

Plant Office:  
Vemagiri, Kadiam Mandal,  
East Godavari Dist.  
A.P -533125  
CIN U23201KA1997PLC032964  
T +91-883-2452313 - 317  
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Ref: GVPGL-RJY/O&M/20/ 46

DT: 03/Jul/2020

**To,**

**Additional Principal Chief Conservator of Forests(C),**  
Ministry of Environment, Forest and Climate Change,  
Regional Office (SEZ),  
Ist and IInd floor, Handloom Export Promotion council,  
34, Cathedral Garden Road, Nungambakkam,  
**Chennai – 600034.**

Sub: -Submission of Six Monthly Environmental Compliance report.

**Dear Sir,**

We are here with submitting Six monthly Environmental Compliance report  
(From Jan-20 to Jun-20). Kindly acknowledge.

Thanking you,

Yours faithfully,

For GMR VEMAGIRI POWER GENERATION LIMITED



Mathews.P  
COO, Gas Assets

CC To

The Assessing Authority,, APPCB, Vijayawada  
The Regional Environmental Engineer, APPCB, Kakinada



Ref: GVPGL-RJY/O&M/20/ 47

DT: 03/Jul/2020  
www.gmrgroup.in

**To,**  
**The Assessing Authority,**  
A.P Pollution Control Board,  
D.No. 33-26-14  
D/2, Near Sunrise Hospital,  
Pushpa Hotel Centre,  
Chalamalavari Street, Kasturibaipet,  
**Vijayawada – 520 008**

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Ref: GVPGL-RJY/O&M/20/ 45

DT: 03/Jul/2020

**To,**  
**The Regional Environmental Engineer,**  
Andhra Pradesh Pollution Control Board,  
5.532, Shanthinagar,  
Opp.DIC Office, Ramanayyapeta,  
**Kakinada-533005.**

Sub: -Submission of Six Monthly Environmental Compliance report.

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We are here with submitting six monthly Environmental Compliance report  
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Thanking you,

Yours faithfully,

For GMR VEMAGIRI POWER GENERATION LIMITED



Mathews.P  
COO, Gas Assets



**SIX MONTHLY ENVIRONMENTAL COMPLIANCE  
REPORT**

**GMR VEMAGIRI POWER  
GENERATION LIMITED**

**Vemagiri Village,  
Kadium Mandal, East Godavari District,  
Andhra Pradesh  
Pin-533125, India**

**Jan-20 to Jun-20**

Schedule-A

	Conditions	Status
1.	The applicant should make applications through online for renewal of Consent (under Water and Air Acts) and Authorisation under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts for obtaining Consent & HW Authorization of the Board and detailed compliance of CFO compliance.	Complied.
2.	Any person aggrieved by an order made by the state board under section 25, section 26, section 27 of water act,1974 or section 21 of Air act, 1981 may within thirty days from the date which the order is communicated to him, prefer an appeal as per Andhra Pradesh water rules. 1976 and Air rules 1982, to such authority (hereinafter referred to as the Appellate Authority) constituted under section 28 of the water (prevention and control) Act,1981	Noted and Accepted
3.	The industry should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of emissions etc.	Noted and accepted.
4.	a) All the fugitive emissions should be controlled with proper measures. b) The applicant should also install the equipment such as wind speed recorder, wind direction recorder.	Complied
5.	The applicant should not change or alter either the quality or the quantity or the rate of the discharge or the route of discharge and should not change or alter either the prescribed quality or the rate of emission without the previous written permission of the Board.	Noted and accepted.
6.	The applicant should, not later than 30 days from the date of issue of this consent order, certify in writing to the Board that the applicant has installed or provided for an alternative electric power source sufficient to operate all facilities installed by the applicant, to comply with the terms and conditions of this consent. In absence of alternative electric power source sufficient to operate all facilities installed by the applicant, to comply with the terms and conditions of this consent, production should be stopped.	Noted and accepted.
7.	Any up-set condition in any plant/plants of the industry, which result in, increased effluent discharge and/ or violation of standards stipulated in this order or the emission of any Air Pollutant into the environment in excess of the standards laid down by the Board, occurs or is apprehended to occur due to accident, or other unforeseen act or event, the person-in-charge of the premises, from where such discharge / emission occurs or is apprehended to occur should forth with intimate the fact of such occurrence or the apprehension of such occurrence to this Board, by fax / email under intimation to the Collector and District Magistrate.	Noted and accepted.
8.	In case of such episodal discharges / emissions mentioned in item 6 above, the industry should take immediate action to bring down the discharge / emission below the limits prescribed in this order.	Noted and accepted.
9.	A good housekeeping should be maintained both within the factory and in the premises. All hoods, pipes, valves, sewers and drains should be leak proof. Floor washings should be admitted into the effluent collection system only and should not be allowed to find their way into storm drains or open areas.	Chemical area (DM Plant) floor washings are connected to the Effluent treatment plant only. Good housekeeping is being maintained at all areas.
10.	a) The industry should carryout analysis of waste water discharges or emissions through chimneys, for the parameters mentioned in Schedule - B of this order at regular intervals. b) The Industry should maintain following records to accessible to the Board, whenever required. 1. Analysis reports of waste water/ emissions. 2. Log book for operation of pollution control systems. 3. Inspection book	Analysis is being carried out at regular intervals and reports are being submitted to the board regularly.
11.	Separate power connection with energy meter should be provided for the Pollution Control Equipment's and record of power consumption and chemicals consumption for the operation of pollution control equipment should be maintained separately.	Energy meters are provided for ETP and Reservoir water system. Air pollution control is integral part of GTG.
12.	The applicant should comply with the directives/orders issued by the Board in this order and at all subsequent times without any	Noted and accepted.

	negligence on his part. The applicant should be liable for such legal action against him as per provisions of the Law/Act in case if non-compliance of any order/directive issued at any time and/or violation of the terms and conditions of this consent order.	
13.	The applicant should furnish to the visiting officer and / or the Board any information regarding the construction, installation or operation of the effluent treatment system / air pollution control equipment / secured storage area of Hazardous Waste and such other particulars as may be pertinent for preventing and controlling pollution.	Noted and accepted.
14.	The industry is liable to pay compensation for any environmental damage caused by it, as fixed by the Collector and District Magistrate as Civil liability.	Noted and accepted.
15.	All the rules & regulations notified by Ministry of Environment and Forests, Government of India in respect of management, handling, transportation and storage of hazardous chemicals and wastes should be followed.	Noted and accepted.
16.	All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed.	Noted and accepted.
17.	The occupier should educate the workers and nearby public of possible accidents and remedial measures.	Regularly conducting mock drills and Providing Assistance to local people through GMR Varalakshmi Foundation.
18.	For any accident or spillage of hazardous wastes causing damage to the Environment, the occupier or the transporter as the case should be held responsible.	Noted and accepted.
19.	In case of closure of industry, the un-used/not consumed raw materials falling under the category of Hazardous Chemicals and mentioned in Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and Amendment Rules, 2003 should be removed and sold to other units within 90 days from the date of closure to prevent any possibility of occurrence of an accident. In case the above hazardous chemicals have lost their properties originally acquired, then they should be treated, as Hazardous Waste and they should be disposed off only to the agencies authorized by APPCB in a safe manner	Noted and accepted.
20.	The occupier should prepare/update Emergency preparedness plan for safe handling of hazardous waste from time to time and submit the same to APPCB. Emergency preparedness plan must be implemented immediately whenever there is fire, explosion or release of hazardous waste or hazardous waste constituents, which could endanger to human health or environment.	Complied.
21.	Packaging, labeling and transportation of Hazardous Wastes should be in accordance with the provisions of the rules issued by the Central Govt. under the Motor Vehicles Act, 1988 and other guidelines issued from time to time. The packaging and labeling should be based on the composition and hazardous constituent of the waste, however all Hazardous Waste containers should be provided with a general label.	Noted and accepted.
22.	The driver who transports Hazardous Waste should be well acquainted about the procedure to be followed in case of an emergency during transit. The transporter should carry a Transport Emergency (TREM) Card (as given in the guidelines for management and handling of hazardous wastes) duly filled by the Hazardous Waste generator	Noted and accepted.
23.	No Hazardous Wastes should be mixed with any other wastes or should be discharged to a common, other internal, external sewerage or other drainage system without prior approval of APPCB.	Noted and accepted.
24.	If HDPE bags are used for storing Hazardous Wastes, it should be ensured that they are perfectly sealed mechanically or double hot sealed. If MS/HDPE bags or drums are used for storing Hazardous Wastes, these drums / bags should be ensured that they are perfectly sealed.	Noted and accepted.
25.	The person authorised should not rent, lend, sell, transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.	Noted and accepted.
26.	Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized should constitute a breach of his authorization.	Noted and accepted.
27.	The industry should comply with the provisions of Batteries (Management & Handling) Rules, 2001.	Noted and accepted
28.	The industry should put up two sign boards (6x4 ft. each) at	Sign Boards are provided at the

	publicly visible places at the main gate. The first sign board should provide information on specific conditions of CFO and Hazardous Waste Authorization. The second sign board should display online data on quantity and nature of hazardous chemicals being used in the plant, as well as water, air emissions and solid waste generated within the factory premises	main gate and data being updated regularly.
29.	The applicant should exhibit the Consent & HW Authorization order of the Board in the factory premises at a prominent place for the information of the inspecting officers of the different departments.	Complied.
30.	Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves the right and powers under Section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and its amendments thereof and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and its amendments thereof to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.	Noted and accepted.
31.	The authorisation issued under Hazardous Waste (Management and Handling) Rules, 1989 and its amendments thereof, should comply with the provision of the Environment (Protection) Act, 1986.	Noted and accepted.

#### SCHEDULE - B

1.	The effluent discharged should not contain constituents in excess of the tolerance limits mentioned below.  Outlet Parameter Limiting Standards 1,2 & 3 pH 6.5 - 8.5 Suspended solids 100 mg/l Oil and grease 10 mg/l Total residual chlorine 1.0 mg/l Dissolved Phosphates 5.0 mg/l Copper 3.0 mg/l Iron 3.0 mg/l BOD 30 mg/l COD 250 mg/l Temperature should not exceed 5 deg C above the receiving water temperature	Complied.
2.	The industry shall take steps to reduce water consumption to the extent possible and consumption shall not exceed the quantities mentioned below: S.No. Purpose Total 1. DM Plant 384 KLD 2. Cooling Makeup 14,000 KLD 3. Domestic 16 KLD 4. Gardening 186 KLD Total 14,586 KLD	Complied. Water consumption is being monitored regularly, and water utilized quantity is well below the specified quantities.
3.	The emissions shall not contain constituents in excess of the prescribed limits mentioned below. Chimney No Parameter Emission Standards 1. Particulate Matter 115 mg/NM3 NOx <50 ppm	Complied.
4.	The facility shall comply with emission limits for DG Sets of capacity up to 800 KW as per the notification G.S.R.520 (E),Dt:01/07/2003 under the Environment(Protection) amendment rules,2003 and G.S.R.448(E) Dated:12/07/2004 under the Environment(Protection) second amendment rules,2004.In case of DG Sets of capacity more than 800 KW shall comply with emission limits as per the notification G.S.R.489(E),Dated:09/07/2012 at serial no.96,under the Environment(Protection) Act,1986.	DG Set stack height provided as per CFE Order No.161/PCB/C.Fstt/RO-RJY/AFE-N/96 -6004 Dt: 10-02-1997.
5.	The facility shall comply with ambient air quality standards of PM10(Particulate Matter size less than 10µm) - 100 µg/m3; PM2.5(Particulate Matter size less than 2.5µm) - 60 µg/m3; SO2 - 80 µg/m3; NOx - 80 µg/m3 outside the factory premises at the periphery of the industry. Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I,dated:18.11.2009 Noise Levels: Day time (6 AM to 10 PM) - 75 dB (A) Night time (10 PM to 6 AM) - 70 dB (A)	Complied.
6.	The industry shall file the water cess returns in Form-I as	GVPGL is regularly submitting the

	required under section (5) of Water (Prevention and Control of Pollution) Cess Act, 1977 on or before the 5th of every calendar month, showing the quantity of water consumed in the previous month, along with water meter readings. The industry shall remit water cess as per the assessment orders as and when issued by the Board.	water cess returns in Form-I.
7.	The industry shall not increase the capacity beyond the permitted capacity mentioned in CFE & CFO order of the Board.	Noted and accepted.
8.	The facility shall operate STP for treatment of Domestic Effluents and report the compliance to Regional Office, Kakinada.	GVPGL having the STP for Domestic Effluent treatment purpose.
9.	The industry shall calibrate the continuous online stack monitoring system every 3 months to ensure that values are correct and submit the reports to RO Kakinada.	Being complied with,
10.	The industry shall discharge effluent into Kadiam Ava drain only with the permission given by Irrigation Department, Govt. of A.P.	Industry is having Valid permission for Effluent discharge to Kadiyam Ava drain.
11.	The industry shall maintain greenbelt on 20.4 Ha in their premises.	GVPGL plant is on total of 70 acres land. Being complied with accordingly as per MOEF guide lines.
12.	The Industry shall implement the action plan for development of Energy plantation.	Energy plantation also an integral part of our 33% plantation.
13.	The industry shall maintain the following records and the same shall be made available to the inspection officials of the board (daily production details, RG-1 records and central exercise returns, Quantity of the effluents generated, log books of the pollution control systems, hazardous waste generated and disposed)	All relevant records have been maintained.
14.	The applicant shall submit Environment Statement in Form-V before 30 <sup>th</sup> September ever year as per rule no 14 of E(P) rules,1986 & amendments.	Being Complied with.
15.	The conditions are without prejudice to the rights and contentions of this Board in any Court of Law.	Noted and accepted.

#### **SCHEDULE - C**

[See rule 5(4)]

#### **[CONDITIONS OF AUTHORISATION FOR OCCUPIER OR OPERATOR HANDLING HAZARDOUS WASTES]**

1.	The Industry shall give top priority for waste Minimization and cleaner production practices.	Complied.
2.	The Industry shall not store Hazardous waste for more than 90 days as per the Hazardous Wastes (Management, Handling and Transboundary movements).Rules, 2008 and amendments thereof.	Noted for Compliance.
3.	The Industry shall store Used/Waste Oil and used Lead acid batteries in a secured way in their premises till its disposal.	Noted for Compliance.
4.	The Industry shall not dispose waste oils to the traders and the same shall be disposed authorized Re processors /Recyclers.	Noted and accepted.
5.	The Industry shall dispose used lead acid batteries to the manufacturers/dealers on buyback basis.	Noted and accepted.
6.	The Industry shall not dispose spent solvents/mixed spent solvents to the traders.	GVPGL is not generating such type of Hazardous waste.
7.	The Industry shall take necessary practical steps for prevention of oil spillages and carryover of oil from the premises.	Noted and accepted.
8.	The Industry shall maintain 6 copy manifest system for transportation of waste generated and a copy shall be submitted to Board Office and concerned Regional Office	Being complied with.
9.	The industry shall maintain good housekeeping & maintain proper records for Hazardous Waste stated in Authorization.	Being complied with.
10.	The industry shall maintain proper records for Hazardous Waste stated in Authorization in Form-III i.e. quantity of incinerable waste, land disposal waste,recycleable waste etc,and file annual returns in Form-IV as per rule 22(2) of the Hazardous waste(Management,Handling &Transboundary movement) Rules,2008 and amendments thereof.	Form-3 and Annual reports in form -4 are being submitted to the board regularly by GVPGL
11.	The Industry shall submit the condition wise compliance report of the conditions stipulated in Schedule B & C of this order on half yearly basis to Board Office, Hyderabad and concerned Regional Office	Being complied with.
12.	The Industry shall dispose of e-Waste to the Authorized recyclers only.	Noted for compliance.



**Compliance Status for CFE Order No.161/PCB/C.Fstt/RO-RJY/AFE-N/96 -6004 Dt: 10-02-1997**

<b>Schedule-A</b>		
	<b>Conditions</b>	<b>Status</b>
1.	Trees shall be planted and maintained around the plant in the area at least 4 times the built up area of the industry. Green belt development shall be started along with the construction activity.	Being complied with.
2.	The industry shall construct & commission the Effluent Treatment Plant (ETP) and install air pollution control equipment along with the commissioning of the industry. All the units of the ETP shall be impervious to prevent ground water pollution.	Complied.
3.	The industry shall treat the effluent to the surface water standards stipulated under Environmental (Protection) Rules, 1986, as amended up to date, notified and published by Ministry of Environment and Forests. Government of India as specified in schedule VI vide G.S.R 422(E) dated 19.05.1993 as amended on 31.12.1993.	Treated wastewater is being utilized for gardening, And discharge water quality parameters are within the stipulated limits
4.	The industry shall discharge the treated effluent into a natural drain or into the river Godavari at downstream of the barrage after conforming to the surface water standards.	Treated effluent water is being utilized for gardening and the water quality parameters are maintained within the stipulated limits
5.	The industry shall discharge domestic effluent into a natural drain or into the river Godavari at downstream of the barrage after conforming to the surface water standards.	Treated effluent water is being utilized for gardening and the water quality parameters are maintained within the stipulated limits
6.	Separate meters with necessary piping shall be provided for assessing the quantity of water used for each of the four purposes mentioned below. Industrial cooling/ spraying in pits or boiler feeds. Domestic purposes. Processing where by water gets polluted and pollutants are easily biodegradable. Processing where by water gets polluted and pollutants are not easily biodegradable.	Separate meters provided and water consumption reports are submitted regularly in Form-1 to APPCB.
7.	The industry shall install & commission appropriate control equipment's for controlling the stack emission from boiler to the standard prescribed below Particulate matter 150Ng/Nm <sup>3</sup> NOx 50ppm	Continuous stack emission monitoring is in operation. The NOx emission is less than 50 ppm, which is within the stipulated limit given by the APPCB& MOEF. Gas turbine is provided with Dry Low NOx Combustion system (Model DLN2+) to control NOx.
8.	The industry shall provide stack height for the following as per the standards prescribed by MOEF, vide Notification No. GSR 422(E) of 18.5.93 as amended on 31.12.1993 Boiler	Stack height is 70 meters as per the norms stipulated by MOEF.
9.	The industry shall provide a sampling port with removable dummy of not less than 15cm diameter in the stack at a distance of 8 times the diameter of the stack from the nearest constraints such as bends etc. The industry shall provide a platform with suitable ladder below 1 mt. of sampling port to accommodate 3 persons with instruments. The industry shall also provide a 5 AMP, 250 V plug point on the platform.	Complied.

10.	Suitable automatic flow measuring devices and monitoring equipments shall be installed at appropriate points in consultation with regional officer APPCB.	Complied.
11.	Floor washings shall be admitted in to the effluent collection system only, and shall not be allowed to find their way in storm water drains or open areas. The applicant shall maintain good house keeping both within the factory and in the premises. All pipe valves, sowers, and drains shall be leak proof.	Chemical area (DM Plant) floor washings are connected to the Effluent treatment plant only. Provided leak proof effluent discharge system and good housekeeping maintained in entire plant.
12.	All solid wastes arising in the premises shall be properly classify and disposed off to the satisfaction of the board by Land fill in case of inert material Controlled incineration, where ever possible in case of combustible organic material Vermiculture /Composting in case of biodegradable material. Secure land fill in case non-biodegradable, chemically active / Hazardous solid waste care being taken to ensure that the material dos not give rise to lechate which may percolate in to ground water or carried away with storm runoff.	Plant is having Valid Authorization for disposal of Hazardous Waste. Disposal carried out through APPCB/CPCB Authorized recyclers/vendors only.  From this year onwards it will be disposed as per the amendment proposed by authority by vide letter APPCB/VSP/HO/CFO/2020 1987 dated 18.02.2020.
13.	The industry shall implement the following rules and regulations modified by the MOEF, GOI. Hazardous waste management and handling rules 1989 Manufacture, storage and import of hazardous chemicals rules 1989. Rules for manufacture, use, import, export and storage of hazardous micro-organism / genetically engineered organism or cells 1989.	Plant is having valid Hazardous waste authorization as per the Hazardous waste management and handling rules 1989 thereafter amendments.
14.	There shall any perceptible odour outside the industry premises	NO, Plant is not generating any odour effluents and emissions.
15.	All the rules and regulations notified by ministry of environment forest, GOI in respect of noise control measures shall be followed to avoid nuisance to the public.	Noise levels are being monitored regularly and reports are being submitted to the Board.
16.	The generator shall be installed in a closed area with a silencer and suitable noise absorption systems so as to comply the ambient noise level standard as mentioned below. The ambient noise level shall not exceed 75dB at distance of 5 mt from the source.	Acoustic Enclosures provided for Gas turbine and steam turbine generators
17.	The industry shall install minimum stack height to the DG set as per CPCB guidelines. The minimum stack height shall be calculated based on the following formula. $H = h + 0.2 / \sqrt{KVA}$ H = height of stack in Meters. H = height of the building in Meters, where DG set is installed. KVA = Total generator capacity	Complied.
18.	The industry shall submit Environmental statement by September of every year and this should also a form a part of their annual report.	Environmental Statement is being submitted to the Board at periodical intervals.
19.	The industry shall follow the rules and regulations notified by Ministry of Law and Justice, GOI, regarding the public liability insurance Act 1991.	Industry is having valid Public Liability Insurance.

20.	The industry shall report progress on implementation of the project to this office and regional office, AP Pollution Control Board regularly.	Complied.
21.	The applicant shall obtain consent for trial production before the industry goes in to trial production.	Not applicable.
22.	The applicant shall obtain consents for operation regularly from APPCB, as required under section 25/26 of the water (P&C of P) Act 1974 and under section 21/22 of the air (P&C of P) Act 1981 for operation of the industry, before starting commercial production.	Plant is having valid Consent & Authorization.
23.	The applicant shall comply with and carry out conditions issued by the Board in this consent order scrupulously. The applicant is liable for legal action as per the provisions of the relevant Acts in case of non-compliance of any conditions of the consent order.	Noted and accepted.
24.	Notwithstanding anything contained in this conditional letter or consent, the Board thereby reserves its right and power under section 27(2) of water (Prevention and Control of Pollution) Act 1974, and under section 21(4) of air (Prevention and Control of Pollution) Act 1981. to review any or all the conditions as deemed fit and stipulate any additional conditions for the purpose of the Act by the Board.	Noted and accepted.
25.	The applicant shall exhibit the consent of the Board in the factory premises at a conspicuous place for the information of the inspection officers of different departments.	Complied.
26.	The industry is liable to pay compensation for any environmental damage caused by it, as fixed by the collector and district Magistrate as civil liability.	Noted and accepted.
<b>Schedule-B</b>		
1.	The proponent shall use naphtha as fuel because all the predictions are based on naphtha only. If any other fuel is used, the proponent shall obtain separate NOC from the Board. (CFE has been obtained for Natural Gas)	Now plant is operating with Natural Gas as a fuel.
2.	The wastewater discharge shall be minimized by increasing the cycle of cooling bleed off and brought down to less than 400 M3/day.	Industry got the Amendment for waste water discharge upto 9000 m3/day Ref.Lr.No.161/PCB/C.Estt/RO-RJY/AEE-N/96-78515 DT: 5/8/97.
3.	The treated waste shall not be discharged to the Samalkot main canal as it is being used as a drinking water source in the downstream area. The proponent shall discharge the treated water in to a natural drain or in to the river Godavari a downstream of the barrage after confirm surface water standards.	Treated effluent water is being utilized for gardening, and the water quality parameters are being maintained with in the specifications

### Compliance Status

<b>Compliance Status for EC J-13011/35/96-IA.II (T) dated April 8, 1997</b>		
	<b>Conditions</b>	<b>Status</b>
i)	All the conditions stipulated by the APSPCB vide their letter No.161/PCB/C.Estt/RO-RJY/AEE-N/96/6004 dt: 10.02.1997 & it's Schedule A & B should be strictly implemented.	Status of the conditions provided.
ii)	The sulphur content in the Naphtha to be used as fuel shall not exceed 0.15%.	Plant is running with Natural Gas as fuel. This condition has been deleted as per MOEF memorandum No J.13011/35/96-IA.II (T) dated 9th January 2001.
iii)	Land acquisition will be restricted to 270 acres.	At present GVPGL is having total land of 70 acres.
iv)	Two main stack height of 70 mt & bypass stack height of 70 mt each with continuous stack monitoring arrangement will be provided.	Plant design is with single GT and single Steam Turbine. Therefore single stack is sufficient. Regarding the bypass stack, as the open cycle operation not envisaged, only main stack provided. Stack height is 70 meters as per the norms stipulated by MOEF. Continuous stack emission monitoring is in operation.
v)	The NOx emission should not exceed 100 ppm as stipulated by CPCB.	The NOx emission is less than 50 ppm, which is within the stipulated limit given by the APPCB & MOEF office memorandum No-J-13011/35/96-IA.II (T) dated 9th January 2001. Gas turbine provided with Dry Low NOx Combustion system (Model DLN2+).
vi)	Closed circuit cooling with cooling towers shall be provided.	The cooling system provided with closed circuit and induced draft system.
vii)	Treated waste water conforming to the prescribed standards shall be used for raising the green belt and remaining water will be discharged into natural drain/Godavari river downstream of the project site after ensuring the quality parameters prescribed for surface water.	Treated wastewater is being utilized for gardening, and water quality parameters are maintained within the limits.
viii)	Adequate precautions shall be taken to ensure that the noise levels do not exceed the prescribed standards. Workers in the high noise area will be provided with ear protection devices & their use by the workers shall be ensured.	Acoustic Enclosures provided for Gas turbine generator, steam turbine generator and for other high noise generating equipment. In addition to these enclosures, Ear protection devices provided for Workers exposed to high noise areas and their usage ensured.
ix)	A green belt of 100 mt. Width & tree density (1500-2000 ha) with suitably selected species shall be developed all around the power plant. At least one third of the land area shall be covered under the green belt. The guidelines prepared by CPCB for rising of green belt shall be followed in this regard. The plan may be prepared in consultation with the Forest Department authorities & implemented in a time bound manner.	Being complied with.
x)	Regular monitoring of the air quality shall be carried out in & around the power plant & records maintained. A periodic report (six monthly) shall be submitted to this	Industry has installed four common ambient monitoring stations. Six monthly compliance status reports being

	Ministry.	submitted regularly.
xi)	A separate environment monitoring cell with suitably qualified staff shall be set up for implementation of the stipulated environmental safeguards.	GMR Group has set up an environment management cell to manage environmental related issues.
xii)	A half yearly report on the status of implementation of the stipulated conditions & environmental safeguards shall be submitted to this Ministry / RO / CPCB / SPCB.	Six monthly compliance status reports being submitted regularly.
xiii)	Regional Office of MOEF located at Bangalore will monitor the implementation of the stipulated conditions. Complete set of Impact Assessment Report & Management Plan should be forwarded to the Regional Office / CPCB / SPCB for their use during monitoring.	Noted and accepted.  Complied.
xiv)	Separate funds should be allocated for implementation of environmental protection measured along with item wise break up. These costs should be included as part of project costs. These funds earmarked for the environment protection measures should not be diverted for other purposes & year wise expenditure should be reported to this Ministry.	Being complied with.
xv)	Necessary permission should be obtained from the Chief Controller of Explosives for the storage of Naphtha.	Presently plant is operating with Natural Gas as fuel and storage license is not applicable.
<b>Compliance Status for EC J- 13011/35/96/IA-II (T) dated 24th September 1998</b>		
2(ii)	Naphtha at the rate of 2011 Ton/day would be used and the sulphur contents should not exceed 0.15% in the fuel.	Presently plant is operating with Natural Gas as fuel and this is not applicable.
2(iii)	Land acquisition for the project will be restricted to 200 acres only.	At present GVPGL is having total land of 70 acres. This is within the limit specified by MOEF.
2(vi)	Fresh water to the tune of 29000 cum / day would be used in the project & closed circuit cooling with cooling towers shall be provided.	Cooling water system is closed cycle cooling type with induced draft cooling. Total water consumption within stipulated limit only.
<b>Compliance Status for EC J- 13011/35/96/IA-II (T) dated 9th January 2001</b>		
ii)	NOx emission should be restricted to 50ppm and details of technology adopted for this should be submitted to the Ministry within one month.	The NOx emission is less than 50 ppm, which is within the stipulated limit given by the APPCB & MOEF. Gas turbine is provided with Dry Low NOx Combustion system (Model DLN2+).
iii)	A risk assessment & emergency management plan should be submitted to Ministry for the conveyance of natural gas in the power plant premises within one month of issue of this letter.	Already submitted.
iv)	For use of natural gas APPCB should be approached for seeking amendments. A copy of APPCB Consent order for Establishment should be submitted to Ministry of Environment & Forests.	APPCB has been approached and amendment has been issued by APPCB vide their order No 161/PCB/C.Estt/RO-Rjy/AEE-N/96-3215 dated 15th February 2001.

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

**INTRODUCTION**

GMR Vemagiri Power Generation Limited has commissioned 388.5 MW Combined cycle power plant at Vemagiri East Godavari District. The plant was commissioned in combined cycle mode in the month of September-2006 and at present the plant is under operation as per the gas availability.

**SITE LOCATION**

The project is located near village Vemagiri, about 12 kms South-East of Rajahmundry town in the East Godavari District of Andhra Pradesh, India. The site location Longitude is 81°45'&81°50' and Latitude is 16°55'&17° .The site measuring around 70 acres, is very close to Rajahmundry-Kakinada High Way No.NH5 at a distance of 1.5 km.Rajahmundry is nearest Railway Station located at a distance of 12 km and Rajahmundry is nearest Airport at a distance of 32 km and Kakinada Sea port distance of 60 km from project site. The site is accessible both by road and railway.

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

**CONTENTS**

- EC, CFE and CFO Compliance
- Meteorological Data
- Ambient Air Quality monitoring
- Stack Emission monitoring for Heat Recovery Steam Generator stack
- Effluent Quality Monitoring
- Noise level measurement inside the plant (Day & Night).
- Water balance report.

**GMR VEMAGIRI POWER GENERATION LIMITED**

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

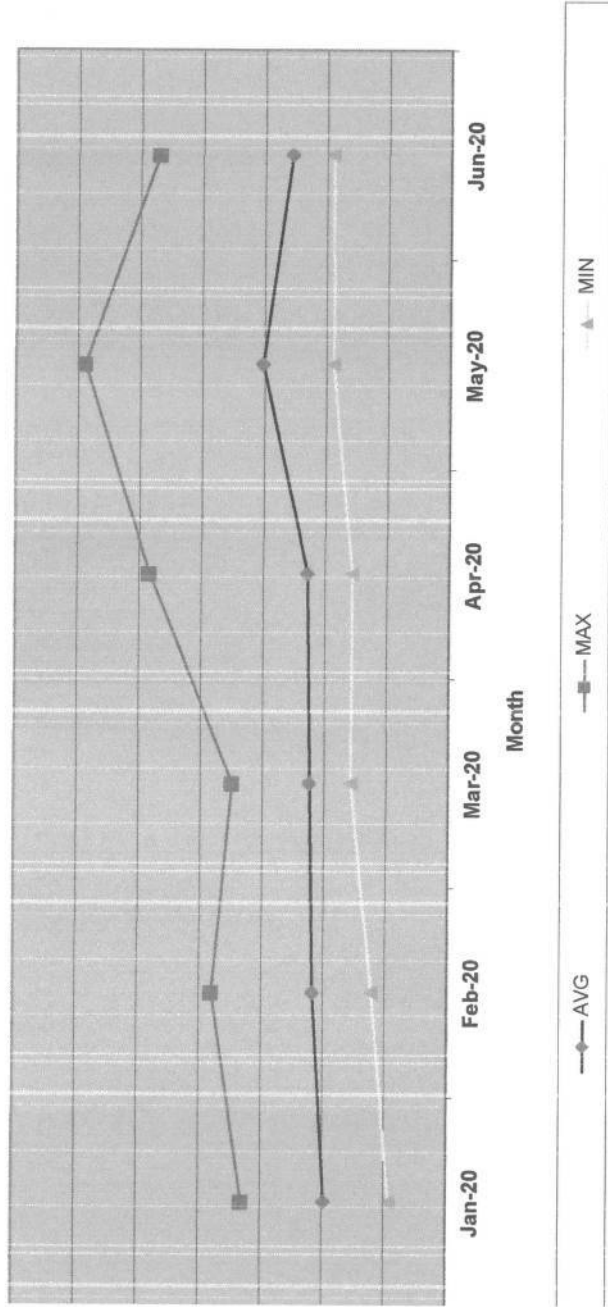
**WEATHER MONITORING DATA**



Jan-20 to Jun-20

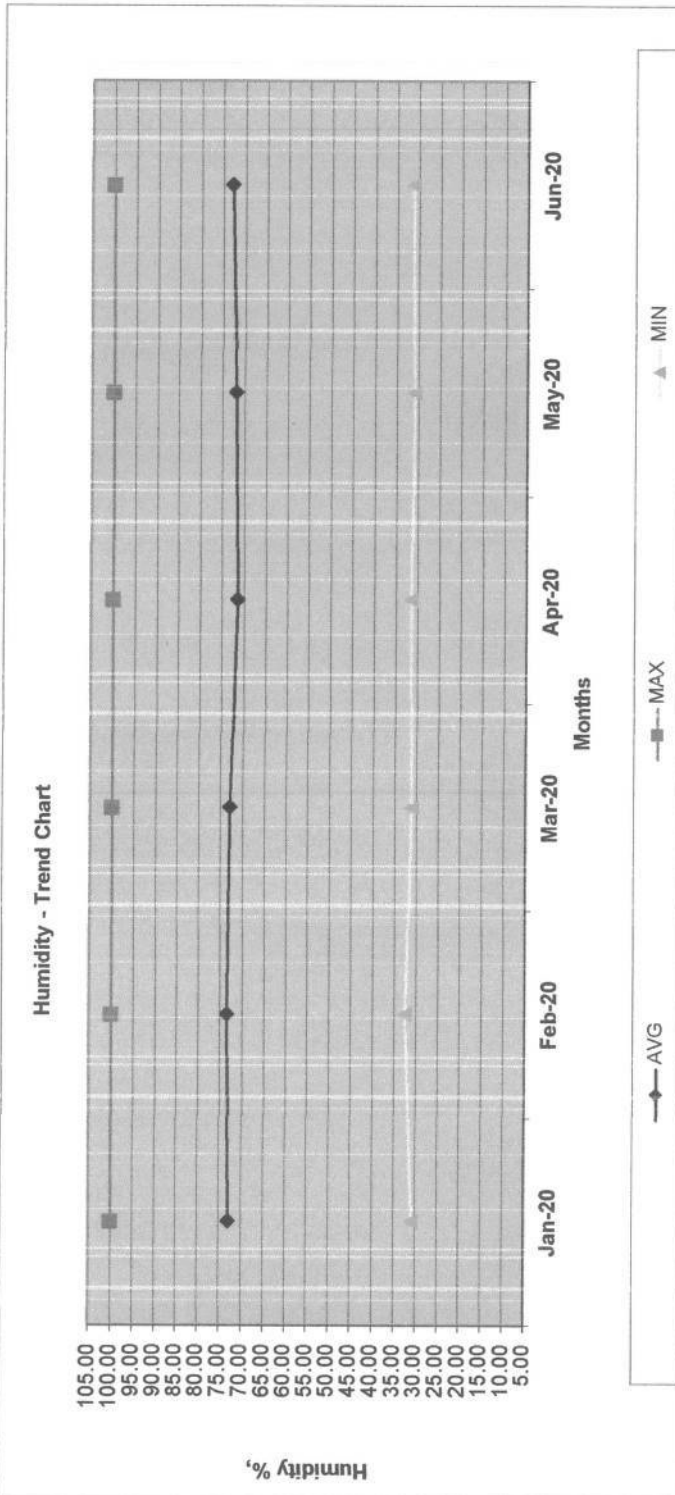
e Ambient Temperature, °C		Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
		24.90	25.90	26.20	26.50	30.10	27.80	27.20	30.10	24.90
		31.50	34.00	32.40	39.20	44.40	38.50	36.67	44.40	31.50
		19.60	21.10	22.80	22.80	24.40	24.50	22.53	24.50	19.60
								28.80	44.40	19.60

Ambient Temperature -Trend Chart



Monthly Average Humidity, %

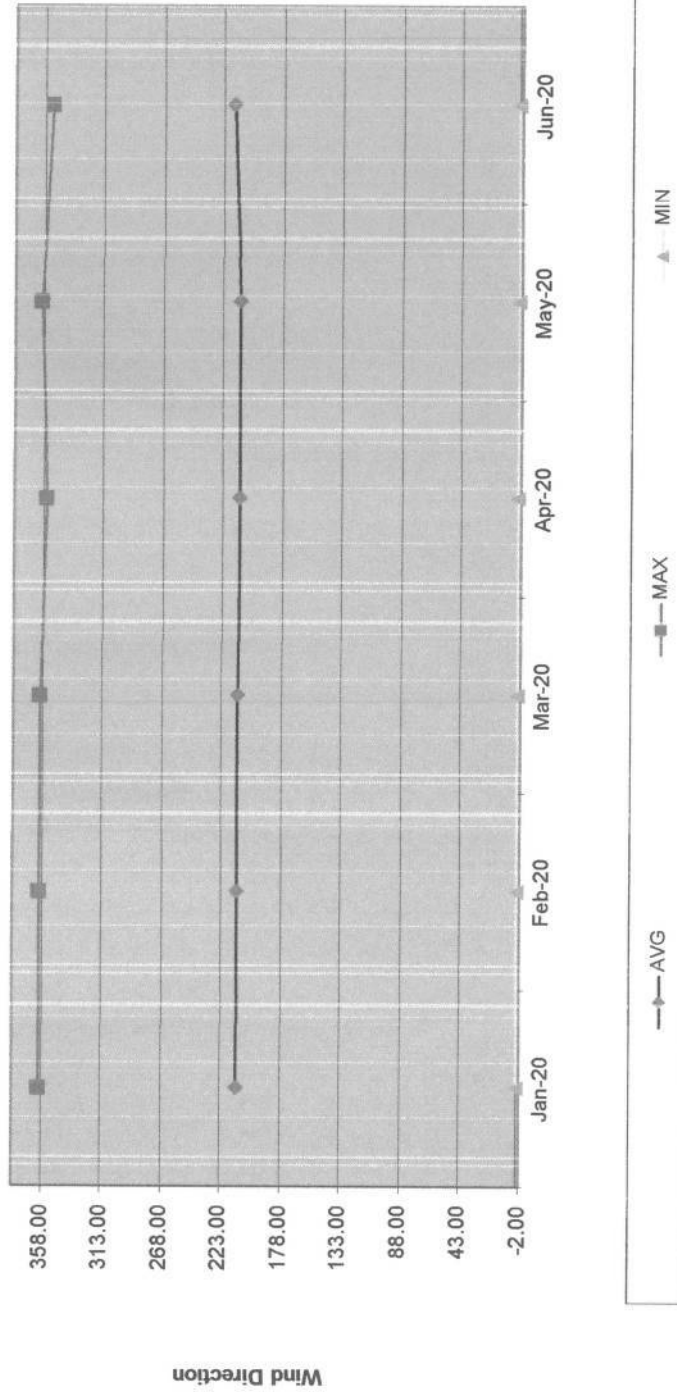
Month	Jan-20 to Jun-20								
	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
AVG	73.00	73.50	73.00	71.50	72.0	73.00	72.67	73.50	71.50
MAX	100.00	100.00	100.00	100.00	100.0	100.00	100.00	100.00	100.00
MIN	31.00	32.50	31.20	31.50	31.0	31.20	31.40	32.50	31.00
AVG							68.02		
MAX								100.00	
MIN									31.00



Monthly Average Wind Direction, Degree (Reference- North 0°)

Month	Jan-20 to Jun-20					
	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
AVG	210.80	210.80	210.80	210.00	210.0	215.00
MAX	359.90	359.90	359.90	355.80	360.0	360.00
MIN	0.10	0.10	0.10	0.10	0.1	0.10
AVG						189.75
MAX						360.00
MIN						0.10

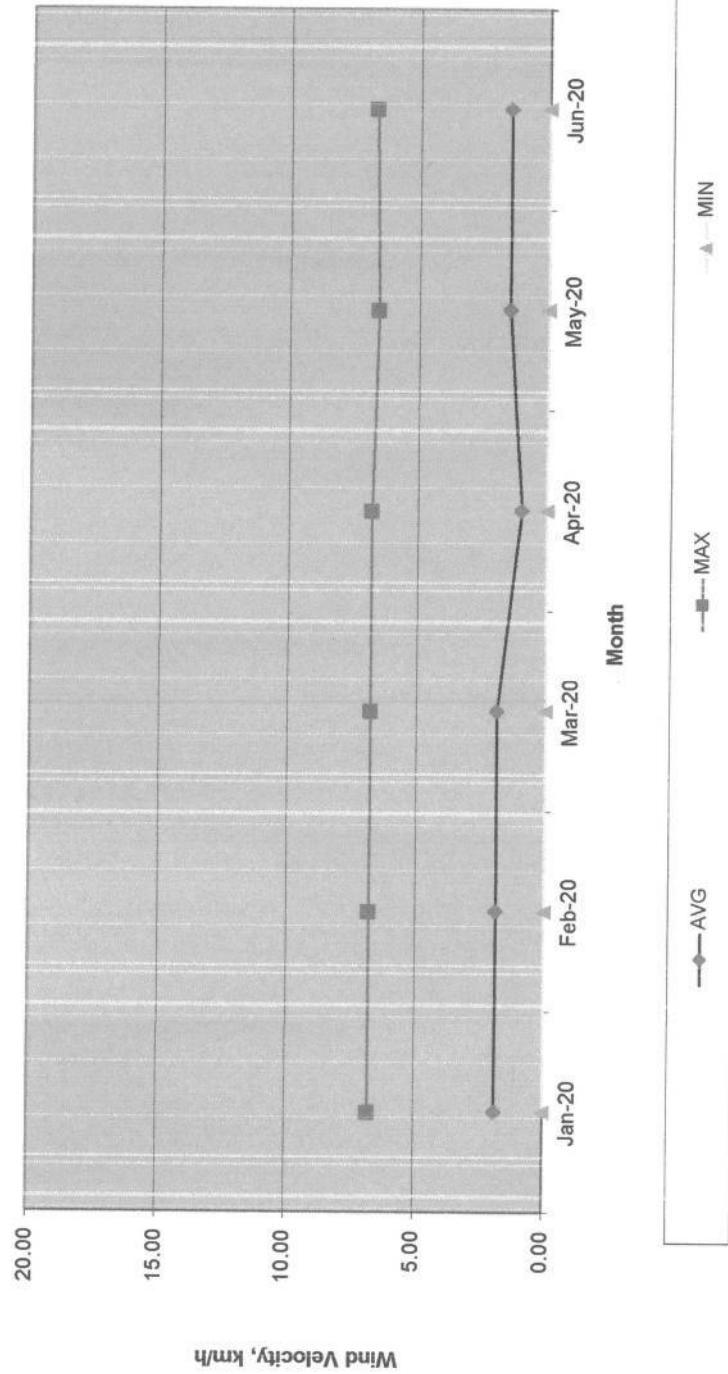
Wind Direction - Trend Chart



Monthly Average Wind Velocity, m/s

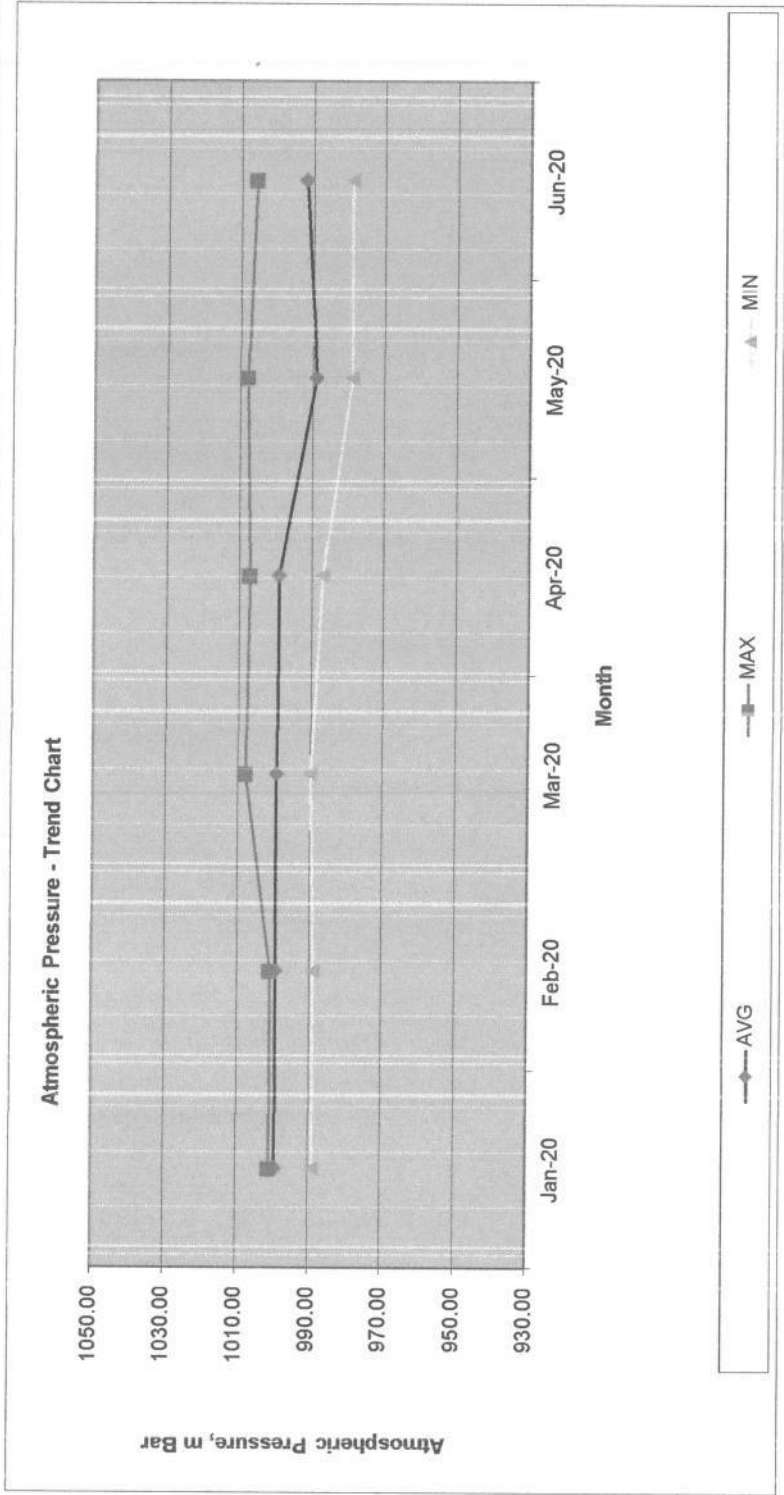
Month	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
AVG	1.90	1.90	1.90	1.00	1.50	1.50	1.62	1.90	1.00
MAX	6.80	6.80	6.80	6.80	6.60	6.70	6.75	6.80	6.60
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG							2.79		
MAX								6.80	
MIN									0.00

Wind Velocity - Trend Chart



Monthly Average Atmospheric Pressure, m Bar

Month	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
AVG	999.30	999.30	999.30	999.00	989.0	992.0	996.32	999.30	989.00
MAX	1000.70	1000.70	1007.90	1007.00	1007.9	1005.6	1004.97	1007.90	1000.70
MIN	989.00	989.00	990.00	987.00	979.0	979.0	985.50	990.00	979.00
AVG							995.59		
MAX								1007.90	
MIN									979.00

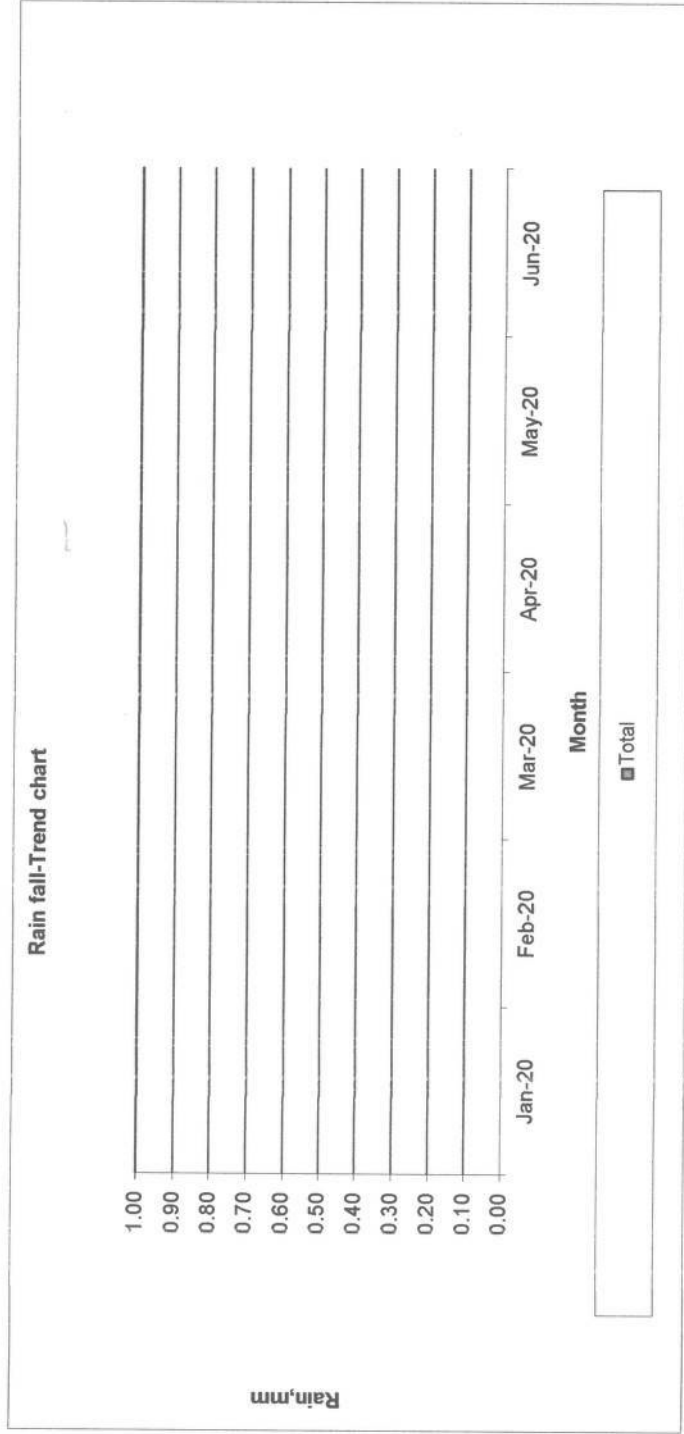


Monthly Total Rain Fall, mm

Month	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total	MIN
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
No of rainy days	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Jan-20 to Jun-20

Rain fall-Trend chart



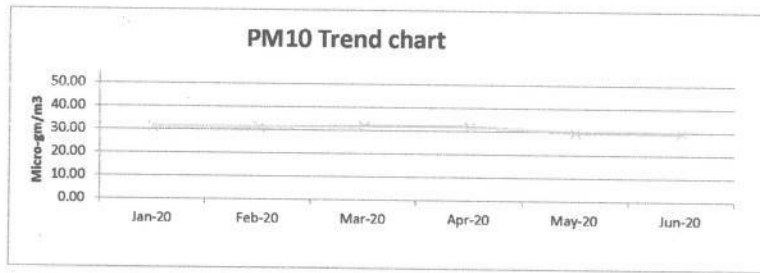
**GMR VEMAGIRI POWER GENERATION LIMITED**

**Environment Monitoring Report**

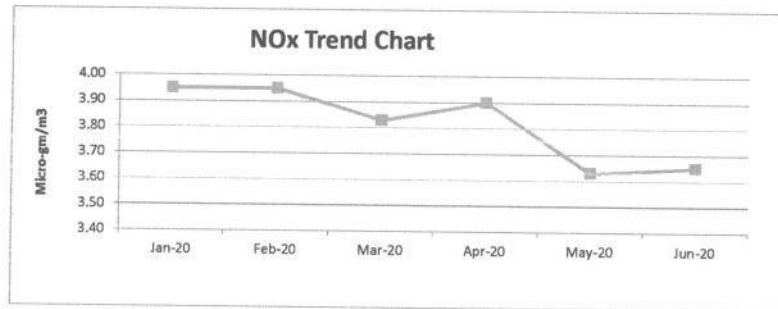
**Jan 2020 to Jun 2020**

**AMBIENT AIR QUALITY**  
**MONITORING DATA**

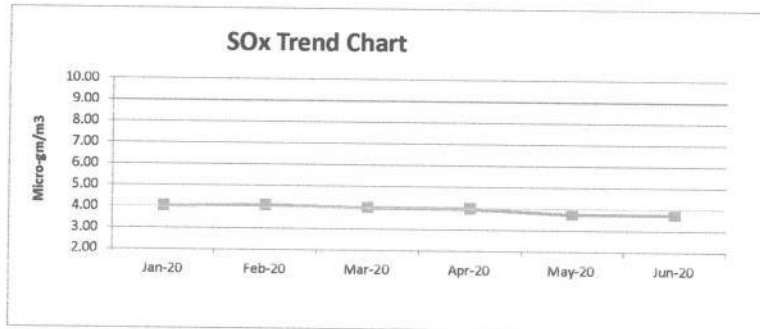
Monthly Average PM <sub>10</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North West Boundary Wall	31.25	31.25	31.75	31.75	29.88	29.80	30.95	31.75	29.80



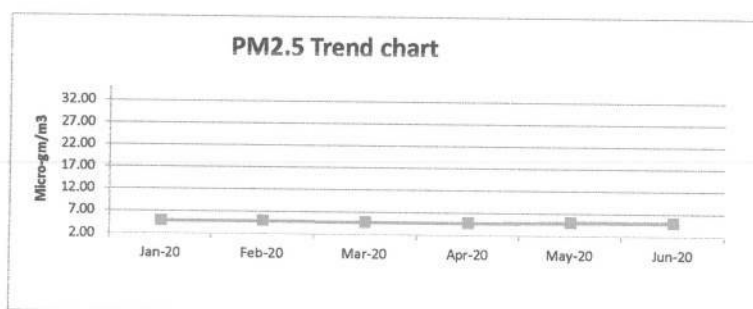
Monthly Average NO <sub>x</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North West Boundary Wall	3.95	3.95	3.83	3.90	3.63	3.65	3.82	3.95	3.63



Monthly Average SO <sub>x</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North West Boundary Wall	4.03	4.09	4.00	3.98	3.75	3.75	3.93	4.09	3.75



Monthly Average PM <sub>2.5</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North West Boundary Wall	4.75	4.85	4.65	4.65	4.93	4.92	4.79	4.93	4.65

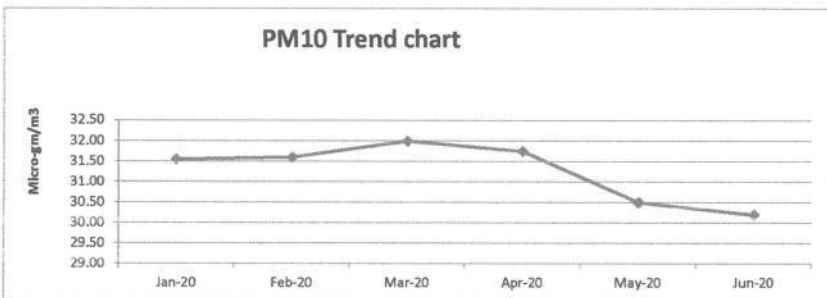




Monthly Average PM<sub>10</sub> µg/m<sup>3</sup>

Jan-20 to Jun-20

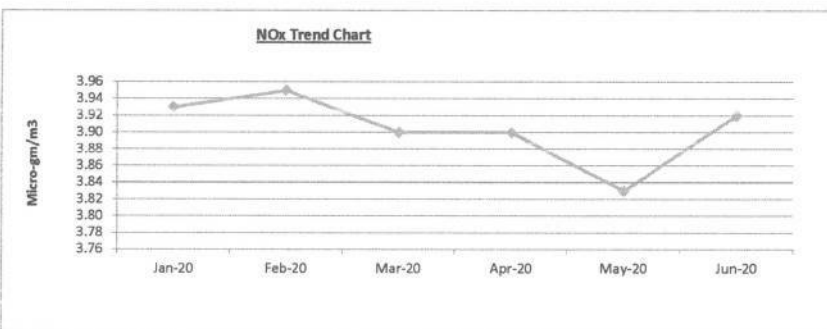
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North East Boundary Wall	31.65	31.60	32.00	31.75	30.50	30.20	31.27	32.00	30.20



Monthly Average NO<sub>x</sub> µg/m<sup>3</sup>

Jan-20 to Jun-20

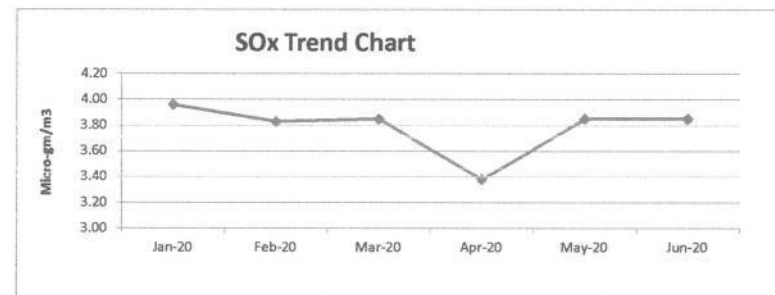
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North East Boundary Wall	3.93	3.95	3.90	3.90	3.83	3.92	3.91	3.95	3.83



Monthly Average SO<sub>2</sub> µg/m<sup>3</sup>

Jan-20 to Jun-20

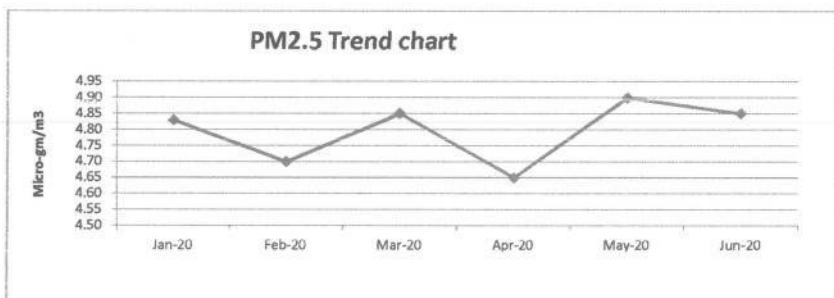
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North East Boundary Wall	3.96	3.83	3.85	3.38	3.85	3.85	3.79	3.96	3.38



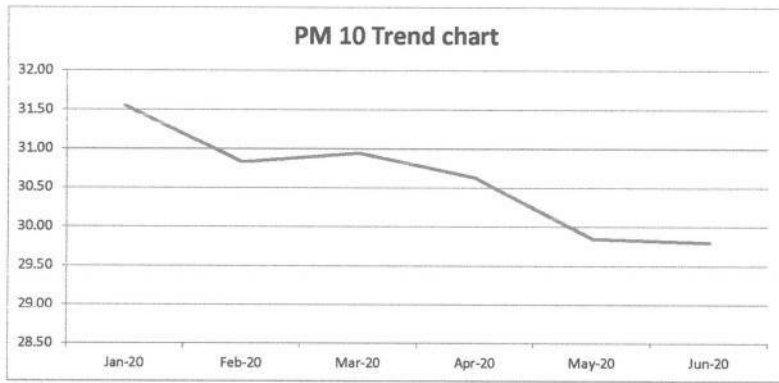
Monthly Average PM<sub>2.5</sub> µg/m<sup>3</sup>

Jul-19 to Dec-19

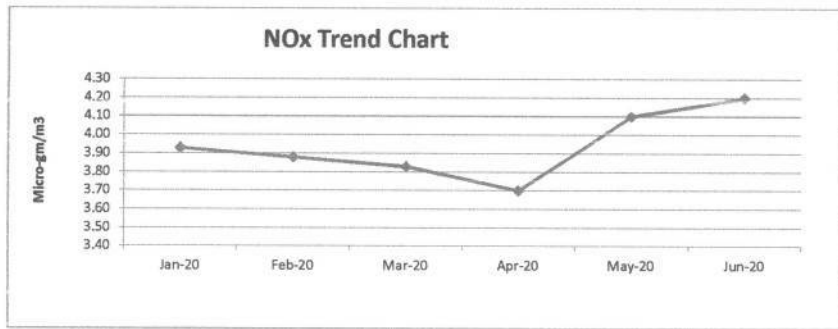
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant North East Boundary Wall	4.83	4.70	4.85	4.65	4.90	4.85	4.80	4.90	4.65



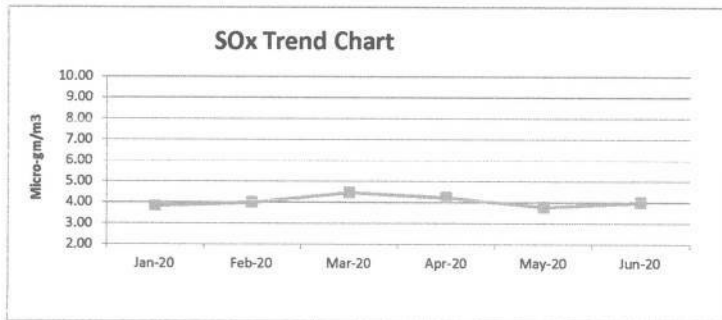
Monthly Average PM <sub>10</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
South side of the Plant Boundary	31.55	30.83	30.95	30.63	29.85	29.80	30.60	31.55	28.80



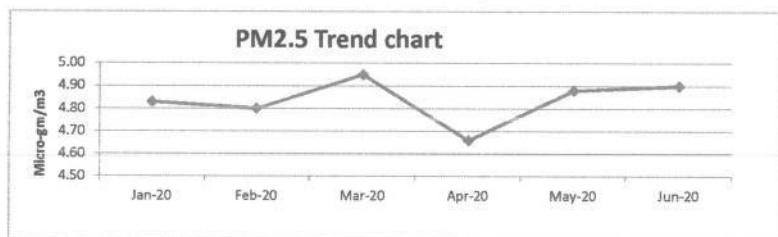
Monthly Average NO <sub>x</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
South side of the Plant Boundary	3.93	3.88	3.83	3.70	4.10	4.20	3.94	4.20	3.70



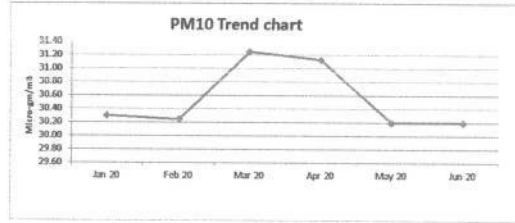
Monthly Average SO <sub>x</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
South side of the Plant Boundary	3.85	4.00	4.48	4.23	3.78	4.00	4.06	4.48	3.78



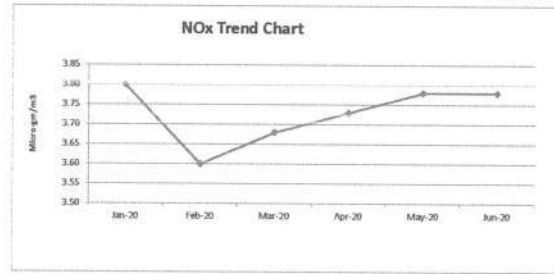
Monthly Average PM <sub>2.5</sub> µg/m <sup>3</sup>							Jan-20 to Jun-20		
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
South side of the Plant Boundary	4.83	4.80	4.95	4.66	4.88	4.90	4.84	4.95	4.66



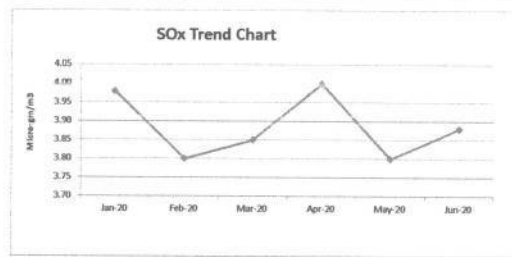
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant Main Gate	30.30	30.25	31.25	31.13	30.20	30.20	30.68	31.25	30.20



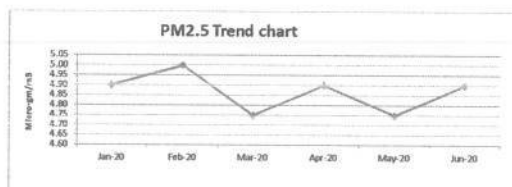
Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant Main Gate	3.80	3.60	3.68	3.73	3.78	3.79	3.73	3.80	3.60



Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant Main Gate	3.98	3.80	3.85	4.00	3.80	3.88	3.88	4.00	3.80



Month / Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant Main Gate	4.90	5.00	4.75	4.90	4.75	4.90	4.87	5.00	4.75



**GMR VEMAGIRI POWER GENERATION LIMITED**

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

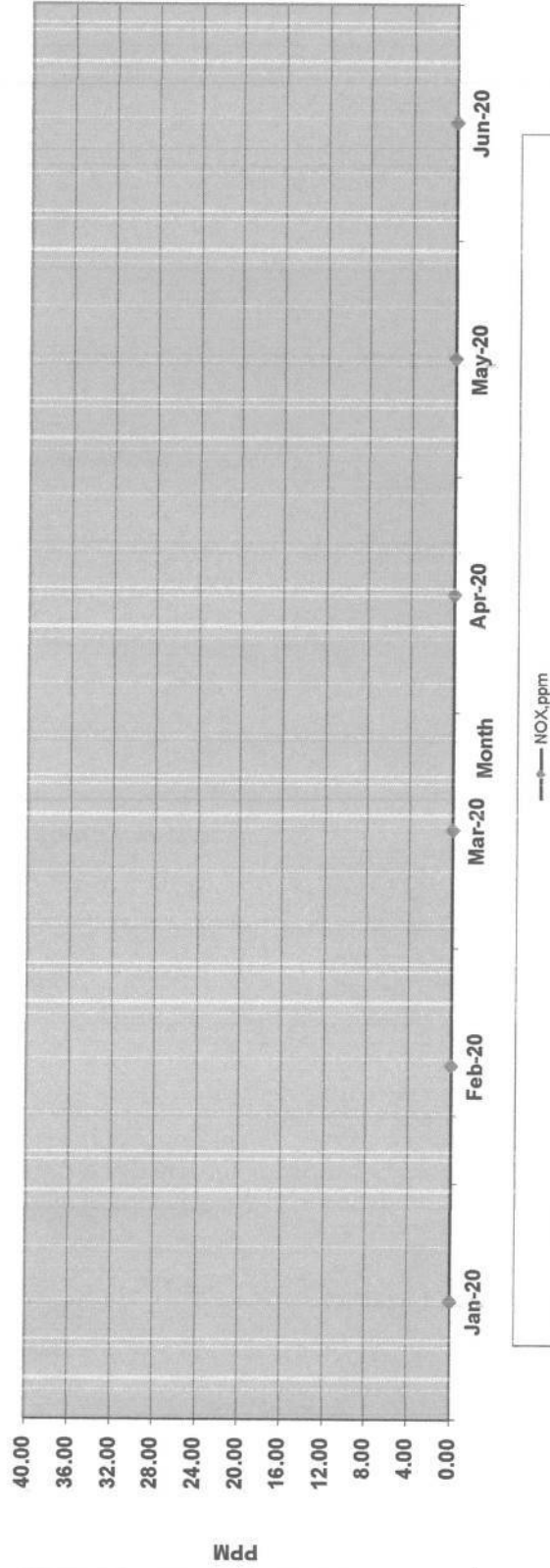
**STACK MONITORING DATA**

Monthly Average Stack Emission Report

Jan-20 to Jun-20

Month/Parameters	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
NOX,ppm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Stack Emission - Trend Chart



**GMR VEMAGIRI POWER GENERATION LIMITED**

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

**WATER BALANCE-REPORT**



**GMR VEMAGIRI POWER GENERATION LIMITED**

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

**EFFLUENT QUALITY MONITORING**  
**RECORD**

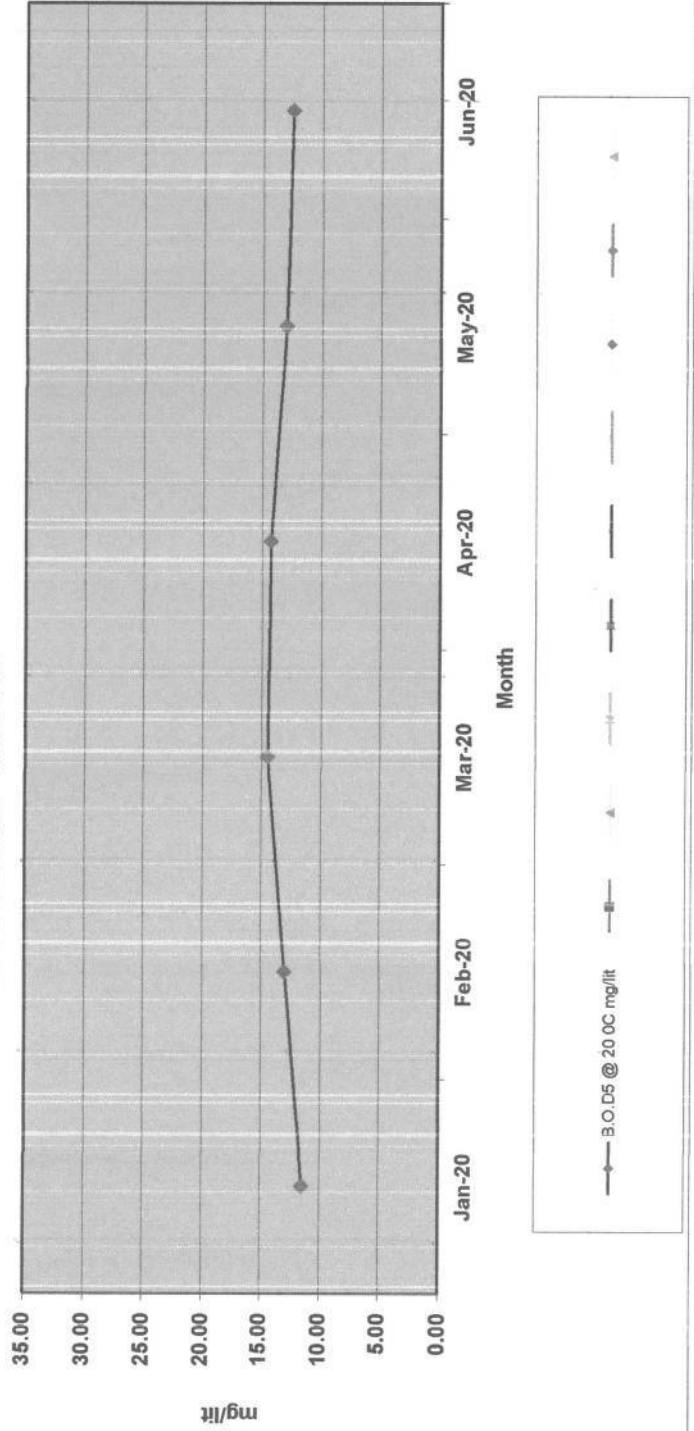


Monthly Effluent Treatment Plant Water Analysis Report

Jan-20 to Jun-20

Month/Parameters	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
pH	7.03	6.95	6.58	6.58	6.70	6.78	6.77	7.03	6.58
Total Suspended solids in mg/lit	19.00	20.50	18.25	20.75	19.50	20.50	19.75	20.75	18.25
Temperature in °C defferace	0.13	0.12	0.16	0.14	0.13	0.16	0.14	0.16	0.12
Residual Chlorine.mg/lit	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phosphate as P in mg/lit	0.00	1.00	0.00	0.00	0.00	0.00	0.17	1.00	0.00
Oil & Grease in mg/lit	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Copper in mg/lit	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Iron in mg/lit	0.14	0.16	0.14	0.13	0.14	0.15	0.14	0.16	0.13
C.O.D mg/lit	18.75	20.50	21.00	19.00	20.00	20.00	19.88	21.00	18.75
B.O.D <sub>5</sub> @ 20 °C mg/lit	11.50	13.00	14.50	14.25	13.00	12.50	13.13	14.50	11.50

ETP Water Analysis - Trend Chart



**GMR VEMAGIRI POWER GENERATION LIMITED**

**Environment Monitoring Report**

**Jan 2020 to Jun 2020**

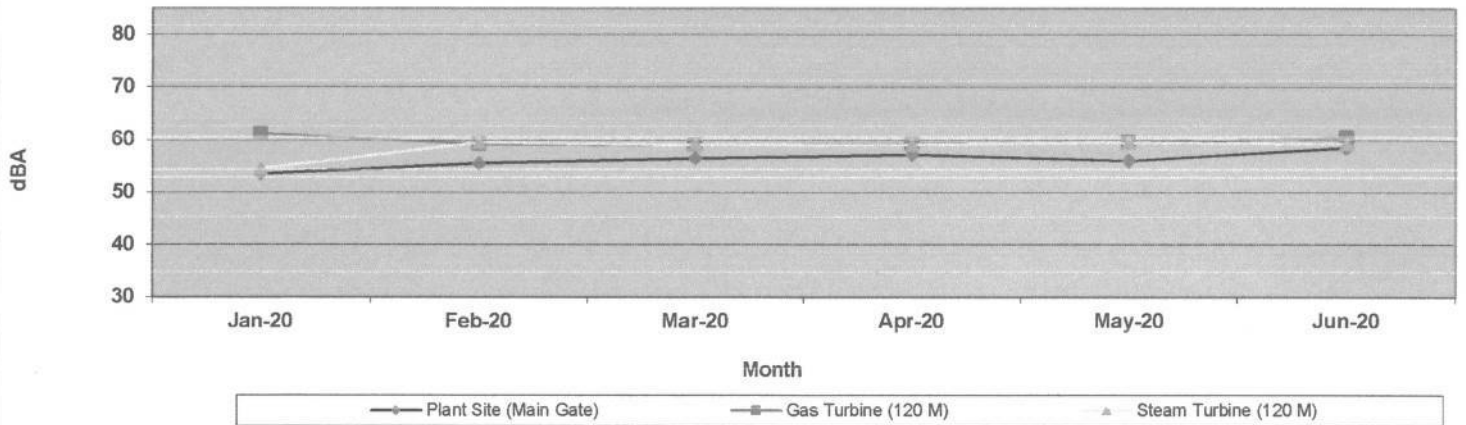
**NOISE LEVEL MONITORING RECORD**

Noise Level Night Time

Jan-20 to -Jun 20

Month/Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant Site (Main Gate)	53.5	55.5	56.5	57.2	56.0	58.5	56.20	58.50	53.50
Gas Turbine (120 M)	61.2	59.2	59	59.2	59.5	60.5	59.77	61.20	59.00
Steam Turbine (120 M)	54.5	59.5	59	59.1	59.5	59.2	58.47	59.50	54.50

Noise Level Night Time - Trend Chart



Noise Level Day Time

Jan-20 to -Jun 20

Month/Location	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	AVG	MAX	MIN
Plant Site (Main Gate)	56.2	57.8	58.5	59	59.0	59.2	58.28	59.20	56.20
Gas Turbine (120 M)	62.8	60.9	61.2	60.5	62.2	63.2	61.80	63.20	60.50
Steam Turbine (120 M)	63.8	61.2	60.5	60	61.5	62	61.50	63.80	60.00

