Results

Month : December'21  
 Nature of Sampling : Treated Effluent Water  
 Sample collected and tested by : In- House Laboratory  
 Date of Sample Collection : 02.12.2021

### 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	8.11	8	7.41	7.96	7.85
2	Ammonical Nitrogen	mg/l as N	< 50	20.02	32.3	1.97	2.71	29.88
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.3	1.62	0.03	0.13	1.2
4	Total kjeldahl Nitrogen	mg/l as N	< 75	32.5	42.5	11.21	12.33	38.11
5	Nitrate nitrogen	mg/l as N	< 10	1.95	2.22	5.84	6.33	1.87
6	Phosphate	mg/l as P	< 5	2.65	2.08	1	3.51	1.77
7	Suspended Solids	mg/l	< 100	28	20	5	24	17
8	BOD	mg/l	< 30	8.7	6.4	4.2	6.1	6.6
9	COD	mg/l	< 250	48	35	20	34	37
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: : 15.12.2021

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	8.32	7.89	7.53	8.23	7.97
2	Ammonical Nitrogen	mg/l as N	< 50	17.68	11.54	0.61	0.82	11.14
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.88	0.52	0.01	0.07	0.55
4	Total kjeldahl Nitrogen	mg/l as N	< 75	7.52	27.95	12.9	20.43	19.35
5	Nitrate nitrogen	mg/l as N	< 10	1.24	1.15	2.59	5.6	1.17
6	Phosphate	mg/l as P	< 5	1.27	1.66	0.57	3.43	1.71
7	Suspended Solids	mg/l	< 100	29	25	4	29	26
8	BOD	mg/l	< 30	8.2	6.9	4.2	8	7.1
9	COD	mg/l	< 250	44	34	22	40	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

*Shaw*



## Treated Effluent Water Quality Monitoring Results

Month : January'22  
Nature of Sampling : Treated Effluent Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 05.01.2022

### 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	8.17	7.87	7.58	8.4	7.81
2	Ammonical Nitrogen	mg/l as N	< 50	10.5	3.71	0.68	1.91	4.13
3	Free Ammonical Nitrogen	mg/l as N	< 2	0.84	0.17	0.02	0.25	0.14
4	Total kjeldahl Nitrogen	mg/l as N	< 75	17.2	8.6	6.45	10.75	9.68
5	Nitrate nitrogen	mg/l as N	< 10	1.67	1.41	2.44	6.43	1.38
6	Phosphate	mg/l as P	< 5	1.08	1.36	1	1.17	1.22
7	Suspended Solids	mg/l	< 100	18	12	3	15	12
8	BOD	mg/l	< 30	7.2	5.8	3.8	5.4	6.2
9	COD	mg/l	< 250	38	26	20	24	28
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 : 24.01.2022

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	8.1	8.3	7.6	8.45	8.25
2	Ammonical Nitrogen	mg/l as N	< 50	28.26	17.76	2.75	11.79	16.55
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.84	1.78	0.07	1.56	1.49
4	Total kjeldahl Nitrogen	mg/l as N	< 75	34.4	20.43	11.83	20.43	21.5
5	Nitrate nitrogen	mg/l as N	< 10	1.36	1.26	5.92	6.18	1.27
6	Phosphate	mg/l as P	< 5	1.35	1.22	1.32	1.12	1.25
7	Suspended Solids	mg/l	< 100	21	7	2	4	10
8	BOD	mg/l	< 30	8.5	6	3.8	5.4	6.5
9	COD	mg/l	< 250	43	26	18	21	30
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** : February'22  
**Nature of Sampling** : Treated Effluent Water  
**Sample collected and tested by** : In- House Laboratory  
**Date of Sample Collection** : 01.02.2022

### 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	8	8.2	7.62	8.3	8.18
2	Ammonical Nitrogen	mg/l as N	< 50	35.53	21.64	3.26	16.15	21.24
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.78	1.73	0.09	1.61	1.7
4	Total kjeldahl Nitrogen	mg/l as N	< 75	43	34.4	17.2	27.95	33.33
5	Nitrate nitrogen	mg/l as N	< 10	1.38	1.89	4.77	4.82	1.56
6	Phosphate	mg/l as P	< 5	1.57	1.8	1.08	2.03	1.17
7	Suspended Solids	mg/l	< 100	34	21	4	12	17
8	BOD	mg/l	< 30	7.3	6.2	3.6	5.2	5.6
9	COD	mg/l	< 250	36	29	18	22	26
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** : 08.02.2022

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	8.1	8.2	7.71	8.48	8.15
2	Ammonical Nitrogen	mg/l as N	< 50	28.74	15.18	0.8	8.07	13.73
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.87	1.21	0.02	1.13	1
4	Total kjeldahl Nitrogen	mg/l as N	< 75	41.92	21.5	6.45	10.75	18.28
5	Nitrate nitrogen	mg/l as N	< 10	1.77	1.63	3.74	3.51	1.5
6	Phosphate	mg/l as P	< 5	1.18	1.13	0.56	1.81	1.17
7	Suspended Solids	mg/l	< 100	15	12	12	9	11
8	BOD	mg/l	< 30	7	5.7	3.9	4.4	5.5
9	COD	mg/l	< 250	39	26	16	19	27
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 : February'22  
Nature of Sampling : Treated Effluent Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 14.02.2022

### 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	8.1	8.24	7.56	8.4	8.21
2	Ammonical Nitrogen	mg/l as N	< 50	28.74	19.7	1.01	1.28	17.93
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.87	1.77	0.03	0.16	1.43
4	Total kjeldahl Nitrogen	mg/l as N	< 75	41.92	23.67	8.61	9.68	21.51
5	Nitrate nitrogen	mg/l as N	< 10	1.77	1.69	4.16	4.39	1.66
6	Phosphate	mg/l as P	< 5	1.18	0.73	0.2	0.96	0.81
7	Suspended Solids	mg/l	< 100	22	11	6	10	8
8	BOD	mg/l	< 30	8.2	6.6	5.2	6.8	6
9	COD	mg/l	< 250	40	28	18	28	24
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 : 21.02.2022

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	8.22	7.74	8.43	8.29
2	Ammonical Nitrogen	mg/l as N	< 50	20.35	14.53	0.04	0.16	14.05
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.63	1.31	0.001	0.02	1.41
4	Total kjeldahl Nitrogen	mg/l as N	< 75	37.83	20.74	7.64	10.91	22.92
5	Nitrate nitrogen	mg/l as N	< 10	1.18	1.26	3.11	6.91	1.14
6	Phosphate	mg/l as P	< 5	1.32	0.91	0.73	1.86	1.06
7	Suspended Solids	mg/l	< 100	15	8	3	5	6
8	BOD	mg/l	< 30	8.8	7.2	4.2	6.1	7.5
9	COD	mg/l	< 250	48	34	18	23	37
10	Oil & Grease	mg/l	< 10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	< 0.2	ND	ND	ND	ND	ND

Syau



## Treated Effluent Water Quality Monitoring Results

Month : March'22  
Nature of Sampling : Treated Effluent Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 01.03.2022

### 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	8	7.88	7.95	8.42	7.8
2	Ammonical Nitrogen	mg/l as N	< 50	36.82	8.56	0.03	0.17	8.72
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.84	0.39	0.001	0.02	0.3
4	Total kjeldahl Nitrogen	mg/l as N	< 75	42.57	14.19	6.55	9.82	14.19
5	Nitrate nitrogen	mg/l as N	< 10	1.32	0.83	2.95	6	0.79
6	Phosphate	mg/l as P	< 5	2.21	1.63	0.55	2.86	1.47
7	Suspended Solids	mg/l	< 100	16	8	5	7	12
8	BOD	mg/l	< 30	7.2	6.4	4.5	6.4	6.6
9	COD	mg/l	< 250	36	27	18	26	28
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 : 07.03.2022

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	8.26	7.62	8.4	8.19
2	Ammonical Nitrogen	mg/l as N	< 50	31	12.19	0.05	6.46	11.22
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.86	1.1	0.001	0.81	0.9
4	Total kjeldahl Nitrogen	mg/l as N	< 75	38.2	16.37	5.45	15.28	15.28
5	Nitrate nitrogen	mg/l as N	< 10	1.23	0.84	2.95	5.09	0.88
6	Phosphate	mg/l as P	< 5	1.64	1.77	0.63	2.08	1.77
7	Suspended Solids	mg/l	< 100	18	14	6	13	12
8	BOD	mg/l	< 30	7	6.8	4.2	7.8	6.6
9	COD	mg/l	< 250	33	29	15	40	27
10	Oil & Grease	mg/l	< 10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	< 0.2	ND	ND	ND	ND	ND

Sanjay



## Treated Effluent Water Quality Monitoring Results

**Month** : March'22  
**Nature of Sampling** : Treated Effluent Water  
**Sample collected and tested by** : In- House Laboratory  
**Date of Sample Collection** : 14.03.2022

### 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	8.01	8.05	7.67	8.35	8.06
2	Ammonical Nitrogen	mg/l as N	< 50	34.4	31.32	12.92	15.34	30.68
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.72	1.88	0.39	1.73	1.84
4	Total kjeldahl Nitrogen	mg/l as N	< 75	46.93	37.11	18.44	22.92	36.02
5	Nitrate nitrogen	mg/l as N	< 10	1.17	1.25	1.75	5.57	1.18
6	Phosphate	mg/l as P	< 5	2.45	2.07	0.54	2.01	2.28
7	Suspended Solids	mg/l	< 100	20	8	6	6	7
8	BOD	mg/l	< 30	7.6	6	4	6	5.8
9	COD	mg/l	< 250	42	29	15	28	27
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** : 21.03.2022

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	8.1	8.15	7.74	8.24	8.1
2	Ammonical Nitrogen	mg/l as N	< 50	29.88	26.32	1.29	21.61	30.04
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.94	1.91	0.042	1.95	1.95
4	Total kjeldahl Nitrogen	mg/l as N	< 75	38.1	34.03	9.82	36.99	35.87
5	Nitrate nitrogen	mg/l as N	< 10	1.17	1.54	2.39	6.99	1.3
6	Phosphate	mg/l as P	< 5	0.96	1.81	0.4	1.79	1.61
7	Suspended Solids	mg/l	< 100	38	20	8	18	24
8	BOD	mg/l	< 30	14	10.6	4	12.8	11.4
9	COD	mg/l	< 250	52	32	16	49	37
10	Oil & Grease	mg/l	< 10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	< 0.2	ND	ND	ND	ND	ND

*Syau*



## Treated Effluent Water Quality Monitoring Results

Month : March'22  
Nature of Sampling : Treated Effluent Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 28.03.2022

### 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	7.94	7.85	7.6	8.01	7.84
2	Ammonical Nitrogen	mg/l as N	< 50	40.69	37.63	0.1	33.91	33.1
3	Free Ammonical Nitrogen	mg/l as N	< 2	1.91	1.5	0.003	1.7	1.32
4	Total kjeldahl Nitrogen	mg/l as N	< 75	50.49	41.71	7.68	41.71	39.51
5	Nitrate nitrogen	mg/l as N	< 10	2.27	1.06	1.5	1.18	0.96
6	Phosphate	mg/l as P	< 5	1.27	1.66	0.5	2.89	1.62
7	Suspended Solids	mg/l	< 100	36	22	7	12	23
8	BOD	mg/l	< 30	13.6	13	3.6	12.4	13.4
9	COD	mg/l	< 250	48	44	14	46	48
10	Oil & Grease	mg/l	< 10	<10	<10	<10	<10	<10
11	Vanadium	mg/l as V	< 0.2	ND	ND	ND	ND	ND

By



## Ground Water Quality Monitoring Results

**Annexure-III**

Month : October'2021  
Nature of Sampling : Ground Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection :- : 12.10.2021

### TEST RESULTS

S.No.	Parameter	Limiting Standards	Township Premises	RFCL Guest House	Near Guard Pond
1	Temperature	30 degC	28.5	28.5	29.5
2	pH	6.5-8.5	7.66	7.1	7.65
3	Conductivity	< 2600 uS/cm	375	1167	1766
4	BOD	< 2.0 mg/L	1.5	0.7	1.8
5	Nitrate as N	< 45 mg/L	0.52	2.32	0.72
6	Chloride	<250 mg/L	62.13	78.64	85.43
7	Ammonia as N	<0.5 mg/L	0.19	0.07	0.22
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT
9	Dissolved Oxygen	>6 mg/L	6.06	6.29	6.02

*Signature*



## Ground Water Quality Monitoring Results

Month : November'2021  
Nature of Sampling : Ground Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection :- : 15.11.2021

### TEST RESULTS

S.No.	Parameters	Limiting Standards	RFCL Guest House	Central Workshop	Near Guard Pond
1	Temperature	30 degC	28.5	28.5	29.5
2	pH	6.5-8.5	8.06	8.29	6.85
3	Conductivity	< 2600 uS/cm	835	490	1775
4	BOD	< 2.0 mg/L	0.7	0.9	1.3
5	Nitrate as N	< 45 mg/L	1.47	0.81	2.58
6	Chloride	<250 mg/L	45.34	38.5	66.56
7	Ammonia as N	<0.5 mg/L	0.04	0.08	0.25
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT
9	Dissolved Oxygen	>6 mg/L	6.24	6.14	6.11

*Signature*



## Ground Water Quality Monitoring Results

**Month** : December '2021  
**Nature of Sampling** : Ground Water  
**Sample collected and tested by** : In- House Laboratory  
**Date of Sample Collection :-** : 02.12.2021, 15.12.2021 & 22.12.2021

### 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
			15.12.21	02.12.21	02.12.21	02.12.21	15.12.21	22.12.21	22.12.21	22.12.21
1	Temperature	30 degC	27.5	28	29.5	29	28.6	27	28	27.5
2	pH	6.5-8.5	8.26	7.71	6.91	8.45	7.7	7.24	7.45	6.95
3	Conductivity	< 2600 uS/cm	498	658	1805	475	528	1636	732	1212
4	BOD	< 2.0 mg/L	0.8	1.0	1.5	0.8	0.7	1.6	1.0	1.2
5	Nitrate as N	< 45 mg/L	0.3	1.5	2.11	1.44	1.8	17.23	0.38	5.00
6	Chloride	<250 mg/L	46.05	42.72	81.55	38.83	40.34	100.97	60.19	108.74
7	Ammonia as N	<0.5 mg/L	0.07	0.03	0.2	0.04	0.12	0.1	0.08	0.13
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	>6 mg/L	6.31	6.15	6.1	6.24	6.1	6.1	6.25	6.15

*Signature*



## Ground Water Quality Monitoring Results

Month : January'2022  
Nature of Sampling : Ground Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection :- : 05.01.2022

### 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	28.5	28.5	28	27.5	26	28	28.5	28
2	pH	6.5-8.5	7.73	7.51	7.21	8.03	7.67	7.15	7.43	6.96
3	Conductivity	< 2600 uS/cm	562	658	1793	524	521	1647	737	1030
4	BOD	< 2.0 mg/L	0.8	1.1	1.2	0.8	1	1.3	1.0	1.1
5	Nitrate as N	< 45 mg/L	0.34	0.2	0.37	0.34	0.3	16.22	0.52	3.65
6	Chloride	<250 mg/L	48.05	44.66	81.55	40.78	42.72	106.8	77.67	73.78
7	Ammonia as N	<0.5 mg/L	0.1	0.05	0.34	0.14	0.15	0.12	0.1	0.17
8	Total coliform (MNP/100ml)	< 50	ND	ND	ND	ND	ND	ND	ND	ND
9	Dissolved Oxygen	>6 mg/L	6.3	6.22	6.14	6.16	6.26	6.12	6.22	6.18

*By an*



## Ground Water Quality Monitoring Results

Month : February'2022  
Nature of Sampling : Ground Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection :- : 01.02.2022

### 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	28	28.5	28	27.5	28.5	28.5	28
2	pH	6.5-8.5	7.92	7.23	7.18	7.86	8.01	7.11	7.32	6.96
3	Conductivity	< 2600 uS/cm	530	1275	1805	633	527	1630	897	985
4	BOD	< 2.0 mg/L	0.9	1.4	1.5	1	1.1	1.2	0.9	1
5	Nitrate as N	< 45 mg/L	0.28	3.2	0.81	0.29	0.28	25	0.88	2.96
6	Chloride	<250 mg/L	52.43	60.19	87.38	46.6	54.37	114.56	77.67	66.02
7	Ammonia as N	<0.5 mg/L	0.08	0.05	0.25	0.13	0.05	0.11	0.13	0.06
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	>6 mg/L	6.18	6.2	6.09	6.18	6.28	6.1	6.26	6.22

*Signature*



## Ground Water Quality Monitoring Results

Month : March'2022  
Nature of Sampling : Ground Water  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection :- : 01.03.2022

### 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	28.5	28.5	28.5	28.5	28	29	29	28.5
2	pH	6.5-8.5	7.13	7.06	7.05	7.8	7.95	7.11	7.36	6.98
3	Conductivity	< 2600 uS/cm	930	1203	1865	703	515	1615	703	964
4	BOD	< 2.0 mg/L	1	1.6	1.7	1.2	1.2	1.3	1.1	1.2
5	Nitrate as N	< 45 mg/L	1.46	2.41	0.92	0.25	0.32	24.52	0.68	2.73
6	Chloride	<250 mg/L	69.2	78.89	92.14	46.13	58.5	115.34	55.74	67.28
7	Ammonia as N	<0.5 mg/L	0.04	0.02	0.28	0.19	0.06	0.11	0.14	0.08
8	Total coliform (MNP/100ml)	< 50	NT	NT	NT	NT	NT	NT	NT	NT
9	Dissolved Oxygen	>6 mg/L	6.2	6.15	6.1	6.2	6.25	6.15	6.25	6.18

*Signature*



# Ambient Air Quality Monitoring Results

Annexure-IV

Month : December'2021  
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)	08.12.21	14.12.21	21.12.21	28.12.21
1	PM10	$\mu\text{g}/\text{m}^3$	100	83.7	90.8	80.7	85.6
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	46.2	41.6	43.3	53.2
3	SOx	$\mu\text{g}/\text{m}^3$	80	13.6	12	14.1	16.9
4	NOx	$\mu\text{g}/\text{m}^3$	80	9.9	11.6	10.9	14.7
5	NH3	$\mu\text{g}/\text{m}^3$	400	19.7	36	26.1	14.2

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	08.12.21	14.12.21	21.12.21	28.12.21
1	PM10	$\mu\text{g}/\text{m}^3$	100	94.5	87.2	83.1	92.7
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	54.6	46.2	46.9	52.1
3	SOx	$\mu\text{g}/\text{m}^3$	80	10.8	9.6	10.8	13.6
4	NOx	$\mu\text{g}/\text{m}^3$	80	8.8	9	9.1	12.3
5	NH3	$\mu\text{g}/\text{m}^3$	400	16.6	15.5	15.8	12.5

*By*



## Ambient Air Quality Monitoring Results

Month : January'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)	07.01.22	12.01.22	21.01.22	24.01.22	31.01.22
1	PM10	$\mu\text{g}/\text{m}^3$	100	82.5	80.7	95.4	96.5	84.6
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	51.2	48.4	52.8	55.8	46.8
3	SOx	$\mu\text{g}/\text{m}^3$	80	7.7	1.2	14.9	17.7	23.7
4	NOx	$\mu\text{g}/\text{m}^3$	80	7.3	1.4	4.4	8.2	17.3
5	NH3	$\mu\text{g}/\text{m}^3$	400	25.7	14.1	29.5	31	26.9

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	07.01.22	12.01.22	21.01.22	24.01.22	31.01.22
1	PM10	$\mu\text{g}/\text{m}^3$	100	88.5	90.4	94.6	98	91.6
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	52.5	44.1	56.8	54.5	50.8
3	SOx	$\mu\text{g}/\text{m}^3$	80	7.2	1.3	4.3	12.7	18.9
4	NOx	$\mu\text{g}/\text{m}^3$	80	12.5	1.8	2	6.7	7.3
5	NH3	$\mu\text{g}/\text{m}^3$	400	12.5	7.3	5.5	9.6	17.6

*Signature*



## Ambient Air Quality Monitoring Results

Month : February'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)	07.02.22	14.02.22	21.02.22	28.02.22
1	PM10	$\mu\text{g}/\text{m}^3$	100	76.6	74.4	98	95.5
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	35.6	49.6	53.6	52.8
3	SOx	$\mu\text{g}/\text{m}^3$	80	21.1	32.3	16.8	18.3
4	NOx	$\mu\text{g}/\text{m}^3$	80	16.6	11.5	15.1	11.9
5	NH3	$\mu\text{g}/\text{m}^3$	400	68.7	51.4	87.1	69.6

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	07.02.22	14.02.22	21.02.22	28.02.22
1	PM10	$\mu\text{g}/\text{m}^3$	100	98.5	92.4	96.4	96.2
2	PM2.5	$\mu\text{g}/\text{m}^3$	60	54.2	52.8	57.2	53.6
3	SOx	$\mu\text{g}/\text{m}^3$	80	13.4	26	17	7.2
4	NOx	$\mu\text{g}/\text{m}^3$	80	15.4	6	13.7	6.8
5	NH3	$\mu\text{g}/\text{m}^3$	400	35.2	28.7	33.8	23.2

*Signature*



## Ambient Air Quality Monitoring Results

Month : March'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)	07.03.22	14.03.22	21.03.22	29.03.22
1	PM10	$\mu g/m^3$	100	91.5	92.3	97.8	78.6
2	PM2.5	$\mu g/m^3$	60	54.5	43	56.5	58.4
3	SO <sub>x</sub>	$\mu g/m^3$	80	24.7	14.8	14.9	34.7
4	NO <sub>x</sub>	$\mu g/m^3$	80	16.2	13.6	10.3	16.9
5	NH <sub>3</sub>	$\mu g/m^3$	400	95.7	73	112.7	50.6

Location : Material Gate

S.No.	Parameters	Unit	Permissible limits (NAAQS)	07.03.22	14.03.22	21.03.22	29.03.22
1	PM10	$\mu g/m^3$	100	95.1	97.8	90.5	81.5
2	PM2.5	$\mu g/m^3$	60	54.6	47.3	52	54.3
3	SO <sub>x</sub>	$\mu g/m^3$	80	16.5	8.2	14.5	6.9
4	NO <sub>x</sub>	$\mu g/m^3$	80	9.4	7.2	9.7	9.4
5	NH <sub>3</sub>	$\mu g/m^3$	400	56.6	23.3	26.1	11.6

By



## Stack Emission Monitoring Results

Annexure-V

Month : December'21  
Nature of Sampling : Stack Emission  
Sample collected and tested by : In- House Laboratory

### TEST RESULTS

Location : Primary Reformer Stack

S.No	Parameters	Permissible limits	03.12.2021	10.12.21	20.12.21	29.12.21
1	SPM	10 mg/Nm <sup>3</sup>	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm <sup>3</sup>	3.6	3.4	3.8	3.6
3	NOx	400 mg/Nm <sup>3</sup>	145	142	149	142

Location : Utility Boiler Stack

S.No	Parameters	Permissible limits	03.12.2021	10.12.21	20.12.21	29.12.21
1	SPM	10 mg/Nm <sup>3</sup>	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm <sup>3</sup>	3.8	3.2	4.1	3.8
3	NOx	400 mg/Nm <sup>3</sup>	202	187	214	78

Location : HRSG Stack

S.No	Parameters	Permissible limits	03.12.2021	11.12.21	20.12.21	29.12.21
1	SPM	10 mg/Nm <sup>3</sup>	<5.0	<5.0	<5.0	<5.0
2	SOx	50 mg/Nm <sup>3</sup>	3	3.8	3.2	4
3	NOx	400 mg/Nm <sup>3</sup>	225	230	220	223

Location : Prilling Tower

S.No	Parameters	Permissible limits	06.12.2021	13.12.21	21.12.21	27.12.21
1	Particulate Matter	50 mg/Nm <sup>3</sup>	35.6	36.7	35.9	37.4
2	NH3	150 mg/Nm <sup>3</sup>	110.2	112.5	114.5	112.8

*Signature*



## Stack Emission Monitoring Results

Month : January'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	07.01.22	14.01.22	21.01.22	28.01.22
1	SPM	10 mg/Nm <sup>3</sup>	< 5.0	< 5.0	Shutdown	
2	SOx	50 mg/Nm <sup>3</sup>	3.4	3.8		
3	NOx	400 mg/Nm <sup>3</sup>	36	29		

Location : Utility Boiler Stack

S.No	Parameters	Permissible limits	07.01.22	14.01.22	21.01.22	28.01.22
1	SPM	10 mg/Nm <sup>3</sup>	< 5.0	< 5.0	< 5.0	Shutdown
2	SOx	50 mg/Nm <sup>3</sup>	3.4	3.8	3.6	
3	NOx	400 mg/Nm <sup>3</sup>	48	41	52	

Location : HRSG Stack

S.No	Parameters	Permissible limits	07.01.22	14.01.22	21.01.22	28.01.22
1	SPM	10 mg/Nm <sup>3</sup>	< 5.0	< 5.0	< 5.0	Shutdown
2	SOx	50 mg/Nm <sup>3</sup>	3.3	3.7	3.8	
3	NOx	400 mg/Nm <sup>3</sup>	51	45	63	

Location : Prilling Tower

S.No	Parameters	Permissible limits	07.01.22	14.01.22	21.01.22	28.01.22
1	Particulate Matter	50 mg/Nm <sup>3</sup>	36.2	35.8	Shutdown	
2	NH3	150 mg/Nm <sup>3</sup>	110.8	112.6		

*Signature*



## Stack Emission Monitoring Results

Month : February'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	06.02.22	10.02.22	17.02.22	24.02.22
1	SPM	10 mg/Nm <sup>3</sup>	<5	<5	<5	<5
2	SOx	50 mg/Nm <sup>3</sup>	4.4	3.4	3.6	3.2
3	NOx	400 mg/Nm <sup>3</sup>	48	38	42	41

Location : Utility Boiler Stack

S.No	Parameters	Permissible limits	05.02.22	10.02.22	17.02.22	24.02.22
1	SPM	10 mg/Nm <sup>3</sup>	<5	<5	<5	<5
2	SOx	50 mg/Nm <sup>3</sup>	3.6	3.2	3.8	3
3	NOx	400 mg/Nm <sup>3</sup>	46	44	48	45

Location : HRSG Stack

S.No	Parameters	Permissible limits	05.02.22	10.02.22	17.02.22	24.02.22
1	SPM	10 mg/Nm <sup>3</sup>	<5	<5	<5	<5
2	SOx	50 mg/Nm <sup>3</sup>	10.6	12.4	11.2	12.8
3	NOx	400 mg/Nm <sup>3</sup>	46	51	49	52

Location : Prilling Tower

S.No	Parameters	Permissible limits	07.02.22	10.02.22	17.02.22	24.02.22
1	Particulate Matter	50 mg/Nm <sup>3</sup>	38.7	41.2	43	40.2
2	NH3	150 mg/Nm <sup>3</sup>	89.9	106.8	90.6	122.6

Signature



## Stack Emission Monitoring Results

Month : March'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	04.03.22	09.03.22	17.03.22	23.03.22
1	SPM	10 mg/Nm <sup>3</sup>	<5	<5	<5	<5
2	SOx	50 mg/Nm <sup>3</sup>	3.6	3.8	3.6	3.4
3	NOx	400 mg/Nm <sup>3</sup>	41	45	38	48

Location : Utility Boiler Stack

S.No	Parameters	Permissible limits	04.03.22	09.03.22	17.03.22	23.03.22
1	SPM	10 mg/Nm <sup>3</sup>	<5	<5	<5	<5
2	SOx	50 mg/Nm <sup>3</sup>	3.2	3.6	3.4	3.2
3	NOx	400 mg/Nm <sup>3</sup>	43	46	42	44

Location : HRSG Stack

S.No	Parameters	Permissible limits	04.03.22	09.03.22	17.03.22	23.03.22
1	SPM	10 mg/Nm <sup>3</sup>	<5	<5	<5	<5
2	SOx	50 mg/Nm <sup>3</sup>	9.6	10.8	12.6	10.6
3	NOx	400 mg/Nm <sup>3</sup>	52	49	48	51

Location : Prilling Tower

S.No	Parameters	Permissible limits	03.03.22	10.03.22	17.03.22	25.03.22
1	Particulate Matter	50 mg/Nm <sup>3</sup>	38.6	46.8	44.5	35.4
2	NH3	150 mg/Nm <sup>3</sup>	115.6	105.5	102.1	85.6

By



## Sewage Treated Plant Quality Monitoring Results

Annexure - VI

Month : November'21  
Nature of Sampling : Sewage Treated Plant Outlet  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 16.11.2021 & 30.11.2021

### TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	16.11.2021	30.11.2021
1	pH.		5.5-9.0	7.80	8.05
2	Total Suspended Solids (TSS)	mg/l	< 100	14.0	20.0
3	BOD (3 days at 27 °C)	mg/l	< 30	15	17
4	COD	mg/l	< 250	28.0	48.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	880.0	910.0

Sanjay



## Sewage Treated Plant Quality Monitoring Results

Month : December'21  
Nature of Sampling : Sewage Treated Plant Outlet  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 03.12.2021 & 16.12.2021

### TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	03.12.2021	16.12.2021
1	pH.		5.5-9.0	7.98	8.10
2	Total Suspended Solids (TSS)	mg/l	< 100	25.0	34.0
3	BOD (3 days at 27 °C)	mg/l	< 30	17	19
4	COD	mg/l	< 250	46.0	66.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	980.0	1050.0

*Signature*



## Sewage Treated Plant Quality Monitoring Results

Month : January'22  
Nature of Sampling : Sewage Treated Plant Outlet  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 07.01.2022 & 25.01.2022

### TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	07.01.2022	25.01.2022
1	pH.		5.5-9.0	7.85	8.15
2	Total Suspended Solids (TSS)	mg/l	< 100	22.0	24.0
3	BOD (3 days at 27 °C)	mg/l	< 30	19	20
4	COD	mg/l	< 250	68.0	60.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	975.0	940.0

*hans*



## Sewage Treated Plant Quality Monitoring Results

Month : February'22  
Nature of Sampling : Sewage Treated Plant Outlet  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 02.02.2022 & 16.02.2022

### TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	02.02.2022	16.02.2022
1	pH.		5.5-9.0	8.25	8.00
2	Total Suspended Solids (TSS)	mg/l	< 100	28.0	18.0
3	BOD (3 days at 27 °C)	mg/l	< 30	21	20
4	COD	mg/l	< 250	68.0	61.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	1150.0	1040.0

*Signature*



## Sewage Treated Plant Quality Monitoring Results

Month : March'22  
Nature of Sampling : Sewage Treated Plant Outlet  
Sample collected and tested by : In- House Laboratory  
Date of Sample Collection : 02.03.2022 & 16.03.2022

### TEST RESULTS

S.No.	Parameters	Unit	Limiting Standards	02.03.2022	16.02.2022
1	pH.		5.5-9.0	8.05	8.15
2	Total Suspended Solids (TSS)	mg/l	< 100	22.0	25.0
3	BOD (3 days at 27 °C)	mg/l	< 30	19	20
4	COD	mg/l	< 250	66.0	63.0
5	Oil & Grease	mg/l	< 10	<10	<10
6	Total Dissolved Solids (TDS)	mg/l	<2100	985.0	1020.0

*Signature*

## Annexure - VII

Expenditure towards Environmental Management at RFCL, Ramagundam for FY21-22						
S.No	Dept.	Activity	Reference PO number / Document	Date of PO / Document	Expenditure in FY 21-22 (Rs.)	
1	Laboratory	Air Monitoring Activities	RFCLR/PUR/2021-22/LAB/Anemometer/194/206 RFCLR/PUR/2021-22/LAB/74/Standard Weights/401 RFCLR/PUR/2021-22/LAB/UV-VIS/193/207 RFCLR/PUR/2021-22/LAB/EAMI/495/217 RFCLR/PUR/2021-22/LAB/EAMI/495/218	13.08.21 31.12.2021 14.08.2021 19.08.2021 19.08.2021	18,68,161.00	29,87,360.00
		Water Monitoring Activities	RFCLR/PUR/2021-22/CLB210582/Lab.Chemicals/329 RFCLR/PUR/2021-22/Lab/Chemicals/CLB210775/504 RFCLR/PUR/2021-22/Lab/MiscellaneousConsumables/127/150	17.11.2021 25.02.2022 10.07.2021	11,19,199.00	
2	Safety	Noise Monitoring Activities	RFCLR/PUR/2021-22/Safety/Sound Level Meter/CSF200432/243	09.09.2021	13,440.00	40,698.00
		Noise Monitoring Equipment	RFCLR/PUR/2021-22/Safety/Helmet & Ear Plug/CSF210403/291	19.10.2021	27,258.00	
3	Instrumentation	Air Monitoring Activities (Data Connectivity & Gas cylinders)	RFCL/PUR/2021-22/Inst/PCB/BIO210029/093 RFCL/PUR/2021-22/CIA200680+CIA210450+CIA210490/002	03.06.2021 05.04.2022	15,82,085.00	19,34,956.00
		Water Monitoring Activity (Installation of New pH analyser)	Spare pH analyser was used for fulfilment of statutory requirement on urgent basis. Indent raised for the same.	FY 2021-22	3,52,871.00	
4	Electrical	ETP Power consumption	RFCLR/Electrical/EMP Cost/2022/01 (Electrical bills from NPDCL, Telangana for FY 2021-22 submitted by Electrical to F&A)	07.05.2022	37,54,930.00	37,54,930.00
5	Civil	Horticulture Development and maintenance activities	VISHWASHANTHI UNITED CONSTRUCTIONS	FY 2021-22	7,32,635.56	22,02,733.01
			M/s Sai Teja Associates	FY 2021-22	3,00,000.00	
			VISHWASHANTHI UNITED CONSTRUCTIONS	FY 2021-22	11,70,097.45	
6	Offsites (ETP)	Chemicals used for EMC (HCL)	RFCL/PUR/2021-22/Prod/HCL/DUP210263/307	26.10.2021	2,00,587.14	15,59,844.34
		Chemicals used for EMC (Caustic Soda)	RFCL/PUR/2022-23/Prod/Caustic Soda/DUP210460/391	23.12.2021	13,59,257.20	
		Steam for ETP	Steam Utilized for ETP section ( Qty: 5219 MT)	FY21-22	2,20,02,468.96	
7	Technical Services	Consent fee for Air /water and Bank guarantee	Tr. No 110153170315 (Online Payment from HO F&A to TSPCB). Rs.1.05 Crs for 05 yrs and 30 lakhs CFE balance fee paid. Total : Rs.1.35Crs ( For FY 21-22 is 21 +30 = 51 lakhs)	06.05.2021	51,00,000.00	51,00,000.00
8	Mechanical	ETP circulation line modification	Modification carried out with inhouse material. Total value is included with the material cost alongwith contractor/labour cost.	FY21-22	1,50,000.00	1,50,000.00
		Vent silencer orientation	Modification carried out with inhouse material. Total value is included with the material cost alongwith contractor/labour cost.	FY21-22	1,00,000.00	1,00,000.00
		ETP Effluent pump/blend pump maintenance	RFCLR/PUR/2021-22/Mech/Bush Bearing/AMM200597/049 RFCL/PUR/2021-22/Mech/Pump spares/AMM200595,675/167 RFCLR/PUR/2021-22/Mech/Shaft/AM0210304/165 RFCLR/PUR/2021-22/Mech/Shaft/AM0210340/176 RFCLR/PUR/2021-22/Mech/Shaft/AM0210459/303	29.04.2021 21.07.2021 20.07.2021 27.07.2021 26.10.2021	4,79,693.00	4,79,693.00
		Isolation valve for Effluent discharge to Godavari line ( Provision for additional pH analyser)	Modification carried out with inhouse material. Total value is included with the material cost alongwith contractor/labour cost.	FY21-22	50,000.00	50,000.00
		NG usage for Flare stacks	Part of NG has been utilized for environmental management at ammonia plant for manufacturing urea.( Qty : 13049.5344 MMBTU)	FY21-22	1,46,93,253.75	1,46,93,253.75
10	Ammonia & Urea Plants (Prod)	Steam for urea vent stacks and flare stack in ammonia plant	Part of steam has been utilized for environmental management at urea plant for manufacturing urea.( Qty : 1085.81664 MT+ 7057.80816 MT)	FY21-22	3,43,32,219.18	3,43,32,219.18
					Total	8,93,88,156.24

Note : Cost per MT of Steam : Rs. 4215.84 (As per F&A)  
Cost per mmbtu of NG (Avg) : Rs. 1125.96 (As per F & A)

B.SYAM KUMAR  
Mgr., (Technical Services)

**B. SYAM KUMAR**  
Manager (Technical Services)  
Ramagundam Fertilizers and Chemicals Limited  
Ramagundam, Dist. Peddapalli-505 210, (TQ)