

Ref: GMR/GWEL/EC/20-21/01
30th Oct. 2020

The APCC F (C.)
Ministry of Environment and Forest & Climate Change,
RO (WCZ) Ground Floor
East Wing, New Secretariat Building
Civil Line, Nagpur – 440001
Maharashtra

Subject: EC Compliance Report of GMR Warora Energy Limited 2 x 300 MW (Phase -I & II)

Ref.: 1. MoEF, Environment Clearance Letter J-13011/2/2008-IA.II (T) DATED 19th MAY, 2008
2. MoEF, Environment Clearance Letter J-13011/2/2008-IA.II (T) DATED 4th JUNE, 2009
3. MoEF, Environment Clearance Letter J-13012/75/2008-IA.II (T) DATED 25th MAY, 2010

Respected Sir,


With reference to the above, we are pleased to submit our half yearly Environment Clearance compliance report for Phase I & II of our unit **GMR Warora Energy Limited** situated at MIDC, Warora, Chandrapur for the period of **April 2020 to September 2020**.

Kindly acknowledge the receipt of the same.

Thanking you.

Yours Faithfully,
For **GMR Warora Energy Ltd.**



 **Dhananjay V. Deshpande**
COO

Encl.: As Above

CC: 1. The RO, MPCB, Chandrapur, Maharashtra
2. The SRO, MPCB, Chandrapur, Maharashtra

COMPLIANCE REPORT



As per conditions stipulated in

ENVIRONMENT CLEARANCE

Phase—I: ISSUED BY MOEF VIDE LETTER No J-13011/2/2008-IA.II (T) DATED 19th MAY, 2008

And LETTER No J-13011/2/2008-IA.II (T) DATED 4th JUNE, 2009

Phase—II: ISSUED BY MOEF VIDE LETTER No J-13012/75/2008-IA.II (T) DATED 25th MAY, 2010

Of

**MINISTRY OF ENVIRONMENT & FOREST & CLIMATE
CHANGE, NEW DELHI**

Compliance Period: APRIL 2020 TO SEPTEMBER 2020

For

2 x 300 MW COAL BASED THERMAL POWER PLANT

Of

GMR Warora Energy Limited,

Plot No B-1 | MIDC Growth Centre | PO – Warora |

Dist – Chandrapur | Maharashtra-442 907

**COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE CONDITIONS FOR UNIT-I:
ISSUED BY MOEF VIDE LETTER NO J-13011/2/2008-IA.II (T) DATED 19TH MAY, 2008**

Sl. No	Terms and Conditions	Compliance Status
1	The total land requirement for the project shall be restricted to 114 ha	Total land requirement is restricted to 114 ha only.
2	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5% and 44% respectively	Sulphur content in coal is 0.35% and ash content is 34% which are well under the limits.
3	A bi-flue stack of 220 m height with continuous online monitoring Equipment's for SO _x , NO _x and Particulate matter shall be provided. Exit velocity of flue gases shall not be less than 25 m/sec	A bi-flue stack of 275 m height with continuous online monitoring system for SO _x , NO _x and Particulate matter is duly provided. Exit velocity of flue gases is being maintained above 25 m/sec.
4	High efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission does not exceed 100 mg/Nm ³	ESPs has been installed with 99.98% efficiency to maintain the emission of particulate matter well below 50 mg/Nm ³ . (Annexure-I)
5	Fly ash shall be collected in dry form and its 100% utilization shall be ensured from day one. Bottom ash shall be disposed in conventional slurry mode in the ash pond	We have constructed 3 Nos. Fly ash silo with capacity of 1500 MT each for collection of Fly ash in dry form which are then sent to cement industries for utilization. Bottom ash disposed in ash pond in slurry form. (Annexure-II)
6	Ash pond shall be lined with suitable impervious lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached	Bottom of the ash pond compacted at high dry density soil and provided with 600mm impervious clay lining. Sides of the ash pond lined with HDPE lining and tiles. Ash pond provided with garland drains to collect run-off water and seepages if any from the pond. Ash water recovery system i.e. the supernatant is collected and treated in settling tank and routed to ash handling system.
7	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided	Adequate dust extraction system like bag filters and water spray system is duly provided in dusty areas such as coal handling and ash handling points, transfer areas and other vulnerable dusty areas which are continuously operated to take care of fugitive emission.
8	Water requirement shall not exceed 830 m ³ /hr	Water requirement is well within prescribed limit of 830 m ³ /hr.
9	Closed cycle cooling system with cooling towers shall be provided. The effluent shall be treated to conform to the prescribed norms	Complied. Induced draft cooling tower (IDCT) is being constructed. Amendment to shift from Natural draft cooling tower (NDCT) to IDCT, MOEF (Gol). Vide letter no. J-13012/75/2008-1A.II (T), dated 30th November, 2010. State of art ETP is in operation in which Effluent are treated to meet the prescribed norms. (Annexure-III)

10	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon for storm water. Arrangements shall be made so that effluents and storm water do not get mixed	The treated effluents conforming to the prescribed standards are completely recirculated and reused within the plant. Arrangement are made to ensure that no discharge will take place outside the plant boundary except during monsoon season. Storm water and effluent drains are kept separate to arrest any mixing of the both.
11	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation	Sewage Treatment Plant with the capacity of 25 KLD has been installed and is in operation. Treated water from STP is used in green Belt development activities/ plantation. (Annexure-IV)
12	Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry	Regular Monitoring of ground water in and around the ash pond area is being monitored and analysis results of the same are also submitted to MPCB on quarterly basis.
13	Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished	Rain Water harvesting system is in place as per the recommendation by ground water board for ground water recharge. (Annexure-V)
14	A green belt of adequate width and density shall be developed around the plant periphery covering about 42 ha of project area preferably with local species	More than 40% of plant area is under green belt plantation with more than 95% survival rate in and around the periphery and open land of the plant premises. (Annexure-VI)
15	LeQ of Noise levels emanating from turbines shall be limited to 75 dB. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as steam & gas turbines, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas	Being complied. Noise levels generating from turbines are well within the prescribed limits. Personal protective Equipment's like earplugs/ear muffs etc. are provided to people working in the high noise area. Periodic medical checkup conducted for workers engaged in noisy areas such as turbine area, air compressors etc.

16	A plan for conservation of fauna reported in the study area shall be prepared in consultation with state forests and wildlife depart within 3 months and shall be implemented immediately	GIB and other Schedule-1 wildlife conservation plan for EMCO Energy Ltd for Rs. 24.91 Lakhs has been prepared by Divisional Forest officer, Chandrapur via letter No:Desk-5/survey/Land/2128/ 2013-14, dated 19.03.2014 as per guidelines of Ministry of Environment and forest, New Delhi on the basis of plan sanctioned by P.C.C.F.(Wildlife), M.S, Nagpur. Ref No:-Desk-WL/22(6)/CR69/5370/ 13-14, Nagpur Dated 07.03.2014. As per demand letter No: Desk-5/Survey/Land/2268 dated 26/03/2014 received from Divisional Forest officer-Chandrapur, EMCO Energy Ltd. deposited the amount of Rs. 24.91 in Ad-hoc Compensatory Afforestation Fund Management & Planning Agency (CAMPA)Savings Bank A/c No: SB 01025218 Corporation bank, Lodhi Road, New Delhi IFSC Code- CORP0000371 through RTGS on date 08/07/2014. The UTR no. for the payment done is "BRN-RTGS-UTIBH14189021366-AD HOC COMPENS". Lakhs in CAMPA.
17	Regular monitoring of ground level concentration of SO ₂ , NO _x , Hg, SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage, these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Six monthly reports shall be submitted to the Regional Office of this Ministry at Bhopal.	Regular Monitoring of ground level concentration of SPM, SO ₂ , NO _x , PM 2.5 & PM10 and Hg is being carried out in the impact zone and records maintained. Results of the same are well within limits. Monitoring reports are also submitted to the board on regular basis.
18	Appropriate safeguard measures shall be taken to guard against fire hazards in coal storage area. DMP shall be prepared to handle such situation.	Fire Hydrant system and water monitors installed around coal stack yard to guard against fire incident. The system is always in pressurized condition through Fire water pump house for ready use. DMP is in place.
19	The Project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the Vernacular language of the locality concerned within seven days from the date of the clearance letter, informing that the project has been accorded EC and copies of clearance letter are available with the state pollution control board/committee and may be also be seen at website of the MoEF at http://envfor.nic.in	Complied
20	A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards	Environment Management Cell has been set up with qualified and competent staff for proper implementation of environment control measures and satisfactory compliance to condition of EC/CTE and CTO.
21	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/ Regional Office/CPCB/SPCB	We are regularly submitting six monthly compliance reports to the Board and ministry as per the guidelines. Last report submitted on 29 th Apr 2020.

22	Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring	Noted
23	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry	We have allocated separate budget for Environment Management for implementation of environmental protection measures. The budget is solely dedicated for the purpose of Environment Management only.

**COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE CONDITIONS FOR UNIT-I:
ISSUED BY MOEF VIDE LETTER No J-13011/2/2008-IA.II(T) DATED 4th JUNE, 2009**

Sr. No	Terms and Conditions	Action to be Taken
1	An amount of Rs.1.6 Crores as capital and Rs.30 Lakhs as recurring expenditure per annum should be earmarked for taking up activities under CSR.	Being Complied
2	Copy of conservation plan of fauna in the study area, reported to be prepared, should be submitted to the Ministry within 15 days of the issue of this letter.	GIB and other Schedule-1 wildlife conservation plan for EMCO Energy Ltd for Rs. 24.91 Lakhs has been prepared by Divisional Forest officer, Chandrapur via letter No:Desk-5/survey/Land/2128/ 2013-14, dated 19.03.2014 as per guidelines of Ministry of Environment and forest, New Delhi on the basis of plan sanctioned by P.C.C.F.(Wildlife), M.S, Nagpur. Ref No:-Desk-WL/22(6)/CR69/5370/ 13-14, Nagpur Dated 07.03.2014. As per demand letter No: Desk-5/Survey/Land/2268 dated 26/03/2014 received from Divisional Forest officer- Chandrapur, EMCO Energy Ltd. deposited the amount of Rs. 24.91 in Ad-hoc Compensatory Afforestation Fund Management & Planning Agency (CAMPA)Savings Bank A/c No: SB 01025218 Corporation bank, Lodhi Road, New Delhi IFSC Code- CORP0000371 through RTGS on date 08/07/2014. The UTR no. for the payment done is "BRN-RTGS-UTIBH14189021366-ADHOC COMPENS". Lakhs in CAMPA.
3	First aid and sanitation arrangements shall be made for the drivers and the contract workers during construction phase.	Full-fledged Occupational Health Centre with experienced MBBS Doctor and Paramedic Staff has been deputed in the plant for first aid.
4	Regular monitoring of ground level concentration of SOx, NOx, Hg, SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage, these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	Regular Monitoring of ground level concentration of SOx, NOx, Hg, SPM, PM2.5 & PM10 is being carried out in the impact zone and records are maintained. Results of the same are well within the prescribed limits. Monitoring reports of the same are also submitted to the board on monthly basis.
5	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied

6	<p>The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall be sent to the Regional office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels, namely SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>EC compliance report are sent to MoEF & CC regional office as well as to regional offices of MPCB & CPCB every six monthly.</p> <p>The pollutant levels, namely SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) are being monitored and displayed at the main gate of the company in the public domain.</p>
7	<p>The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by email) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.</p>	<p>Six monthly reports on the status of compliance of the stipulated EC conditions including results of monitoring data are being submitted to the respective regional office of MoEF, the respective Zonal office of CPCB, SPCB. Last report submitted on 29th Apr. 2020.</p>
8	<p>Project proponent will upload the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels (stack and ambient levels of NO_x) will be displayed at the main gate of the power plant.</p>	<p>The criteria pollutant levels, namely SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) are being monitored and displayed at the main gate of the company.</p>

**COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE CONDITIONS FOR UNIT-II:
ISSUED BY MOEF VIDE LETTER No J-13012/75/2008-IA.II (T) DATED 25th MAY, 2010**

Sr. No	Terms and Conditions	Compliance Status
A. Specific Conditions.		
1	<p>Environmental clearance is subjected to submission of a time bound implementation of a wildlife conservation plan particularly with respect to protection of great Indian Bustard and other Schedule-1 species, to be prepared in consultation with the office of the Chief Wildlife Warden concerned and the Wildlife Institute of India.</p> <p>The plan shall have an in-built monitoring mechanism and annual audit, report of which shall be submitted to the Regional Office of the Ministry and concerned department in the state government.</p>	<p>GIB and other Schedule-1 wildlife conservation plan for GMR Warora Energy Ltd. of Rs. 24.91 Lakhs has been prepared by Divisional Forest officer, Chandrapur, letter No: Desk-5/survey/Land/2128/2013-14, dated 19.03.2014 as per guidelines of Ministry of Environment and forest, New Delhi on the basis of plan sanctioned by P.C.C.F.(Wildlife), M.S, Nagpur. Ref No:-Desk-WL/22(6)/CR69/5370/13-14, Nagpur Dated 07.03.2014. As per demand letter No: Desk-5/Survey/Land/2268 dated 26/03/2014 received from Divisional Forest officer-Chandrapur, EMCO Energy Ltd. deposited the amount of Rs. 24.91 in Ad-hoc Compensatory Afforestation Fund Management & Planning Agency (CAMPA) Savings Bank A/c No: SB 01025218 Corporation bank, Lodhi Road, New Delhi IFSC Code-CORP0000371 through RTGS on date 08/07/2014. The UTR no. for the payment done is "BRN-RTGS-UTIBH14189021366-AD HOC COMPENS". Lakhs in CAMPA.</p>
2	<p>It shall be ensured that the natural drainage in the region is not disturbed due to activities associated with operation of the plant.</p>	<p>Proper care has been taken to ensure that the natural drainage in the region is not disturbed due to activities with operation of the plant.</p>
3	<p>Provision for installation of FGD shall be provided. High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³. Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.</p>	<p>Provision for installation of FGD have been duly provided. State of art ESPs has been installed with more than 99% efficiency to maintain the emission of particulate matter well below 50 mg/Nm³.</p> <p>Adequate dust extraction system installed in coal bunker and dry fog type dust suppression system provided at wagon tippers, coal stock piles, crusher house, and transfer houses to take care of fugitive emissions.</p>
4	<p>The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM_{2.5} & PM₁₀), SO₂, NO_x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>Monitoring of the ambient as well as for stack parameters are regularly carried out and data is displayed at main gate of the plant digitally. Six monthly reports on the status of compliance of the stipulated EC conditions including results of monitoring data are submitted to the respective regional office of MoEF, CPCB & MPCB.</p>

5	No irrigation and drinking water requirements out of the Barrage / reservoir shall be diverted for the power plant.	Being Complied.
6	No ground water shall be extracted for use in operation of the power plant even in lean season.	Being Complied.
7	Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt. In case adverse impact on ground water quantity and quality is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.	Being Complied.
8	Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers even in lean season.	Plant is getting water from MIDC, Warora. Minimum required environmental flow suggested by the irrigation department is being well maintained in the channel rivers even in lean season.
9	Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Rain Water harvesting system is in place for ground water recharge as per the guidelines.
10	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Soil for leveling of the site is generated within the site in order to well protect the natural drainage system of the area.
11	Utilization of 100% Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Effective Utilization of Fly ash is in place and same is being consumed by the nearby cement plants for cement manufacturing. Ash utilization status is convened to board every month via mail.
12	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed of in the ash pond in the form of slurry form. Mercury and other heavy metals {As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed of in low lying area.	We have constructed 3 Nos. of Fly ash silo with the capacity of 1500 MT each for storage of fly ash in dry form which are then sent to cement industries for complete utilization. Unutilized ash is sent to captive ash pond in slurry form. Regular monitoring of heavy metals in ash pond water is carried out and reports are also submitted to board on monthly basis.
13	Ash pond shall be lined with HDP/ LDP lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Bottom of the ash pond compacted at high dry density soil and provided with 600mm impervious clay lining. Sides of the ash pond lined with HDPE lining and tiles. Ash pond provided with garland drains to collect run-off water and seepages if any from the pond. Ash water recovery system i.e. the supernatant is collected and treated in settling tank and routed to ash handling system is in place.

14	For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	Noted
15	Closed cycle cooling system with natural draft cooling towers shall be provided. The effluents shall be treated as per the prescribed norms.	Induced draft cooling tower (IDCT) is being constructed. Amendment to shift from Natural draft cooling tower (NDCT) to IDCT, MOEF (Gol). Vide letter no. J-13012/75/ 2008-1A.II (T), dated 30th November, 2010. State of art ETP is in operation in which Effluent are treated to meet the prescribed norms.
16	Shelter Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 70 %. To meet the expenditure of development of this, Shelter Belt, a Green Endowment Fund shall be created out of EMP budget and status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	Complied
17	A good action plan for R&R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of issue of this letter.	Project is in industrial area of MIDC, Warora. Hence not applicable.
18	An amount of Rs 12.0 Crores shall be earmarked as one time capital cost for CSR program. Subsequently a recurring expenditure of Rs 2.5 Crore per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	Being Complied

19	As part of CSR program the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such program. Company shall provide separate budget for community development activities and income generating program. This will be in addition to vocational training for individuals Imparted to take up self-employment and jobs. In addition to above a special scheme for upliftment of SC/ST's and marginalized farmers population in the study area out of CSR program shall be formulated and submitted to the Ministry within six months along with firm commitment of implementation. The scheme shall have an in-built monitoring mechanism.	Activities being taken up for the upliftment of SC/ST's and marginalized farmers and poor section of the society. CSR activities is vigorously carried out by the project proponent through its wing Var Laxmi Foundation. Details of the CSR activities being carried out in last six months is attached for reference. (Annexure-VII)
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B. General Conditions:

1	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not do not get mixed.	The treated effluents conforming to the prescribed standards are recirculated and reused within the plant. Arrangement has been made to ensure zero discharge outside the plant boundary except during monsoon. Storm water and effluent drains are not allowed to mix. Treated Effluent Analysis Reports (Annexure-VIII)
2	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.	Sewage Treatment Plant with the capacity of 25 KLD has been installed. Treated water from STP is being use in green Belt development/ plantation. Treated Effluent Analysis Reports (Annexure-VIII)
3	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office.	Adequate Fire Hydrant system and water monitors are installed around coal stack yard to check/minimize spontaneous fires in coal yard. The system is always in pressurized condition through Fire water pump house to deal with any situation.
4	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS are made in the plant area in consultation with Department of Explosives, Nagpur. Storage license obtained. Sulphur content in the liquid fuel is not exceeding 0.5%. Disaster Management Plan is prepared to meet any eventuality in case of an accident taking place due to storage of oil.
5	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional	Regular Monitoring of ground water in and around the ash pond area is being monitored and analysis results of the same are also submitted to MPCB on regular basis. Heavy metals are being analyzed in the ash pond water and report shared with concerned authorities.

	Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	
6	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase	Full-fledged medical Centre with experienced MBBS Doctor and Paramedic Staff are deputed in the plant for efficient First Aid.
7	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 db. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas	Noise levels emanating from turbines are controlled and are well within the limits. Personal protective Equipment's like earplugs/ear muffs etc. are provided for people working in the high noise area. Periodic medical checkup conducted for workers engaged in noisy areas such as turbine area, air compressors etc. Audiometric record maintained. Ambient and Work Zone Monitoring reports. (Annexure-IX)
8	Regular monitoring of ground level concentration of SOx, NOx, PM 2.5 & PM10 and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	Regular Monitoring of ground level concentration of SOx, NOx, Hg, SPM, PM2.5 & PM10 is being carried out in the impact zone and records are maintained. Results of the same are well within the prescribed limits. Monitoring reports of the same are also submitted to the board on monthly basis. (Annexure-X)
9	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied
10	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	Complied. Published in Local Newspaper- Hidwada and Lokmat on 30th May, 2010. Copy of the same is already submitted with first half yearly report vide letter no. EMCO/SITE/MoEF/001, 28th August, 2010
11	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad, Municipal Corporation, Urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put	Plant is located in notified industrial area (MIDC), Clearance letter is uploaded on the website of the company.

	on the website of the Company by the project proponent	
12	A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Environmental Management cell with competent & qualified persons, has been established since January, 2010 to take care of implementation of the stipulated environmental measures & subsequent Environmental management.
13	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.	Being complied. Six monthly reports on the status of compliance of the stipulated EC conditions including results of monitoring data are being submitted to the respective regional office of MoEF, the respective Zonal office of CPCB & SPCB.
14	The environment statement for each financial year ending 31st March in Form V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of the Ministry by e mail.	Being complied. The environment statement for each financial year is submitted regularly. Last Environment statement submitted on 30 th Sep. 2020.
15	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.	Being complied. Six monthly reports on the status of compliance of the stipulated EC conditions including results of monitoring data are being submitted to the respective regional office of MoEF, the respective Zonal office of CPCB, & SPCB. Last Six monthly compliance report submitted on 29 th Apr. 2020.
16	Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.	Being Complied.
17	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	We have allocated separate budget for Environment Control Measures for implementation of environment control measures along with item-wise break-up. The above budget is dedicated to Environment Management only.

18	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Date of Financial closure of the project: October 2009. Final approval by the Concerned authorities: 1) Letter of support from Govt. of Maharashtra dated 1st May 2007 is already submitted with First Compliance report. 2) Environment clearance letter MoEF submitted. 3) Date of start of land development work: June 2010. 4) Unit-I COD- March 2013. 5) Unit-II COD- September 2013.
19	Full cooperation shall be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Bangalore I CPCB/ SPCB who would be monitoring the compliance of environmental status.	Being Complied.
5	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.	Noted.
6	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	Noted.
7	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986	Noted.
8	In case of any deviation or alteration in the project proposed, including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.	Noted.
9	The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.	Noted.
10	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted.

ELECTROSTATIC PRECIPITATOR



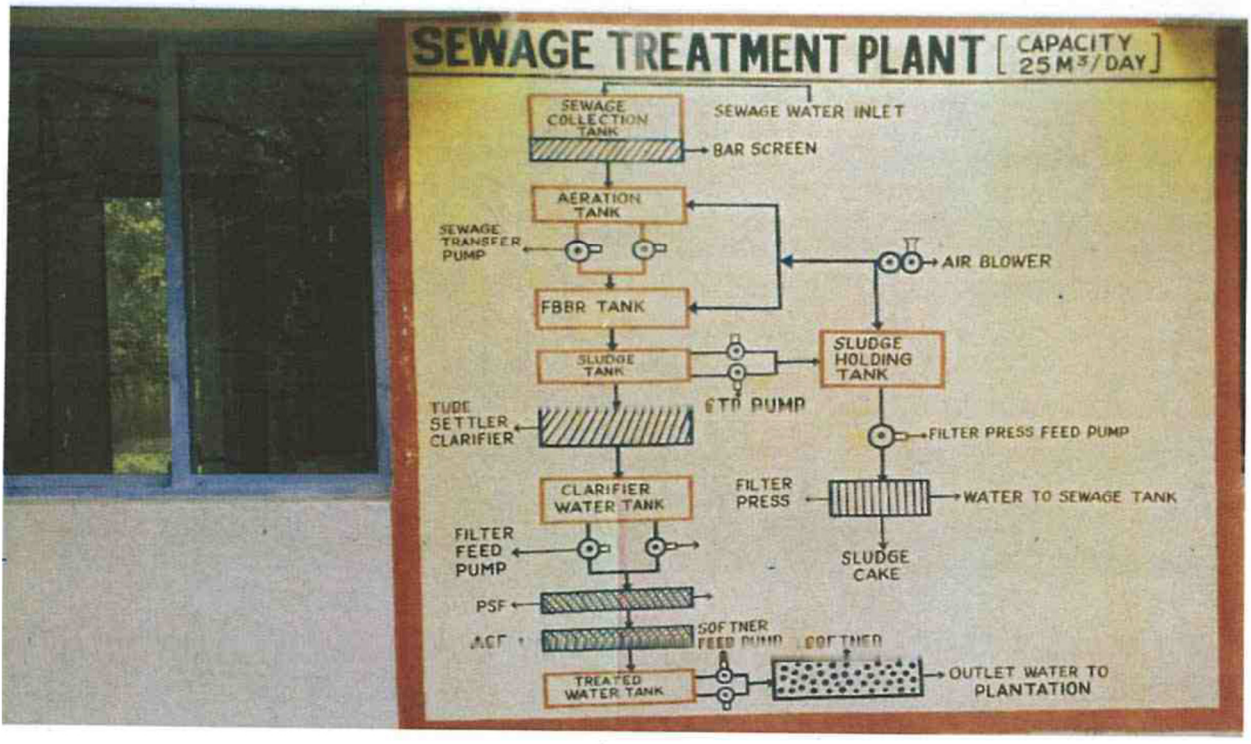
FLY ASH AND BOTTOM ASH SILOS



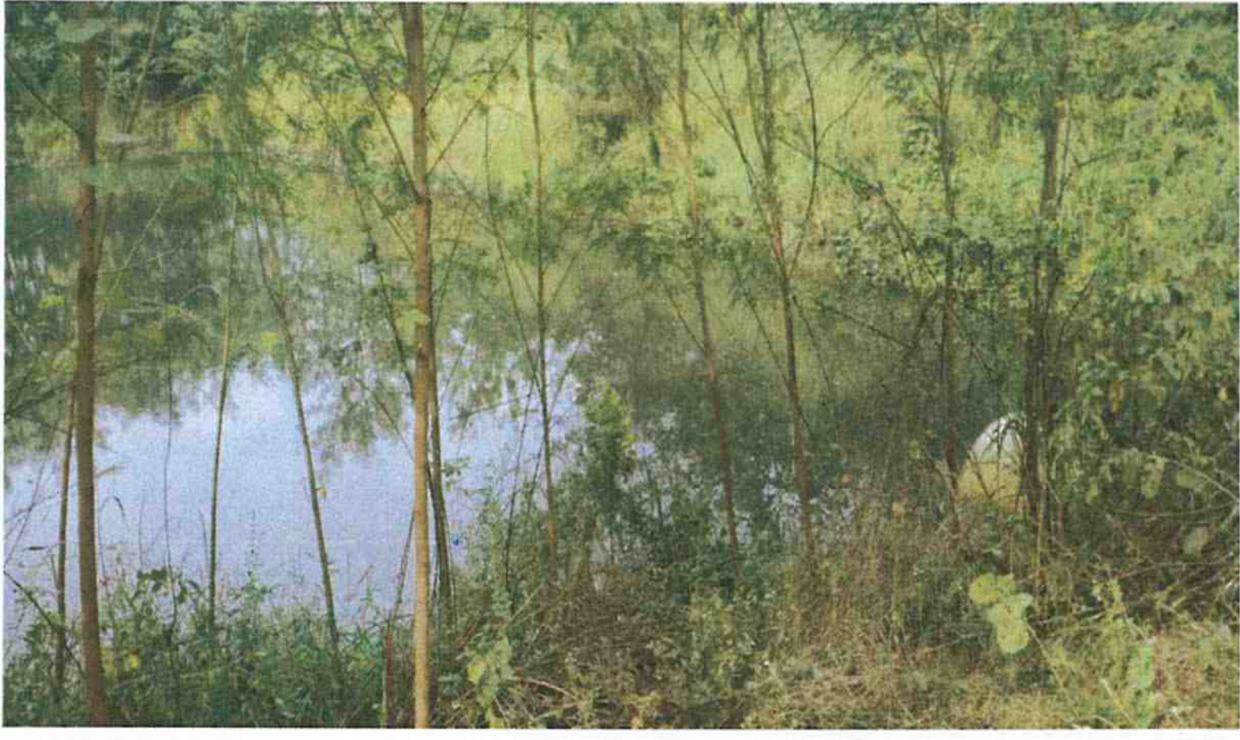
EFFLUENT TREATMENT PLANT



SEWAGE TREATMENT PLANT



RAIN WATER HARVESTING



GREEN BELT



ANNEXURE-VI



ANNEXURE-VI



SIX MONTHLY CSR REPORT

APRIL 2020 TO SEP 2020



CORPORATE SOCIAL RESPONSIBILITY
GMR VARALAKSHMI FOUNDATION
AND
GMR WARORA ENERGY LTD, WARORA

1. DETAILED OF PROGRAM ACTIVITIES

Education

As part of taking precautionary measures to combat COVID-19 and due to lockdown, all regular educational activities were kept suspended in all villages during this period.

- After School Learning Centers (ASLCs)
- E- Education Centers &
- Kid Smart Centers (KSC)
- Community library
- Pratibha Center
- Navodaya Coaching
- Anganwadi canters and other educational activities remain suspended.



- **Online ASLC Activities:** Online classes initiated and conducted in ASLCs in Charur Khati, Nimsada, Majra, Dongargaon, Dahegaon and Chinora villages. Online educational videos and information on English, Marathi, Math subjects for ASLCs is being circulated to children through parent's WhatsApp groups and children are participating in the education activities using given material. More than 150 students attended the classes and benefited from the activity. The activity conducted totally in online mode and following all necessary precautions during this pandemic.
- **Online E-center Activities:** Online classes initiated and conducted in Charur Khati, Nimsada, Majra, Marda, Dongargaon, Dahegaon and Chinora. Online material for E-Center is being circulated to children through parent's WhatsApp groups and children are participating in the education activities using given teaching material. More than 251 students attended the classes and benefited from the activity. The activity conducted totally in online mode and following all necessary precautions during this pandemic.
- **Online Navodaya Classes:** Navodaya coaching for 20 students from Charur Khati and Chinora village ZP schools started from 1 August. Volunteers conducted online classes preparing video lessons and sharing the same online to students on parents WhatsApp groups. Feedback on learning is also taken from the students. The activity conducted totally in online mode and following all necessary precautions during this pandemic.
- **Online Trainings with Vidya volunteers:** 11 weekly trainings with the education volunteers including ASLC, E-center and Navodaya was organized in past six months. This was done to make a restart of the educational activities and plan weekly session plan for

ANNEXURE- VII

weekly online classes. The classes conducted at ASLC, E-Centers and Navodaya. Total 10 volunteers attended the trainings regularly and prepared weekly plans for online classes.

- **Online Zoom meetings with Save the Children, Mumbai:** A zoom meets was conducted with NGO, Save the Children, and Mumbai to know and share initiatives in education during this pandemic. This will be helpful in incorporating better options at our centers to further our educational activities. 11 participants including Vidya volunteers participated in the meets.
- **Next Education Digital Classrooms:** As part of the digitization of 4 of our project village ZP schools, digital classroom installation is completed in Dongargaon, Charur Khati, Dahegaon and Chinora ZP Schools during this period. Next Education, Pune is the service provider agency for digital classroom. The formal implementation of the classrooms will begin after the starting of schools post COVID-19. The activity will benefit students.
- **Students perform better in SSC exams:** The result of 10th standard Maharashtra board was declared this year and all our intervention schools showed improved results with above 80% passing rate of enrolled students on average of all schools. This is also remarkable as a result of our 'Special Workshops for Science- Math subjects' conducted at intervals during last academic by Expert Mr. Devendra Tamhane that had helped students to prepare and study for Math and science subjects and score more marks. Following table shows the numbers;

Sr. No.	Village	No. of Students			
		Appeared	Passed	Distinction	First Class
1	Majra Rai	33	26	1	12
2	Tembhurda	131	124	31	41
3	Madheli	21	19	3	9
4	Charur Khati	21	19	4	8
	Total	206	188	39	70

- **In House Capacity Building Training of Staff:** Capacity building trainings were initiated during this period to capacitate staff's professional as well as personal skills. 11 trainings conducted on various topics by team leader during this period in which all 7 staff members took active participation and benefitted.
- **Training of Staff and Vidya Volunteers on 'Learning Navigator' tool:** Two separate 2 Days online orientation to the Learning Navigator tool was conducted during this period which was facilitated by Gyan Prakash Foundation. The tool is helpful in locating learners' current knowledge and skills in real-time, and provides personalized suggestions ensuring that everyone reaches their appropriate learning levels. All 7 team members and 10 Vidya volunteers participated in the trainings.
- **International Literacy Day 2020 with ASLCs:** International Literacy Day 2020 celebrated in five Villages with great zeal and enthusiasm on 08 September. Virtual Storytelling events were conducted in 5 After School Learning Centers in Nimsada, Dongargaon, Majra, Dahegaon & Charur Khati Villages, facilitated by GWEL employees and Samruddhi Ladies Club members. Employees from GWEL (Mr. Arvind Bhure, Mr. Siripurapu Naidu, Mr. Vinod Gaydhar, Mr. Amit Bhave) and members of Samruddhi Ladies Club (President

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Ms. Medha Deshpande, Ms. Ashwini Gaydhar, Ms. Sushma Naidu, Ms Anjali Bhave, Ms Bhure) and Ku.Shruti Bhure participated. Total 45 students participated in the events.

- **PRATIBHA Library:** Online classes using Zoom App were conducted with the aspirants of Pratibha library center during this period. Resource persons took the online zoom classes for Maths, Political Science, General awareness and Reasoning subjects. More than 55 aspirants from Pratibha Center Warora benefitted.

Health, Hygiene and Sanitation

Following are some of the major and important activities conducted during this month. As part of precautionary measures to combat COVID-19 and due to lockdown, all other activities under this head were kept suspended in all villages this month.

- **Health Clinics:** GMRVF is running eight Primary Health Clinics in 8 villages. The clinics were opened to provide basic health services to the people of all project affected villages. All necessary precautions of hygiene and cleanliness were followed strictly at the clinics to combat COVID-2019. Handwash, Hand sanitizer, face masks and social distancing were strictly followed during conduct of the clinics. Doctors visited the clinics twice in a week and provided free check-up and medicine to each patient. More than 12,100 patients benefitted from the clinics in past 6 months.
- **Mobile Medicare Unit (MMU):** GMRVF recognize that health is integral part to quality of life, GMRVF focus on improving quality of and access to healthcare, and sanitation in its communities. Considering this GMRVF has started MMU services in about 30 project affected villages started from Madheli village to Nanduri (close to power station). The MMU is treating and providing free medicines to all old aged patients suffering from general ailments and visiting each village once in a week. The MMU is also referring patients for critical problems such as BP; Critical Arthritis etc. including counseling of old age people and conducting special awareness sessions on general / specific health related problems. The MMU also created awareness to villagers on taking precautionary measures to combat COVID-2019 through distribution of pamphlets and displaying of posters. During these six months MMU has served and benefitted 9,300 old aged patients aged 50 and above.
- **Fogging Operation:** Fogging operation is continued and covered 10 villages. This month fogging operation was performed at Fogging operation performed at Nimsada, Dongargaon, Charur Khati , Chinora, Dahegaon, Majra Rai , Naidev, Marda villages, Warora and township campus.
- **Water ATM:** GMRVF and GWEL has installed 14 Water ATM in 14 villages in Warora Tehsil. These villages are Dongargaon, Dahegaon, Chikini, Charur Khati, Chinora, Majra Rai, Majra Khurd, Yensa, Mohbala, Marda, Nimsada, Naidev, Wanoja and Bawane Layout. These Water ATM installed in past 4 years and providing clean and fluoride free water to more than 15,000 people (more than 4225 households). All households are receiving benefit uninterruptedly from the day of installation of Water ATM, and improving their health status as well as saving a sizable amount of money from medication. Handwashing is very

ANNEXURE- VII

essential act in current situation to fight with COVID 2019. Considering this GWEL CSR has installed hand washing arrangement in front of WATER ATMs in 14 villages.

- **Hand Wash facility at Water ATMs:** Hand washing is very essential act in current situation to fight with COVID 2019. Considering this hand washing arrangement is provided in front of WATER ATM in 14 villages. This month distributed and refilled Hand Washing soap at Water ATMs of all 14 villages on weekly basis to maintain cleanliness and hygiene. Apart from this, Spraying of Sodium Hypo Chloride (HYPO) chemical at Water ATM in villages with the support from village Panchayats carried out this month to **DISINFECT** the same to combat COVID-2019.
- **Nutrition Center:** Nutrition center activities was suspended due to COVID 19 since Aug 2020. The centers were started in 5 villages from September 2020 after relaxation in lock down and considering the vulnerability of pregnant women and lactating mothers vis-à-vis the Govt. services available for this segment GMRVF had opened 6 Nutrition Centers in 6 project affected villages. GMRVF is providing nutrition to Pregnant & Lactating Mothers on daily basis through these centers. The facility is provided through volunteers at the beneficiary's doorstep and following necessary precautions of health, hygiene and maintaining social distancing. 52 pregnant & lactating mothers from Dongargaon, Nimsada, Dahegaon, Naidev, Marda benefitted and receiving daily nutrition (Chikki, Dates, Coconut, Banana and Horlicks).
- **RO Water ATMs:** GMRVF and GWEL installed 14 Water ATM in 14 villages in Warora Tehsil. These villages are Dongargaon, Dahegaon, Chikini, Charur Khati, Chinora, Majra Rai, Majra Khurd, Yensa, Mohbala, Marda, Nimsada, Naidev, Wanoja and Bawane Layout. These Water ATM installed in past 4 years and providing clean and fluoride free water to more than 15,000 people (more than 4225 households). All households are receiving benefit uninterruptedly from the day of installation of Water ATM, and improving their health status as well as saving a sizable amount of money from medication. Handwashing is very essential act in current situation to fight with COVID 2019. Considering this GWEL CSR has installed hand washing arrangement in front of WATER ATMs in 14 villages.
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Empowerment & Livelihoods

Following are the major and important activities conducted during this period. As part of precautionary measures to combat COVID-19 and due to lockdown, all other activities under this head were kept suspended.

- **GMRVF Center for Empowerment and Livelihoods – Warora:** GMRVF CEL is running two self-employment courses at Warora. These are Smartphone Hardware Repairing Technician (SPHRT) and Assistant Beauty Therapist (ABT). The center is affiliated with PMKVY Scheme of Govt. of India. The center’s functioning was kept suspended as a precautionary measure to combat COVID-19 since 16 March 2020. During this period two online batches of 30 students of MPHRT started and continuing trainings virtually and learning different theoretical and practical aspects of mobile repairing. Apart from this, students are also attending HELP sessions (Heartfulness Education Learning Potential) to improve soft skills. Ms. Sushma Singh, Resource Person from Heartfulness organization, Chandrapur conducted online sessions on “Introduction to Heartfulness, Goals and Aspirations, Specific goals, the power of ideas, Power of thoughts, Benefits of Meditation were covered.
- **Online batch of MPHRT started at CEL-Warora:** Virtual inauguration of New Online batch was done on 07 Sept in which Mr. Vinod Pusadkar, Mr. Vinayak Pednekar and Mr. Praveen Shetty from GWEL took active participation and guided the new batch. 18 participants participated in the event. A total of 15 students were enrolled for the batch for MPHRT course. Classes using Zoom App were conducted during the month on topics; how to Interact with customer and perform front end repair, Engaging with customers, Communication skills, basics on mobile phone hardware.
- **World Youth Skills Day 2020 Celebrations:** The World Youth Skills Day 2020 was observed by GMRVF-CEL Warora on 15th July by organizing a virtual meet with the alumni trainees of our center on the theme ‘Role of youths in responding to the current economic crisis and be more resilient to probable changes’. 15 alumni trainees attended the meet and benefitted.
- **IGA support in Mask Preparation:** Preparation of face masks was taken as an opportunity for Income Generation Activity (IGA) for tailoring trained women and assigned the entire task to them for stitching. 52 Tailoring trained women of Dongargaon, Majra and Marda, put efforts and prepare masks from their home and helped the society for fighting against COVID -2019. Altogether, these women have stitched more than 20000 face mask in past six months and earned around Rs. 100,000/-. As part of COVID response GMRVF has distributed more than 16500 Cotton Masks to workers, villagers and Health workers in past 6 months.
- **IGA support in Floriculture:** GMRVF has initiated floriculture activity at Warora two year back. This year again GMRVF Warora has supported 33 farmers and provided 13000 samplings during these six months in rainy season but only 8 farmers could grow and save

ANNEXURE- VII

plants successfully and started plucking the flowers. All farmers plucking the flowers are earning around 250 per day. The plants were grown by farmers of Naidev, Dongargaon, Charur Khati, Nimsada, Dahegaon, Majra Khurd villages.

- **Grain – Cash – Seed Bank (GCS Bank):** Conducted GCS bank online meetings in four villages during this period. The purpose of meetings was to plan GCS bank seed plan for Kharif season. 4 GCS banks have contributed Rs 5,75,000 by their own and purchase the seeds of cotton (345 packets) and soybean (4091 kgs). This year GCS bank have distributed seeds to 355 farmers from four villages i.e. Dongargaon, Naidev, Charur Khati and Dahegaon. This will cover more than 136 acres under soybean crop and 294 acres under cotton crop.
- **Poultry Farming:** Similar to last year and based on the livelihood survey findings, Warora has identified 101 COVID affected families from 33 SHGs to start poultry activity and improve livelihood. A total of 2000 chicks (20 each) were provided to them in which SHGs are contributing about 50% cost of chicks and rest 50% cost along with other support like feeds, vaccination and training etc. shall be provided by GMRVF.
- **Animal Health Camps:** Organized Animal Health Camp in Nimsada village on 31 Aug. Total 190 animals and 35 Farmers Benefited by the camps. Free medicines for minor ailment were distributed during the camps to all farmers.

Community Development

As part of precautionary measures to combat COVID-19 and due to lockdown, all Community development activities were kept suspended this month.

COVID 2019 Response

In response to COVID 2019 pandemic, GWEL & GMRVF has accomplished following activities:

- GWEL CSR is providing cotton mask to Govt official, Panchayat workers, GPs, Plant labour, Health workers, patients visiting hospitals and all those who are critical and required mask. During this Period, GWEL CSR has distributed 16647 Cotton Masks.
- Fogging Operation is continued in 10 villages and Warora town. This has taken to slowdown the growth of mosquitoes and thereby vector borne diseases.
- GWLE CSR distributed 175 bottles (50ml) and 128 bottles (500 ml) sanitizer, 420 numbers of Surgical Masks & N95 Mask, 300 Litres of hand wash, 46 face shield, 89 PPE kits & 2 Thermal Scanner at Govt. Hospital, Warora Covid Center, Police Station, Villages, Village clinics and Bus stand so as to equip and support health workers to fight with COVID.
- GWEL CSR through its health clinics in villages is continuously providing health services to 10 villages and monitor for early detection. During this period, more than 12,100 people received free treatments from these clinics. Hand wash facility was also provided to the clinics to ensure sanitization.

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- GWEL CSR through its Mobile Medicare Unit is taking care of Old Aged People and providing free medicine and treatment in 30 villages during the COVID crisis. MMU has served more than 9,300 old aged specially in COVID crisis.
- More than 426 litres of Hand Wash soap provided at WATER ATMs of 14 villages.
- 1760 dry ration food packets (5 kg rice; 1 kg Daal; 1 ltr oil; 1 kg salt; chilli and turmeric powder) handed over to District Collector, Chandrapur' s to Emergency Response Depot. The same will be distributed centrally by Collectorate to all needy and migrant community.
- 5,150 snacks packets were distributed to Govt Hospital, transit passengers at Bus Stand, Warora, Shilpa Hospitality services staff, Divyangs (persons with disabilities) and the utmost needy slum community at Warora village.
- SPRAYERING of SODIUM HYPO CHLORIDE (HYPO) chemical at important public places in Warora town is continuing to DISINFECT the same.
- Despite a very intensive awareness campaign from Govt. machinery. GWEL CSR has played pro-active role and distributed more than 22,000 pamphlets in each household in 20 villages and in Warora and displayed posters and banners in all common place in villages.

Swadaan

4 Swadaan programs organized to create a feeling of giving amongst beneficiaries of GMRVF programs and to seek their contribution for various community activities. More than 7 GMRVF beneficiaries have participated in Swadaan activity and helped other beneficiaries in villages by conducting ASLC & E-Center Classes, Mobile repairing work, & Nutrition center training and benefitted more than 53 people including children.

Employee Involvement:

GWEL have developed village guardian model and each employees including their families and senior management participated in community development programs. This year up to Sept 2020, a total 84 employees participated in 25 community development programs and contributed 212 voluntary hours which benefitted more than 23,000 people.

Mask Distribution:



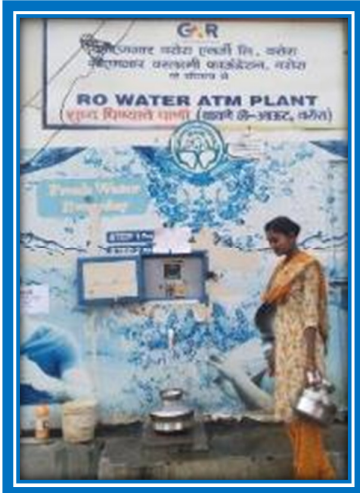
Fogging Operation:



Mobile Medical Unit (MMU):



ANNEXURE- VII



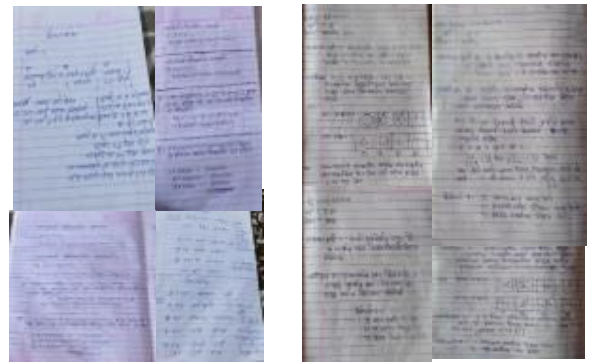
Snacks Distribution



ANNEXURE- VII

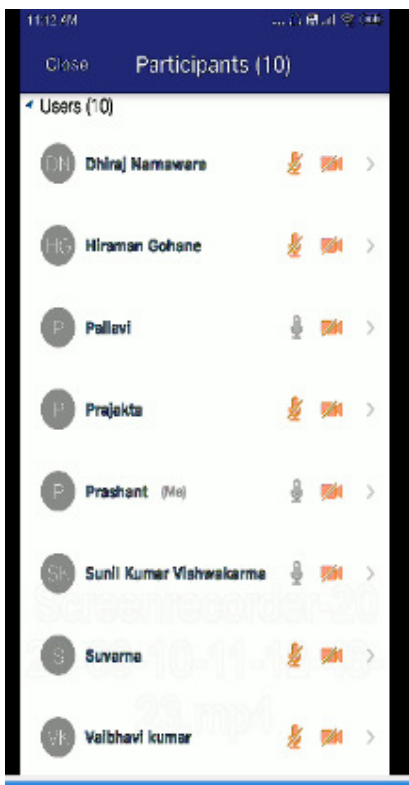


Online ASLC, E-center, Navodaya activities



Session Plans of ASLC, E-Center and Navodaya

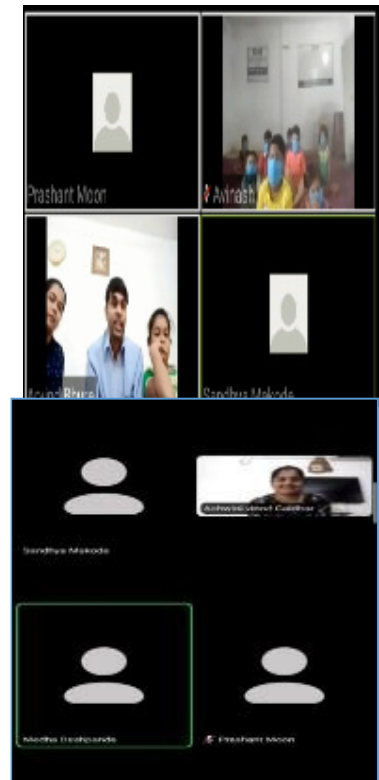
Online Vidya volunteers Weekly Meet



Online training of Staff on Gooru App



International Literacy Day 2020 with ASLCs



ANNEXURE- VIII

Effluent Water Analysis (Apr. 2020 to Sep.2020)

Condensate Cooling Water		
Month	pH	F - Cl
		mg/L
April	8.1	<0.05
May	7.7	0.083
June	7.8	0.135
July	8.2	0.054
August	8.0	<0.5
September	8.0	<0.05

Cooling Tower Blowdown			
F - Cl	PO ₄	Cr	Zn
mg/L			
<0.05	3.83	<0.1	0.025
<0.05	3.67	<0.1	0.018
<0.05	2.62	<0.1	0.039
<0.05	3.16	<0.1	0.033
<0.05	3.23	<0.1	0.039
<0.05	2.56	<0.1	0.036

Boiler Blowdown			
TSS	OG	Cu	Fe
mg/L			
<5	N.D.	<0.04	0.313
<5	N.D.	<0.04	0.291
<5	N.D.	<0.04	0.252
<5	N.D.	N.D.	0.225
<5	N.D.	<0.04	0.147
9	N.D.	<0.04	0.168

DM Plant Effluent						
Month	pH	TDS	TSS	BOD	COD	O & G
		mg/L				
April	7.7	1001	16	18	32	N.D.
May	7.8	1056	17	4.9	18	N.D.
June	7.1	972	15	17	28	N.D.
July	8.3	1108	14	13	20	N.D.
August	7.4	719	<5	8.7	28	N.D.
September	8.7	523	<5	8.7	28	N.D.

STP- Inlet						
Month	pH	TDS	TSS	BOD	COD	O & G
		mg/L				
April	7.3	1235	15	17	45	N.D.
May	7.7	1152	10	19	38	N.D.
June	7.5	1344	12	11	46	N.D.
July	7.2	910	12	17	38	N.D.
August	7.0	951	38	26	80	N.D.
September	7.1	831	6	6.2	20	N.D.

STP- Outlet						
Month	pH	TDS	TSS	BOD	COD	O & G
		mg/L				
April	7.7	1051	8	12	34	N.D.
May	7.9	1069	<5	4.8	22	N.D.
June	7.5	1324	10	7.4	29	N.D.
July	7.2	1088	<5	7.1	25	N.D.
August	7.6	875	14	11	36	N.D.
September	7.5	1051	5	7.5	24	N.D.

ANNEXURE-X

Ambient Air Quality Monitoring (Apr. 2020 to Sep.2020)

April					
Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	12.84	13.80	16.80
NO ₂		80	14.81	12.44	14.54
PM ₁₀		100	58.60	58.25	58.35
PM _{2.5}		60	21.21	22.32	21.10

May					
Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	13.55	10.43	15.54
NO ₂		80	12.11	19.52	20.12
PM ₁₀		100	47.71	52.30	57.25
PM _{2.5}		60	25.78	24.60	27.80

June					
Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	12.39	18.12	15.17
NO ₂		80	20.50	18.84	26.91
PM ₁₀		100	68.89	51.55	58.18
PM _{2.5}		60	26.61	24.56	27.24

July					
Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	11.84	17.49	21.18
NO ₂		80	19.14	20.44	23.04
PM ₁₀		100	57.28	54.12	57.81
PM _{2.5}		60	27.22	21.16	25.31

ANNEXURE-X

August					
Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	10.00	10.03	11.45
NO ₂		80	12.33	11.83	12.33
PM ₁₀		100	47.25	50.25	48.75
PM _{2.5}		60	22.50	22.75	22.00

September					
Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	11.54	10.47	10.13
NO ₂		80	13.20	12.20	12.42
PM ₁₀		100	50.80	51.00	48.60
PM _{2.5}		60	20.00	18.80	18.40

Stack Emission Monitoring (Apr. 2020 to Sep.2020)

Unit -I

Sl. No.	Month	PM	SO ₂	NOx
		mg/Nm ³		
1	April	42.5	1102.5	281.0
2	May	43.5	988.0	248.5
3	June	46.0	1012.5	272.5
4	July	41.0	1087.5	248.5
5	August	45.0	1279.5	262.0
6	September	39.5	1250.5	252.0

Unit -II

Sl. No.	Month	PM	SO ₂	NOx
		mg/Nm ³		
1	April	42.5	980.0	276.0
2	May	40.0	998.5	253.5
3	June	43.5	1083.5	269.0
4	July	45.0	1118.0	272.0
5	August	45.5	1166.0	276.5
6	September	39.5	1161.0	249.0



Mahabal Enviro Engineers Pvt. Ltd.

Engineers, Consultants, Environmental Monitoring Laboratory & Contractors

Plot Nos. 13,14,17,18, Grampanchayat Bokhara, 8 km from Nagpur City,

Opp. Patel Petrol Pump, Chhindwara Road, Koradi, Dist.Nagpur-441111

Phone : 91-712-2612162, 2612212 Email: mahabal.nagpur@gmail.com

Stack Emission Monitoring Report

Report No.: ME-NG11479-200925-SA-GMR-WARORA		Date: 25.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)	Order Reference	
		4800146429 Dt.: 30.08.2018	
Sample Description/Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	ESP Outlet of Unit No.1	Sample Quantity/Packing	Thimble PM: 1 X 1 No. SO ₂ : 30mL X 1 No. PVC Bottle NO _x : 25mL X 1 No. PVC Bottle Hg: 200mL X2 No. PVC Bottle
Date of Sampling	14.09.2020	Date of Receipt of Sample	15.09.2020
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	15.09.2020	Date of Completion of Analysis	25.09.2020

Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details				
Stack Identity		Unit No. 1		
Stack attached to		ESP		
Material of construction		RCC		
Stack height above ground level (Meter)		275		
Stack diameter (Meter)		5.0		
Stack shape at top		Round		
Type of fuel		Coal		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas temperature	°C	128	-	IS:11255 (Part 3):2008
Flue gas velocity	m/s	25	-	IS:11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1237386	-	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	40	50	IS:11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	1281	-	IS 11255 (Part 2): 1985, RA 2003
Sulphur Dioxide (SO ₂)	kg/day	38042	-	IS 11255 (Part 2): 1985, RA 2003
Oxides of Nitrogen (NO _x)	mg/Nm ³	254	300	IS 11255 (Part 7):2005
Mercury (Hg)	mg/Nm ³	0.0010	0.03 mg/Nm ³	USEPA Method 29 Feb 2017
Remark: #: Limit as per Notification on Dt.:07.12.2015				

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Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 thane@mahabal.com

ULR- TC748720000010987F



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Phone : 91-712-2612162, 2612212 Email: mahabal.nagpur@gmail.com

Stack Emission Monitoring Report

Report No.: ME-NG11480-200925-SA-GMR-WARORA		Date: 25.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)	Order Reference	
		4800146429 Dt.: 30.08.2018	
Sample Description/Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	ESP Outlet of Unit No.2	Sample Quantity/Packing	Thimble PM: 1 X 1 No. SO ₂ : 30mL X 1 No. PVC Bottle NO _x :25mL X 1 No. PVC Bottle Hg: 200mL X2 No. PVC Bottle
Date of Sampling	14.09.2020	Date of Receipt of Sample	15.09.2020
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	15.09.2020	Date of Completion of Analysis	25.09.2020

Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details				
Stack Identity		Unit No. 2		
Stack attached to		ESP		
Material of construction		RCC		
Stack height above ground level (Meter)		275		
Stack diameter (Meter)		5.0		
Stack shape at top		Round		
Type of fuel		Coal		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas temperature	°C	128	-	IS:11255 (Part 3):2008
Flue gas velocity	m/s	25.6	-	IS:11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1287268	-	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	41	50	IS:11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	1170	-	IS 11255 (Part 2): 1985, RA 2003
Sulphur Dioxide (SO ₂)	kg/day	36146	-	IS 11255 (Part 2): 1985, RA 2003
Oxides of Nitrogen (NO _x)	mg/Nm ³	256	300	IS 11255 (Part 7):2005
Mercury (Hg)	mg/Nm ³	0.0009	0.03 mg/Nm ³	USEPA Method 29 Feb 2017
Remark: #: Limit as per Notification on Dt.:07.12.2015				

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Stack Emission Monitoring Report

Report No.: ME-NG12176-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)	Order Reference	
		4800146429 Dt.: 30.08.2018	
Sample Description/Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	ESP Outlet of Unit No.1	Sample Quantity/Packing	Thimble PM: 1 X 1 No. SO ₂ : 30mL X 1 No. PVC Bottle NO _x :25mL X 1 No. PVC Bottle
Date of Sampling	25.09.2020	Date of Receipt of Sample	26.09.2020
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	26.09.2020	Date of Completion of Analysis	29.09.2020

Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details				
Stack Identity		Unit No. 1		
Stack attached to		ESP		
Material of construction		RCC		
Stack height above ground level (Meter)		275		
Stack diameter (Meter)		5.0		
Stack shape at top		Round		
Type of fuel		Coal		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas temperature	°C	128	-	IS:11255 (Part 3):2008
Flue gas velocity	m/s	25.8	-	IS:11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1291427	-	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	39	50	IS:11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	1220	-	IS 11255 (Part 2): 1985, RA 2003
Sulphur Dioxide (SO ₂)	kg/day	37813	-	IS 11255 (Part 2): 1985, RA 2003
Oxides of Nitrogen (NO _x)	mg/Nm ³	250	300	IS 11255 (Part 7):2005
Remark: #:Limit as per Notification on Dt.:07.12.2015				

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Stack Emission Monitoring Report

Report No.: ME-NG12177-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)	Order Reference	
		4800146429 Dt.: 30.08.2018	
Sample Description/Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	ESP Outlet of Unit No.2	Sample Quantity/Packing	Thimble PM: 1 X 1 No. SO ₂ : 30mL X 1 No. PVC Bottle NO _x :25mL X 1 No. PVC Bottle
Date of Sampling	25.09.2020	Date of Receipt of Sample	26.09.2020
Sampling Procedure	As per Method Reference		
Date of Start of Analysis	26.09.2020	Date of Completion of Analysis	29.09.2020

Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details				
Stack Identity		Unit No. 2		
Stack attached to		ESP		
Material of construction		RCC		
Stack height above ground level (Meter)		275		
Stack diameter (Meter)		5.0		
Stack shape at top		Round		
Type of fuel		Coal		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas temperature	°C	131	-	IS:11255 (Part 3):2008
Flue gas velocity	m/s	25.7	-	IS:11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1276869	-	IS:11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	38	50	IS:11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	1152	-	IS 11255 (Part 2): 1985, RA 2003
Sulphur Dioxide (SO ₂)	kg/day	35303	-	IS 11255 (Part 2): 1985, RA 2003
Oxides of Nitrogen (NO _x)	mg/Nm ³	242	300	IS 11255 (Part 7):2005
Remark: #: Limit as per Notification on Dt.:07.12.2015				

-----END-----

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Ambient Air Quality Monitoring Report

Report No.: ME-NG10469-200911-SA-GMR-WARORA		Date: 11.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Near CHP 2. Near Switch Yard 3. Near Reservoir	Sample Quantity/Packing	PM ₁₀ : Filter Paper 3 X 3 No. PM _{2.5} : Filter Paper 1 X 3 No. SO ₂ : 30 mL X 18 No. PVC Bottle NO ₂ : 30 mL X 18 No. PVC Bottle CO: Plastic Bulb 3 X 3 No.
Date of Sampling	01.09.2020 To 02.09.2020	Date of Receipt of Sample	02.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	03.09.2020	Date of Completion of Analysis	08.09.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Near CHP		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)	µg/m ³	10.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO ₂)	µg/m ³	14.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10	
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	55	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14	
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	14	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30	
Carbon Monoxide (CO)	mg/m ³	0.98	04	IS 5182 (Part 10): 1999 RA 2003	

ULR- TC74872000010054F

Report No.10469 Cont...

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	2. Near Switch Yard		Duration of Survey	24 hours	
Sulphur Dioxide (SO ₂)		µg/m ³	13.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	13.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	55	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	21	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.87	04	IS 5182 (Part 10): 1999 RA 2003
Location	3. Near Reservoir		Duration of Survey	24 hours	
Sulphur Dioxide (SO ₂)		µg/m ³	5.86	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	12.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	53	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	21	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.72	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide					

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-----END-----

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Ambient Air Quality Monitoring Report

Report No.: ME-NG11080-200918-SA-GMR-WARORA		Date: 18.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Near CHP 2. Near Switch Yard 3. Near Reservoir	Sample Quantity/Packing	PM ₁₀ : Filter Paper 3 X 3 No. PM _{2.5} : Filter Paper 1 X 3 No. SO ₂ : 30 mL X 18 No. PVC Bottle NO ₂ : 30 mL X 18 No. PVC Bottle CO: Plastic Bulb 3 X 3 No.
Date of Sampling	08.09.2020 To 09.09.2020	Date of Receipt of Sample	10.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	10.09.2020	Date of Completion of Analysis	15.09.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Near CHP		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)	µg/m ³	10.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO ₂)	µg/m ³	11.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10	
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	45	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14	
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	20	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30	
Carbon Monoxide (CO)	mg/m ³	1.07	04	IS 5182 (Part 10): 1999 RA 2003	

ULR- TC74872000010636F

Report No.11080 Cont...

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	2. Near Switch Yard		Duration of Survey		24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	13.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	14.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	57	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	21	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.72	04	IS 5182 (Part 10): 1999 RA 2003
Location	3. Near Reservoir		Duration of Survey		24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	5.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	8.3	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	56	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	19	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	1.02	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide					

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Ambient Air Quality Monitoring Report

Report No.: ME-NG11476-200925-SA-GMR-WARORA		Date: 25.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Near CHP 2. Near Switch Yard 3. Near Reservoir	Sample Quantity/Packing	PM ₁₀ : Filter Paper 3 X 3 No. PM _{2.5} : Filter Paper 1 X 3 No. SO ₂ : 30 mL X 18 No. PVC Bottle NO ₂ : 30 mL X 18 No. PVC Bottle CO: Plastic Bulb 3 X 3 No.
Date of Sampling	14.09.2020 To 15.09.2020	Date of Receipt of Sample	15.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	15.09.2020	Date of Completion of Analysis	17.09.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Near CHP		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)	µg/m ³	11.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO ₂)	µg/m ³	14.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10	
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	54	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14	
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	23	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30	
Carbon Monoxide (CO)	mg/m ³	1.07	04	IS 5182 (Part 10): 1999 RA 2003	

ULR- TC74872000010984F

Report No.11476 Cont...

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	2. Near Switch Yard		Duration of Survey	24 hours	
Sulphur Dioxide (SO ₂)		µg/m ³	9.76	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	12.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	63	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	26	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	1.12	04	IS 5182 (Part 10): 1999 RA 2003
Location	3. Near Reservoir		Duration of Survey	24 hours	
Sulphur Dioxide (SO ₂)		µg/m ³	<4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	11.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	62	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	23	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	1.03	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide					

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Ambient Air Quality Monitoring Report

Report No.: ME-NG11818-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Technical Building First Floor	Sample Quantity/ Packing	PM ₁₀ : Filter Paper 1 X 3 No. PM _{2.5} : Filter Paper 1 X 1 No. SO ₂ : 30 mL X 6 No. PVC Bottle NO ₂ : 30 mL X 6 No. PVC Bottle CO: Plastic Bulb 1 X 3 No.
Date of Sampling	18.09.2020 To 19.09.2020	Date of Receipt of Sample	19.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	19.09.2020	Date of Completion of Analysis	22.09.2020

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location	Technical Building First Floor		Duration of Survey	24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
Sulphur Dioxide (SO ₂)	µg/m ³	7.81	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	10.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	51	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	14	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)	mg/m ³	1.09	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide				

-----END-----

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ULR- TC748720000011317F



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Ambient Air Quality Monitoring Report

Report No.: ME-NG11995-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Near Reservoir 2. Near Switch Yard 3. Technical Building 2 nd Floor	Sample Quantity/Packing	PM ₁₀ : Filter Paper 3 X 3 No. PM _{2.5} : Filter Paper 1 X 3 No. SO ₂ : 30 mL X 18 No. PVC Bottle NO ₂ : 30 mL X 18 No. PVC Bottle CO: Plastic Bulb 3 X 3 No.
Date of Sampling	21.09.2020 To 22.09.2020	Date of Receipt of Sample	22.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	22.09.2020	Date of Completion of Analysis	29.09.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Near Reservoir		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)		µg/m ³	16.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	13.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	46	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	19	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	1.02	04	IS 5182 (Part 10): 1999 RA 2003

ULR- TC74872000011487F

Report No.11995 Cont...

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	2. Near Switch Yard		Duration of Survey		24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	13.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	14.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	51	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	22	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	1.14	04	IS 5182 (Part 10): 1999 RA 2003
Location	3. Technical Building 2 nd Floor		Duration of Survey		24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	14.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	12.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	50	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	19	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.97	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide					

ULR- TC748720000011487F

-----END-----

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Ambient Air Quality Monitoring Report

Report No.: ME-NG12076-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Plant Control Room	Sample Quantity/Packing	PM ₁₀ : Filter Paper 1 X 3 No. PM _{2.5} : Filter Paper 1 X 1 No. SO ₂ : 30 mL X 6 No. PVC Bottle NO ₂ : 30 mL X 6 No. PVC Bottle CO: Plastic Bulb 1 X 3 No.
Date of Sampling	22.09.2020 To 23.09.2020	Date of Receipt of Sample	23.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	23.09.2020	Date of Completion of Analysis	29.09.2020

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location	Plant Control Room	Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
Sulphur Dioxide (SO ₂)	µg/m ³	5.86	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	10.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	43	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	16	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)	mg/m ³	1.05	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide				

END

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ULR- TC748720000011557F



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Ambient Air Quality Monitoring Report

Report No.: ME-NG12112-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Near CHP 2. CHP Control Room	Sample Quantity/ Packing	PM ₁₀ : Filter Paper 3 X 3 No. PM _{2.5} : Filter Paper 1 X 3 No. SO ₂ : 30 mL X 18 No. PVC Bottle NO ₂ : 30 mL X 18 No. PVC Bottle CO: Plastic Bulb 3 X 3 No.
Date of Sampling	23.09.2020 To 24.09.2020	Date of Receipt of Sample	24.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	24.09.2020	Date of Completion of Analysis	29.09.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Near CHP		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)	µg/m ³	7.81	80		CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	10.2	80		CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	50	100		CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	21	60		CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)	mg/m ³	1.18	04		IS 5182 (Part 10): 1999 RA 2003

ULR- TC74872000011593F

Report No.12112 Cont...

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	2. CHP Control Room			Duration of Survey	24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	6.84	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	10.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	43	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	20	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.98	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide					

-----END-----

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.



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Ambient Air Quality Monitoring Report

Report No.: ME-NG12155-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Water Lab	Sample Quantity/ Packing	PM ₁₀ : Filter Paper 1 X 3 No. PM _{2.5} : Filter Paper 1 X 1 No. SO ₂ : 30 mL X 6 No. PVC Bottle NO ₂ : 30 mL X 6 No. PVC Bottle CO: Plastic Bulb 1 X 3 No.
Date of Sampling	24.09.2020 To 25.09.2020	Date of Receipt of Sample	25.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	25.09.2020	Date of Completion of Analysis	29.09.2020

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location	Water Lab	Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
Sulphur Dioxide (SO ₂)	µg/m ³	5.86	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	10.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	34	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	21	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)	mg/m ³	0.72	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide				

END

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ULR- TC748720000011632F



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Ambient Air Quality Monitoring Report

Report No.: ME-NG12246-201005-SA-GMR-WARORA		Date: 05.10.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Admin Building Ground Floor	Sample Quantity/ Packing	PM ₁₀ : Filter Paper 1 X 3 No. PM _{2.5} : Filter Paper 1 X 1 No. SO ₂ : 30 mL X 6 No. PVC Bottle NO ₂ : 30 mL X 6 No. PVC Bottle CO: Plastic Bulb 1 X 3 No.
Date of Sampling	26.09.2020 To 27.09.2020	Date of Receipt of Sample	28.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	28.09.2020	Date of Completion of Analysis	30.09.2020

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location	Admin Building Ground Floor	Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
Sulphur Dioxide (SO ₂)	µg/m ³	10.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	16.0	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	46	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	17	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)	mg/m ³	0.88	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide				

-----END-----

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Ambient Air Quality Monitoring Report

Report No.: ME-NG12358-201005-SA-GMR-WARORA		Date: 05.10.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Near CHP 2. Near Switch Yard 3. Near Reservoir	Sample Quantity/ Packing	PM ₁₀ : Filter Paper 3 X 3 No. PM _{2.5} : Filter Paper 1 X 3 No. SO ₂ : 30 mL X 18 No. PVC Bottle NO ₂ : 30 mL X 18 No. PVC Bottle CO: Plastic Bulb 3 X 3 No.
Date of Sampling	28.09.2020 To 29.09.2020	Date of Receipt of Sample	29.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	29.09.2020	Date of Completion of Analysis	01.10.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Near CHP		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)	µg/m ³	9.76	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO ₂)	µg/m ³	12.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10	
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	39	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14	
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	14	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30	
Carbon Monoxide (CO)	mg/m ³	0.94	04	IS 5182 (Part 10): 1999 RA 2003	

ULR- TC74872000011823F

Report No.12358 Cont...

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	2. Near Switch Yard		Duration of Survey		24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	6.84	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	11.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	28	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	10	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.83	04	IS 5182 (Part 10): 1999 RA 2003
Location	3. Near Reservoir		Duration of Survey		24 hours
Sulphur Dioxide (SO ₂)		µg/m ³	13.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	15.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	38	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	12	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Carbon Monoxide (CO)		mg/m ³	0.85	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide					

ULR- TC748720000011823F

-----END-----

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


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Ambient Air Quality Monitoring Report

Report No.: ME-NG12174-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	1. Anandwan Warora 2. Temporary Township	Sample Quantity/Packing	PM ₁₀ , Pb: Filter Paper 3 X 2 No. PM _{2.5} : Filter Paper 1 X 2 No. SO ₂ : 30mL X 12 No. PVC Bottle NO ₂ : 30mL X 12 No. PVC Bottle CO: Plastic Bulb 3 X 2 No.
Date of Sampling	25.09.2020 To 26.09.2020	Date of Receipt of Sample	26.09.2020
Sampling Procedure	As per method reference		
Date of Start of Analysis	26.09.2020	Date of Completion of Analysis	29.09.2020

Parameter		Unit	Result	#NAAQM Standard	Method Reference
Location	1. Anandwan Warora		Duration of Survey		24 hours
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)		µg/m ³	4.88	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)		µg/m ³	10.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀		µg/m ³	31	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 µm) or PM _{2.5}		µg/m ³	23	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Lead (Pb)		µg/m ³	<0.02	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide (CO)		mg/m ³	0.98	04	IS 5182 (Part 10): 1999 RA 2003

ULR- TC74872000011648F

Report No.12174 cont...

Location	2. Temporary Township	Duration of Survey		24 hours
Parameter	Unit	Result	#NAAQM Standard	Method Reference
Sulphur Dioxide (SO ₂)	µg/m ³	9.76	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	10.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 µm) or PM ₁₀	µg/m ³	39	100	IS 5182 (Part 23): 2006
Particulate Matter (size less than 2.5 µm) or PM _{2.5}	µg/m ³	24	60	CPCB Guidelines for measurement of Air pollutants Volume 1, Page 15 - 30
Lead (Pb)	µg/m ³	<0.02	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide (CO)	mg/m ³	0.70	04	IS 5182 (Part 10): 1999 RA 2003
Remarks: # - Standard for 24 h. monitoring. 1 h. Standard in case of Carbon Monoxide				

-----END-----

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Phone : 91-712-2612162, 2612212 Email: mahabal.nagpur@gmail.com

Ambient Noise Level Monitoring Report

Report No.: ME-NG11481-200920-SA-GMR-WARORA		Date: 20.09.2020
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora , Dist: Chandrapur (M.S.)	Order Reference:
		4800146429 Dt.: 30.08.2018
Sample Description/Type	Noise Level Monitoring	
Date of Sampling	14.09.2020	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Noise)					
Location	Unit	Result		Limit (For industrial Zone)	
		Day Time	Night Time	Day Time	Night Time
Near CHP	dB(A)	64.3	60.4	75	70
Near Switch Yard	dB(A)	61.7	59.2		
Near Reservoir	dB(A)	61.2	60.3		

END

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Work Zone Noise Level Monitoring Report

Report No.: ME-NG12178-200930-SA-GMR-WARORA		Date: 30.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora , Dist: Chandrapur (M.S.)		Order Reference:
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Noise Level Monitoring	Sample Collected by	NA
Date of Sampling	25.09.2020		
Sampling Procedure	IS 9876:1981 & manufacturer Manual		

Discipline: Chemical Testing; Product Group: Atmospheric Pollution				
Location	Unit	Result		#Limit
		Min.	Max.	
Compressor House Area	dB(A)	78.8	80.4	90
Boiler Floor	dB(A)	82.9	87.0	90
Turbine Floor	dB(A)	83.5	86.8	90
Turbine Generation Unit-1	dB(A)	82.1	85.8	90
Turbine Generation Unit-2	dB(A)	81.5	85.9	90

Remark: #: Limit from The Factories Act, 1948, The Maharashtra Factory Rules, 1963, Schedule XXIV Page No. 283-284

-----END-----

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Plot No. F-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra
(600 m from Hotel Rukhmini Palace Turn Opp Toyota Show Room. Next to Ashida Electrical - near J B Sawant Bus Stop)
Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 thane@mahabal.com



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Phone : 91-712-2612162, 2612212 Email: mahabal.nagpur@gmail.com

Fugitive Emission Monitoring Report

Report No.: ME-NG11083-200918-SA-GMR-WARORA		Date: 18.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora , Dist: Chandrapur (M.S.)	Order Reference	
		4800146429 Dt.:30.08.2018	
Sample Description/Type	Fugitive Emission	Sample Collected by	Laboratory
Sampling Location	1. Near Wagon Tippler Area 2. Near Crusher House 3. In between Ash silo & Ash Pond Area 4. Ash Pond Near Drive House Area	Sample Quantity/Packing	Filter paper 1 X 4 No. Cyclone Cup: 1 X 4 No.
Date of Sampling	08.09.2020	Date of Receipt of Sample	10.09.2020
Sampling Procedure	As per Method Reference	Duration of Survey	8 hours
Date of Start of Analysis	10.09.2020	Date of Completion of Analysis	15.09.2020

Parameter	Unit	Result				#Limit	Method Reference
		1	2	3	4		
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Fugitive Emission)							
Suspended Particular Matter	µg/m ³	1007	796	218	490	2000	IS 5182 (Part 23): 2006
Remarks: #: Limit as per MPCB							

END

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Workplace Monitoring Report

Report No.: ME-NG11087-200918-SA-GMR-WARORA		Date: 18.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)	Order Reference	
		4800146429 Dt.:30.08.2018	
Sample Description/Type	Workplace Air	Sample Collected by	Laboratory
Sampling Location	1. CHP/Crusher House 2. CHP Transformer house 2 3. CHP Penthouse 4. Technical Building 2 nd Floor 5. Technical Building 1 st Floor	Sample Quantity/Packing	Filter paper 1 X 5 No.
Date of Sampling	08.09.2020	Date of Receipt of Sample	10.09.2020
Sampling Procedure	As per Method Reference	Duration of Survey	8 hours
Date of Start of Analysis	10.09.2020	Date of Completion of Analysis	15.09.2020

Parameter	Unit	Result					#Limit	Method Reference
		1	2	3	4	5		
Total Dust	mg/m ³	1.77	1.10	1.68	1.67	1.53	10	NIOSH 0500

Remarks: #: Limit from The Factories Act, 1948, The Maharashtra Factory Rules, 1963 for 8 hours TWA (Time Weighted Average)

-----END-----

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Effluent Sample Analysis Report

Report No.: ME-NG10773-200915-SA-GMR-WARORA		Date: 15.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference: 4800146429 Dt.: 30.08.2018
	Sample Description/Type	Industrial Effluent	Sample Collected by Laboratory
Sampling Location	Condensate Cooling Water	Sample Quantity/Packing	1 L X 1 No. PVC Can
Date of Sampling	04.09.2020	Date of Receipt of Sample	05.09.2020
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.09.2020	Date of Completion of Analysis	05.09.2020

Sr. No	Parameter	Unit	Result	Limit as per Consent	Method Reference
Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)					
1	Temperature	°C	30	Not to exceed 5°C higher than the intake water	APHA 23 rd Ed. 2017, 2550-B, 2-74
2	pH	-	8.0	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ - B, 4-95
3	Total Free Chlorine (Residual)	mg/L	<0.05	0.5 Max.	APHA 23 rd Ed. 2017, 4500-Cl-G, 4-72
Remark:					

-----END-----

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Effluent Sample Analysis Report

Report No.: ME-NG10774-200915-SA-GMR-WARORA		Date: 15.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	Cooling Tower Blow Down	Sample Quantity/Packing	1 L X 1 No. PVC Can 500mL X 1 No. PVC Can
Date of Sampling	04.09.2020	Date of Receipt of Sample	05.09.2020
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.09.2020	Date of Completion of Analysis	15.09.2020

Sr. No.	Parameter	Unit	Result	Limit as Per Consent	Method Reference
Discipline: Chemical Testing; Product Group: Pollution & Environment(Waste Water)					
1	Free Chlorine (Residual)	mg/L	<0.05	0.5 Max.	APHA 23 rd Ed. 2017, 4500-Cl-G, 4-72
2	Phosphate Total (as PO ₄)	mg/L	2.56	5.0 Max.	APHA 23 rd Ed. 2017, 4500-P E, 4-164
Residues in water (Trace metal Element)					
3	Chromium Total (as Cr)	mg/L	<0.1	0.2 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
4	Zinc (as Zn)	mg/L	0.036	1.0 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
Remark:					

-----END-----

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Effluent Sample Analysis Report

Report No.: ME-NG10775-200915-SA-GMR-WARORA		Date: 15.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	Boiler Blow Down	Sample Quantity/Packing	1 L X 1 No. PVC Can 500mL X 1 No. PVC Can
Date of Sampling	04.09.2020	Date of Receipt of Sample	05.09.2020
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.09.2020	Date of Completion of Analysis	15.09.2020

ULR- TC748720000010356F

Sr. No.	Parameter	Unit	Result	Limit as Per Consent	Method Reference
Discipline: Chemical Testing; Product Group: Pollution & Environment(Waste Water)					
1	Total Suspended Solids	mg/L	9	100 Max.	APHA 23 rd Ed. 2017, 2540-D, 2-70
2	Oil and Grease	mg/L	N.D.	20 Max.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
Residues in water (Trace metal Element)					
3	Total Copper (as Cu)	mg/L	<0.04	1.0 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
4	Iron (as Fe)	mg/L	0.168	1.0 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
Remark: N.D. Not Detected					

-----END-----

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Phone : 91-712-2612162, 2612212 Email: mahabal.nagpur@gmail.com

Effluent Sample Analysis Report

Report No.: ME-NG10777-200915-SA-GMR-WARORA		Date: 15.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	D.M. Plant Effluent	Sample Quantity/Packing	2 L X 1 No. PVC Can 1 L X 1 No. Glass Bottle 100mL X 1 No. PVC Can
Date of Sampling	04.09.2020	Date of Receipt of Sample	05.09.2020
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.09.2020	Date of Completion of Analysis	15.09.2020

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Sr. No.	Parameter	Unit	Result	Limit as Per Consent	Method Reference
Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)					
1.	pH	-	8.7	5.5-9.0	APHA 23 rd Ed. 2017, 4500-H ⁺ - B, 4-95
2.	Total Dissolved Solids	mg/L	523	2100 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
3.	Total Suspended Solids	mg/L	<5	100 Max.	APHA 23 rd Ed. 2017, 2540-D, 2-70
4.	Biochemical Oxygen Demand (3 days 27°C)	mg/L	8.7	30 Max.	IS 3025 (Part 44): 1993, Reaffirmed 2009
5.	Chemical Oxygen Demand	mg/L	28	250 Max.	APHA 23 rd Ed. 2017, 5220-B, 5-18
6.	Oil and Grease	mg/L	N.D.	10 Max.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
Remarks: N.D. – Not Detected					

-----END-----

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Effluent Sample Analysis Report

Report No.: ME-NG10776-200915-SA-GMR-WARORA		Date: 15.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	Ash Pond Effluent	Sample Quantity/Packing	1 L X 1 No. PVC Can 1 L X 1 No. Glass Bottle
Date of Sampling	04.09.2020	Date of Receipt of Sample	05.09.2020
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.09.2020	Date of Completion of Analysis	15.09.2020

Sr. No.	Parameter	Unit	Result	Limit as Per Consent	Method Reference
Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)					
1.	pH	-	7.3	5.5-9.0	APHA 23 rd Ed. 2017, 4500-H ⁺ - B, 4-95
2.	Total Suspended Solids	mg/L	11	100 Max.	APHA 23 rd Ed. 2017, 2540-D, 2-70
3.	Oil and Grease	mg/L	N.D.	10 Max.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
Remarks: N.D. – Not Detected					

-END-

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Effluent Sample Analysis Report

Report No.: ME-NG10778-200915-SA-GMR-WARORA		Date: 15.09.2020	
Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		Order Reference
			4800146429 Dt.: 30.08.2018
Sample Description/Type	Domestic Effluent	Sample Collected by	Laboratory
Sampling Location	1. STP Inlet 2. STP Outlet	Sample Quantity/Packing	2 L X 2 No. PVC Can 100mL X 2 No. PVC Can 1 L X 2 No. Glass Bottle
Date of Sampling	04.09.2020	Date of Receipt of Sample	05.09.2020
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.09.2020	Date of Completion of Analysis	15.09.2020

ULR- TC748720000010359F

Sr. No.	Parameter	Unit	Result		Limit as Per Consent	Method Reference
			1	2		
Discipline: Chemical Testing; Product Group: Pollution & Environment(Waste Water)						
1.	pH	-	7.1	7.5	5.5-9.0	APHA 23 rd Ed. 2017, 4500-H ⁺ - B, 4-95
2.	Total Dissolved Solids	mg/L	831	1051	2100 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
3.	Total Suspended Solids	mg/L	6	5	50 Max.	APHA 23 rd Ed. 2017, 2540-D, 2-70
4.	Biochemical Oxygen Demand (3 days 27°C)	mg/L	6.2	7.5	30 Max.	IS 3025 (Part 44): 1993, Reaffirmed 2009
5.	Chemical Oxygen Demand	mg/L	20	24	100 Max.	APHA 23 rd Ed. 2017, 5220-B, 5-18
6.	Oil and Grease	mg/L	N.D.	N.D.	10 Max.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
Remarks: N.D. – Not Detected						

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QF/SALE/02/Issue No 03 Dt 05.12.2019,Amd 00 Dt 00

Plot No. F-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra
 (600 m from Hotel Rukhmini Palace Turn Opp Toyota Show Room. Next to Ashida Electrical - near J B Sawant Bus Stop)
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