

Ref: GMR/GWEL/EC/COM/23-24/01
28.10.2023

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 2023 to September 2023**.

Kindly acknowledge the receipt of the same.

Thanking you.

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

Dhananjay Deshpande
COO-Thermal

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 2023 TO September 2023

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

**SIX MONTHLY 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% & are well under the prescribed standard.
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 ensure that emission of particulate matter are always maintained 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 ensuring 100% utilization. Bottom ash is 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 are 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.
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 to take care of domestic effluents. 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 carried out and analysis results of the same are also submitted to MPCB and MoEF & CC regional office 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. Regular monitoring of ground water level is done through piezometers. Water Level Data is also submitted Six Monthly to CGWA.(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	41% of plant area is under green belt, with more than 95% survival rate in and around the periphery and open land of the plant premises. Additionally, organic farming is also carried out along with fruit bearing plants. (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 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. and their audiometric records are also maintained.

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 SO ₂ , NO _x , PM _{2.5} , PM ₁₀ & CO is carried out by MoEF & CC & NAL approved Lab in the impact zone and records are also maintained. Results of the same are well within the prescribed limits. Monitoring reports are also submitted to the state board on monthly 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 are installed around coal stock yard to safeguard against fire incident. The systems are maintained in pressurized condition through Fire water pump house for ready to 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 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 was submitted on 27 th Apr 2023.

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 from which various environmental works is carried out. The budget is solely dedicated for the purpose of Environment Management only.

**SIX MONTHLY 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 is operational in the plant for first aid arrangement. Ambulance is available round the clock. Well devised schedule is developed for carrying out the sanitization of the plant areas.
4	Regular monitoring of ground level concentration of SO _x , 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. 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 SO ₂ , NO _x , PM2.5, PM10 & CO is carried out by the third party in the impact zone and records are also maintained. Results of the same are well within the prescribed limits. Monitoring reports are also submitted to the state 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>Six monthly EC compliance report are regularly submitted to MoEF & CC regional office as well as to regional offices of MPCB</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 and also in the public domain through the company website.</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 EC Compliance report including results of monitoring data are being submitted to the respective regional office of MoEF & CC and the regional office of SPCB.</p> <p>Last compliance report was submitted on 27th Apr 2023.</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>Six monthly EC compliance report are uploaded in the company website and updated time to time. 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 continuously.</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.</p> <p>State of art ESPs has been installed with more than 99.98% 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 tipplers, 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>Six monthly EC compliance report are uploaded in the company website and updated time to time. The criteria pollutant levels, namely SPM, RSPM (PM_{2.5} & PM₁₀), SO₂, NO_x (ambient levels as well as stack emissions) are being monitored and displayed at the main gate of the company continuously.</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. Plant is getting water from MIDC, Warora for requirements.
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.	Hydrogeological study of the area is being carried out in annual basis and report submitted to Ministry and state board. No adverse impact is observed is ground water quantity and quality. Hydrogeological study report was submitted on 13 th Mar. 2023.
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 of the CGWB.
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 sent to the nearby cement manufacturing units & also to brick manufacturers. Ash utilization status is conveyed to state board regularly.
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 (GoI). 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. CSR works carried out by the plant is attached as Annexure- VII.

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 Varalakshmi Foundation. Details of the CSR activities being carried out 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.
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 of last six months is attached as 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 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 done and analysis report of the same are also submitted to state board 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 deployed 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 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 Noise Monitoring reports. (Annexure-IX)
8	Regular monitoring of ground level concentration of SO _x , NO _x , 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 SO ₂ , NO _x , PM2.5, PM10 & CO is carried out by the third party in the impact zone and records are also maintained. Results of the same are well within the prescribed limits. Monitoring reports are also submitted to the state 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), Environment 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 for implementation of the stipulated environmental measures & subsequent Environmental management in the plant.
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 & CC & the state board.
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 29 th Sep 2023. 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 & CC & the state board.
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 & CC & the state board. Last Six monthly compliance report was submitted on 27 th Apr 2023.
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.	Noted.
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. 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, CPCB/ SPCB who would be monitoring the compliance of environmental status.	Noted.
20	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.
21	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	Noted.
22	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.
23	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.
24	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.
25	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

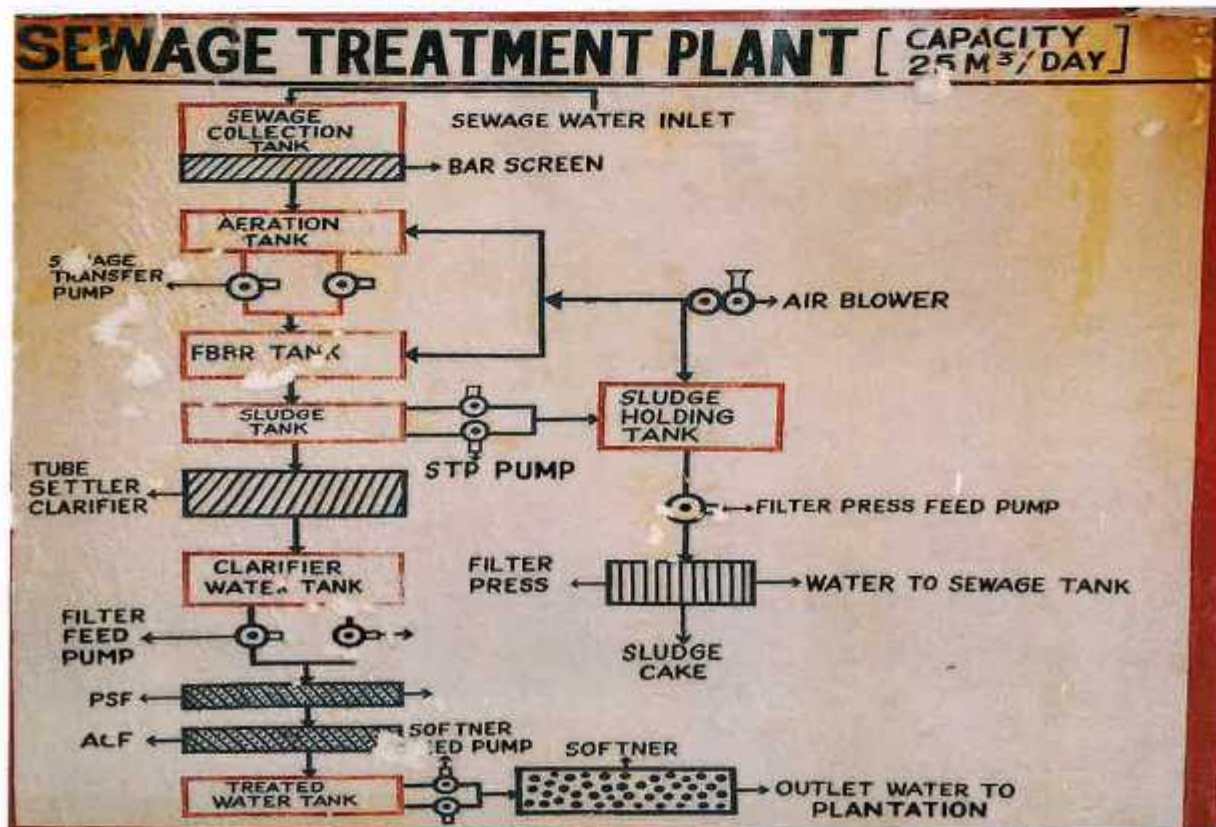


FLY ASH AND BOTTOM ASH SILOS



EFFLUENT TREATMENT PLANT



SEWAGE TREATMENT PLANT

ANNEXURE-V

RAIN WATER HARVESTING



ANNEXURE-V



GREEN BELT



ANNEXURE-VI



ANNEXURE-VI



Six Monthly Report

April 2023 to Sept 2023



**Corporate Social Responsibility
GMR Varalakshmi Foundation
and
GMR Warora Energy Ltd., Warora**

DETAILED OF PROGRAM ACTIVITIES

1. EDUCATION

Education is one of the thrust areas of GMR Varalakshmi Foundation. The activities carried out during the reporting period under the area of education are as follows.

Support to Govt. Schools

- 1. Anganwadies Programs:** To improve the quality of education and bring a sizable change in the education scenario in the project affected villages, GMRVF, Warora has decided to conduct at-least two class per week in the village Anganwadies. To do this GMRVF is providing training to Anganwadi workers. Expert from Samruddhi Ladies Club members conducted training every month to training Anganwadi workers on teaching methods. Total 18 Anganwadi workers and more than 300 students from 18 Anganwadies benefitted from this program.
 
- 2. Special Training to ZP School Teacher on 5S:** 5S training session conducted by Mechanical Department GWEL at ZP School Nimasada, Charur Khati and Dahegaon villages during this period. GWEL team attended the program and conducted 5S session and explained the concept of 5S and importance of it. Total 190 students and panchayat members attended and benefited from the program.
 
- 3. Computer Classes at ZP School:** GMRVF is operating 8 computer classes in 8 ZP schools, these villages are Dahegaon, Dongargaon, Nimsada, Marda, Charur Khati, Chinora, Majra Rai and Majra Khurd. The objective of the computer classes is to provide basic computer knowledge to students. This year total 509 students from 8 villages enrolled in computer education. During this week classes conducted on CPU work, Keyboard work, mouse work and printer work and attended by 504 students.
 
- 4. Smart Classes at ZP School:** GMRVF has installed computer systems with digital boards in four ZP schools (Dahegaon, Dongargaon, Chinora and Charur Khati) and Android TVs at six ZP schools (Dahegaon, Dongargaon, Chinora, Majra Rai, Majra Khurd and Charur Khati) along with all software / TLM prescribed by State Board in Marathi Language to promote computer based education in schools. After reopening of schools from 31 June 2023, classes in all 6 ZP schools are being operated using digital facilities. Total 509 students are getting benefitted from these facilities and learning subjects.
 
- 5. Felicitation Program:** GMRVF organized a felicitation program to felicitate 10th standard students which have earned good marks in their 10th standard result. This program was organized at Charur Khati village and distributed gifts to four students.
 

6. School Infrastructure: GMRVF has supported ZP schools in upgrading the school infrastructure by providing TLM, electric appliances and repairing of school building at different ZP schools across 10 villages of its operation. This year during first six months, GMRVF has specifically conducted the repairing of school gate at ZP school Chinora and small repairing in other schools including wall painting as well as TLM / posters at Charur Khati and Dahegaon ZP schools.



Direct Support to the Children

- 1. After School Learning Centers (ASLCs):** GMRVF is operating 6 ASLCs in 6 villages including Dahegaon, Dongargaon, Nimsada, Charur Khati, Chinora, and Majra Rai to enhance education quality among slow learner students. Total 196 slow learner students from 6 villages identified and enrolled in ASLC for this year session. Classes on Math, English and Marathi subject, kabaad se Jugad, Storytelling, Craft making etc using Joyful Teaching Learning are continuing in ASLC and all students are attending classes regularly.
- 2. Transportation Facility for children:** School bus service has been provided for students of Std. VIII to X from Dongargaon and Dahegaon villages. Total 108 students are availing the facility and attended schools at Chikni and Warora regularly.
- 3. Navodaya Coaching for Children:** Navodaya entrance coaching organized in 3 villages for students of Std V. Total 27 Students have appeared in the entrance test organized in April 2023 and out of this 20 students enrolled for Navodaya Coaching Classes.



Awareness programs for children including the celebrations of Days

- 1. Celebration of International Yoga Day:** International Yoga Day celebrated on 21 June 2023 at ZP School Charur Khati for students and villagers. The program was conducted under the expert guidance from GMR employee, before start of the practical session of Yoga they have briefed about the International Yoga Day and importance of Yoga in our life. The guest has taught some Yoga Asnas to students and villagers and total 115 students and villagers were participated and benefited.
- 2. Celebration of school entrance day:** Entrance day program was celebrated with the support of school management committees on 30 June 2023. The day celebrated in 10 ZP schools with more than 1400 children. Chocolates were distributed to all students and welcome them to schools in new session. The program taken place in very joyful environment in all villages.



3. Celebration of 15 Aug

Drawing & Essay Competitions in ZP schools: The school competitions organized in all ZP schools before the Independence day to enhance the competitiveness among students of STD I to VII. Nearly 520 students participated in the competitions and total 122 students achieved 1st and 2nd positions in essay writing, and drawing competitions.

Celebration of Independence Day in ZP Schools: GMRVF and GWEL CSR celebrated Independence Day Program on 15th Aug at 10 ZP Schools and organized drawing and essay competition. Total 520 students were participated for the competition and total 122 students received first and second prizes. In addition to this, GMRVF and GWEL has distributed chocolates to 1520 students of Anganwadi and ZP schools.

4. Teachers Day Celebration: Organized Teachers day program at 8 ZP school on 5 September 2023 and celebrated the Teachers Day. During this program student have participated as teachers and conducted various classes for other students.

5. Fire Safety Awareness: Fire safety awareness session conducted by EHS department at VTC Warora on 17 April 2023. Demonstration on use of different fire equipment given during the awareness session. Mr. Vinit Shukla from RAXA and Mr. Pallav Kulkarni from GWEL attended the program and conducted demonstration of different equipment. Total 55 students and teachers attended the program and benefitted.

Another fire safety awareness session conducted by EHS department at Pratibha Library on 18 April 2023. Demonstration on use of different fire equipment given during the awareness session. Mr. Vinit Shukla from RAXA and Mr. Pallav Kulkarni from GWEL attended the program and conducted demonstration of different equipment. Total 39 students and teachers attended the program and benefitted.

6. Celebrated World Environment Day: The world environment day was organized on 7th Jun 2023 at Vocational Training Center and Pratibha library. Mr. Anuj Shrivastava and Mr. Suraj Tandon from GWEL attended the program and conducted the session on Environment Day. A quiz competition was conducted on the occasion and winner students were given gifts form the guest. Total 60 students from VTC and Pratibha attended the program and benefitted.

Any other location specific initiatives

1. Computer Learning Centers: GMRVF is operating 8 Computer Education and learning program in 8 ZP schools including Dahegaon, Dongargaon, Nimsada, Marda, Charur Khati, Chinora, Majra Rai and Majra Khurd to provide basic computer knowledge to students. This total 509 students enrolled and attending classes regularly. The classes are



conducting as per pre-decided weekly plan and lesson plan MS programs like MS Word, MS Excel and MS Power Point Presentation. All students are learning basics of computers and its operation.

2. **Village Resource Center:** We have running three Village Resources Center at Chinora, Majra Rai and Dongargaon village. This center is providing need base information like Education, Health, Empowerment, Agriculture and Govt. Scheme to community. During this week information shared on Navodaya, Agniveer Scheme, SSC vacancy and PM Vishwakarma Scheme. More than 1000 people visited the center and took benefit.
3. **Pratibha Center:** GMRVF started the Pratibha Center at Warora, Total 672 student registered in Pratibha center and daily 60 students visiting library to consult literature for competitive study. Personality Development Courses (PDC) at Pratibha Center also runs daily to prepare students on various competitive exams. Total 10 students cleared various exam during the reporting period and waiting for personal interview.
4. **Summer Camp:** GMRVF has organized the summer camp at 06 villages for students of STD I to VIII. 234 students enrolled and learnt various activity such as Yoga, Prayers, flower & kite making, Kabad se jugad, origami, English speaking, hand writing, Competition and Craft items, etc. in the camp.
5. **Computer Crash Course:** To provide basic computer knowledge to students, GMRVF initiated the computer crash course in 6 villages during the summer. Total 237 students from Std VIII to X enrolled and learnt basic knowledge of computer operating system, filing, folder making and basics of MS office covered.
6. **Learning Navigator Program:** GMRVF and Gooru India Foundation (GIF) have implemented Learning Navigator program using GOORU App this year with 354 students of Std I – VII from seven villages. This program is designed to track learning levels of each student at every stages of learning. This helps facilitator and volunteers to plan and provide all necessary input to gain faster learning outputs of individual student. The formal implementation in Warora started from July 2023 this year and series of capacity building sessions for volunteers conducted so as to implement the program effectively. Classrooms were created for 354 enrolled students in Gooru App for seven villages and each class and studies started using Gooru App.



7. Skill Education for School Children - Coding Classes:

GMRVF initiated coding class for high school students studying in Standard VIII and IX at Chetna School Majra Rai and Karamvir High School, Charur Khati. Total 54 students identified and enrolled for these classes which are running with the technical support from Igebra.AI. The classes are organizing twice in a week and attending by each student regularly. During the period classes conducted on Introduction of Robart, draw square using Scala programing language.



8. **Capacity Building of Volunteers:** Organized 12 Vidya volunteer trainings during the period at VTC Warora. During these trainings, team of Gooru India Foundation (GIF) also participated through online mode and conducted training session on Learning Navigator app as well as prepared lesson for ASLC, E-Center and Navodaya class. Total 16 volunteer attended the trainings and benefited.



plan

Health, Hygiene and Sanitation

1. **Health clinics:** GMRVF is running 10 Primary Health Clinics in 10 villages with the support from Acharya Vinoba Bhave Rural Hospital (AVBRH). The clinics were opened to provide basic health services to the people of all project affected villages. Doctor visits the clinics twice in a week and provides free check-up and medicine to each patient. Total 10955 patients have been treated by doctors and given free medicines in past 6 months.



2. **Mobile Medicare Unit (MMU):** 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. There are nearly 3500 people registered under this service and getting free medicines and treatment every week in their villages. During this period more than 12032 old aged benefitted and received treatment.



3. **Nutrition Centre:** GMRVF is operating 6 nutrition centers and providing nutrition to Pregnant & Lactating Mothers on daily basis through these centers. The center provides regular check-up, daily nutrition (Chikki, Dates, Coconut, Banana and Horlicks), vaccination, Awareness program, health check-up, baby care and many more activities. There are total 67 beneficiary receiving benefit from this activity.



4. **Medical Check-Up of Pregnant Women:** Total 6 health camp organized during the reporting period for pregnant women. Doctor and one nurse including volunteer have counselled each woman individually for proper anti natal care, height, weight, BP and importance of birth preparation plan. More than 200 pregnant and lactating women benefited from the camp.

5. Celebration of Special Moments at Nutrition Center:

Total 6 *Annaprashan* programs organized at Nutrition Centers. Total 465 women participated in the programs. Child and the mother felicitated with Shrifal and Haldikumkum and IEC material (collected from ICDS Department) was distributed to each registered women during the program.



6. Blood Donation Camp at GWEL: GMRVF and GWEL has organized the 1st Blood Donation Camp of the year at GWEL Plant Canteen on 14th July 2023. The blood donation camp was organized under the technical supervision of a renowned blood bank "Dr. Hedgewar Blood Bank", Nagpur. 150 employees of GWEL donated blood during the camp.



7. Safe Drinking Water for Community - WATER ATM: GWEL has installed 17 RO Water ATM in 17 villages to provide safe drinking water. Till the end of this reporting period there are more than 4500 households using treated RO Water from 17 villages.

8. Fogging Operation: Under the preventive health support program of GMRVF, and to control mosquitoes and other harmful insects fogging operation is initiated in seven villages in collaboration with Panchayat. Total 7 villages and GWEL Greenwood township is covered under this initiative. Fogging operation is taking place once in a week in each village.



9. Health Awareness Program:

With Women: 72 awareness sessions conducted in 8 villages.

The topic covered were PD hearth, Nutrition and its importance, Health hygiene and sanitation, ODF, RO water etc. Nearly 1750 women benefitted from these sessions.

With Adolescent Girls: 12 awareness sessions conducted in 8 villages. The topic covered Gender and various types of problems a women face in her life cycle, self-respect, physical changes in adolescent girls and associated problems, mensuration period, its problem and effects on human body were covered in awareness sessions. Nearly 465 girls attended the program and benefitted.



14 School Health Check-up Program: GMRVF conducted school health check-up program at 8 ZP school during the reporting period. The health checkup camps were mainly organized to identify malnourish and unhealthy students so that they can be given proper attention and refer to higher hospital for their health improvement. Total 509 school children treated and provided free medicines for dental, stomach related problems.

15 Multi-specialty Health Camp: One eye Testing camp, One Cancer and HIV/AIDs detection camp and 6 special health camp organized during the period in different villages. Specialist doctors of Orthopedic, Ophthalmic, Dermatology, Gynecology and Medicine branches attended these camps.

The camp was planned to provide proper diagnosis and advise to all critical patients for their bone, eyes and other surgery related ailments. Total 1331 people visited the camp from village and received free medicines and also more than 90 people referred to higher hospital for treatment.



2. Empowerment & Livelihood

- **GMRVF Center for Empowerment and Livelihoods – Warora (GMRVFCEL – W):** GMRVF CEL initiated 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. Two batches of SPHRT and ABT completed by the end of Sept 23. Total 119 students took admission and out of which 87 students appeared in the exam and rest 32 students were drop out. Total 87 students cleared the exam and received certificate.
- **Vocational Training at CEL Delhi & Hyderabad:** GMRVF team has mobilized nearly 50 youths during the period for vocational training courses conducted at CEL Delhi and Hyderabad. In the reporting period total 9 students have been sent for Basic Electrical, Volvo operator and Welding course for GMRVF CEL-Delhi from April 1 till date.
- 1. **SHG Meetings:** Regular SHG meetings cum training organized in all villages with SHGs and their leaders to complete and update the records. Beside the regular meetings, need based trainings organized in all villages during the reporting period. All 24 SHG groups (more than 360 women) trained on record keeping.
- 2. **Promotion of Small Income Generation Activities through SHGs:** To promote livelihoods through farm based activity, we have planned the Vegetable Cultivation this year also with 148 SHG women in seven villages and from 42 SHGs and belongs to BPL, SC & ST families. To take this as micro enterprise, it is planned to promote individual production but collective marketing with all the 34 SHGs from 4 villages all villages. Total thirteen types of vegetable selected for this program and each woman were given only two types of vegetable seeds for cultivation.
- 3. **Collective Marketing of Vegetables:** To promote livelihoods through farm based activity, we have planned Vegetable Cultivation in second season with SHG women in six villages. The selected villages for Vegetable Cultivation are Marda, Charur Khati, Nimsada, Naidev, Dongargaon, and Dahegaon and distributed the Vegetable seed to 121 selected women of 38 SHGs from BPL and SC & ST categories for this activity. All have started harvesting and selling the vegetables from December 2022. 121 women from Vegetable Cultivation has sold vegetables of nearly Rs 9,54,725 during April 2023 month. However, from December 2022 to April 2023, they have earned nearly 43.94 lakhs from the sale of vegetables. A producer group has been formed at Charur Khati village to start selling



vegetables collectively. All women of this group is doing collective marketing and this month they have sold vegetable of total Rs 1,69,750/- in April 2023.

4. **Farmers Training on Improved Agriculture:** Total 8 types of trainings organized during the reporting period with support from CEMCA. These trainings organized at different villages and covered the topics Floriculture, organic cultivation, SWI Cultivation, Protected cultivation, IOT in Agriculture, Advances of Agriculture and Micro Irrigation Techniques and Food Processing. Nearly 550 farmers attended the training and benefitted.
5. **Promotion of Agriculture through GCS Bank:** During this period GMRVF distributed Cotton and Soybean seed through Grain-Cash-Seed Bank (GCS bank) to 250 farmers from four villages. This year All GCS bank have contributed nearly Rs. 7.75 Lakhs and purchased all seeds for 250 Farmers. GMRVF has withdrawn the support from banks and motivated them to invest money for seeds.
6. **Floriculture:** GMRVF have to improve farmer's economic condition and considering this floriculture crop was introduced in villages. In line to this, 6 farmers were trained on Floriculture and started cultivation of flowers. 4 farmers who have started cultivation of marigold and gaillardia flowers are earning daily Rs. 300 – Rs. 400/- from the selling of flowers.









Others Community Development Activities:

1. **Celebration of Breast Feeding Week:** Breastfeeding Week celebrated during the month of August at Marda, Majra Rai, Dahegaon, Dongargaon and Charur Khati village. The importance and awareness of breastfeeding were given to women in Nutrition Center. All women were also explained that how it is importance for the health and well-being of both the baby and the mother. A total of 121 women participated and benefited from this program.
2. **Fencing Work at Majra Khurd:** GWEL has supported and constructed fencing at cemetery ground of Majra Khurd in order to protect tree plantation and improve soil and water conservation at Mama Talav of Majra Khurd village. The work were completed in the month of Aug 2023 just before the plantation program at Cemetery yard.
3. **Cotton Mat (Dari) Distribution to Old Age Group:** GWEL employee under their Social Voluntary Project (SVP) project donated *Dari* to old age group of Help Age India at Parsoda village on 8 June 2023. Total 37 people participated and benefited from this activity.
4. **Majra Khurd Darin Work:** Initiated the 287 meters long drain work at Majra Khurd and in the month of May 2023 to save the village from flood water. The construction work has been completed by June just before the onset of monsoon. The construction work comprises of not only digging the trench but also laying the stone pitching on it as lining so as to save the channel from erosion. The layout of newly



constructed drain planned out of the village as earlier entire flood water entering in the village and flooding the houses throughout the rainy season even during the small spell of rain.

5. **Bore Well at Majra Khurd:** A demand received from Majra Khurd village for on Bore well at cemetery, and considering the need the Bore Well work was completed on 29 June 2023 during this reporting period. The constructed hand pump will be used by all villagers whenever they will come to cemetery yard for cremation apart from this the created facility will also be useful to maintain garden and plants in the cemetery yard. 
6. **Mohbala Drain Construction Work:** GWEL supported construction of 400 meters' new concrete drain at Mohbala village and work of the same completed by 30 June 2023. The construction work proposed in the villages in order to maintain cleanliness and hygiene in the village and support the effort of GOI mission of Swachh Bharat Abhiyan. 
7. **Temple Repairing Work:** Considering the demand of villagers and community place of worship GWEL and GMRVF has initiated the repairing of Shri Hanuman Temple at Yensa village and completed during this period. More than 50 employees and families including Senior management of GWEL and Samriddhi Ladies Club attended the inauguration program at temple along with community. 
8. **Bed & Table Distribution at Old Aged Home:** GWEL has supported beds and table to Ahilyabai Holkar Old Aged Home, Borda Chouk, Warora, which is one of the most needy old aged where 21 old aged and most vulnerable people are staying. The program held in April 2023 at old aged home. To provide respectful place to stay and sleep comfortably GWEL has arranged 21 beds and 2 tables and handed over same to president of old age home. 
9. **Social Voluntary Project (SVP):** GWEL implemented two social voluntary projects during this period. The project has been designed, conceptualized and implemented by GWEL employee. These projects are
 1. Supporting Sustenance through flower nursery to women SHG at Charur Khati village of Warora Tehsil. The project was implemented by 6 GWEL employees and contributed more than 90 person hours under this project. The project has benefitted more than 100 farmer of Warora block. 
 2. Creating Happiness and Joy Among old aged People. This project was implemented by 9 GWEL employee which actually helped to more than 200 old aged people of different villages. All employee of this project contributed more than 110 person hours in the project. 
10. **Supporting Old Aged Home:** GWEL employees visited at and inaugurated chain link boundary in the old age home. The

facility created at old aged home were handed over to management of old age home on may 2023. The entire management has appreciated the move of GWEL and their employees for their ready support to them.

- 11. Water Conservation work at Mama Talav:** GMRVF and GWEL initiated tank cleaning work at Majra Khurd village. Total four days Shramdan organized from 24-30th May 2023 to conduct cleaning work at Majra Khurd Tank, where more than 130 villages and 25 GWEL employees including HODs participated in the cleaning work of Mama Talav. It is worth to note that three years back GWEL and its employee conducted

Shramdaan and performed the cleaning work at this tank. Nearly an acre of land was cleaned by employee during that year but again the entire outer periphery of tank is completely infested by



ipomoea weed. This year community and all employee of GWEL has decided to perform four days cleaning work manually and later machines will be deployed to clean the Ipomoea weed by uprooting the same.

- 12. Environment Conservation through Plantation:** Organized massive tree plantation program on 16 Sep 2023 at Majra Khurd near open space of village tank and Cemetery. The program was inaugurated by COO, Thermal GMR Warora Energy Ltd. Warora and motivated employees and villagers for plantation work. Total 47 employees including HODs and near 20 villagers have attended the program completed the plantation work and planted more than 800 fruit plants and large canopy timber plants.



- 13. Plantation at Farmer's Barren Land:** During the rainy season 23 thousand eucalyptus plants was leveraged from Ballarshaha Paper Mill worth Rs. 161000/- and distributed to 254 farmers from Dahegaon, Nimsada, Charur Khati and Majra Khurd village. All farmers were motivated to grow eucalyptus plants at their barren lands so that they can earn additional income from their farms from sell of Eucalyptus woods. Ballarshaha Paper Mill has signed an agreement to buy back all the woods from farmers field at market rate once it will be fully grown up. GMRVF has facilitated the tree to farmers by collaboration with Ballarshaha Paper Mill and provided plants to farmers.



ANNEXURE- VIII

Effluent Water Analysis (Apr-23 to Sep-23)

Condensate Cooling Water		
Month	pH	F - Cl mg/L
April	7.8	<0.05
May	7.7	<0.05
June	7.9	<0.05
July	7.7	<0.05
August	8.2	<0.05
September	29.0	<0.05

Cooling Tower Blowdown			
F - Cl	PO ₄	Cr	Zn
mg/L			
<0.05	0.79	<0.01	<0.02
<0.05	0.55	<0.01	0.0
<0.05	0.430	<0.01	<0.02
<0.05	0.61	<0.01	0.028
<0.05	1.06	<0.01	0.066
<0.05	1.28	<0.01	0.051

Boiler Blowdown			
TSS	OG	Cu	Fe
mg/L			
<5	<1	<1	0.081
<5	<1	<4	0.3
<5	<1	0.077	0.075
<5	<1	<1	<0.3
<5	<1	0.012	0.175
<5	<2	0.019	0.117

DM Plant Effluent						
Month	pH	TDS	TSS	BOD	COD	O & G
		mg/L				
April	7.9	1294	9	8.5	28	<1
May	6.2	832	12.0	4.0	14	<1
June	6.9	401	<5	8.8	28	<1
July	7.9	561	<5	13	44	<1
August	8.1	597	10	8	28	<1
September	7.1	721	8	7.3	24	<2

STP- Inlet						
Month	pH	TDS	TSS	BOD	COD	O & G
		mg/L				
October	7.8	1094	12	6.8	24	<1
November	6.7	2022	20	11.0	36	<1
December	7.6	17	<0.05	14.0	44	<1
January	7.7	1407	28	16	52	<1
February	7.7	1029	8	9	32	<1
March	7.1	983	36	16	52	<2

ANNEXURE- VIII

STP- Outlet						
Month	pH	TDS	TSS	BOD	COD	O & G
		mg/L				
October	7.7	1034	<5	2.9	10	<1
November	7.7	1223	7.0	5.7	20	<1
December	7.8	1465	<5	6.0	20	<1
January	7.6	1782	<5	8.0	28	<1
February	8	564	<5	6.8	24	<2
March	7.5	979	<5	8.8	28	<2

ANNEXURE-IX

Ambient Noise Monitoring (Apr-23 to Sep-23)

Sl. No.	Month	Near CHP		Near Switch Yard		Near Reservoir	
		Day	Night	Day	Night	Day	Night
		dB(A)					
1	April	66.7	61.4	64.5	59.3	61.2	58.5
2	May	67.4	62.2	65.3	61.4	62.5	59.2
3	June	65.4	60.3	63.2	58.1	61.5	57.4
4	July	65.4	60.2	63.5	58.3	62.1	57.5
5	Aug	66.2	61.4	63.5	59.3	61.4	57.2
6	Sep	67.5	64.2	65.3	61.4	62.2	59.5

Work Zone Noise Monitoring (Apr-23 to Sep-23)

[illegible]

ANNEXURE-X

Ambient Air Quality Monitoring (Apr-23 to Sep-23)

April-23

Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	11.73	9.38	11.10
NO ₂		80	13.65	11.10	13.65
PM ₁₀		100	58.25	55.00	58.50
PM _{2.5}		60	22.50	21.75	23.75

May-23

Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	11.58	11.38	11.15
NO ₂		80	14.38	14.68	13.25
PM ₁₀		100	57.00	61.00	59.25
PM _{2.5}		60	21.25	23.50	22.00

June

Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	9.40	10.33	9.68
NO ₂		80	12.63	13.13	11.95
PM ₁₀		100	55.00	59.75	56.50
PM _{2.5}		60	21.00	23.50	20.50

July

Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	9.60	9.03	8.23
NO ₂		80	11.85	11.38	10.63
PM ₁₀		100	58.25	51.25	48.25
PM _{2.5}		60	22.00	21.25	18.00

ANNEXURE-X**August**

Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	8.63	8.68	9.03
NO ₂		80	11.05	11.15	11.30
PM ₁₀		100	42.00	41.50	45.25
PM _{2.5}		60	17.50	15.25	15.75

September

Parameters	Unit	Standard	Near Switch Yard	Near Reservoir	Near CHP
SO ₂	µg/m ³	80	13.15	13.70	11.90
NO ₂		80	16.65	17.55	14.65
PM ₁₀		100	51.00	50.50	54.00
PM _{2.5}		60	15.50	17.25	18.75

ANNEXURE-X

Stack Emission Monitoring (Apr-23 to Sep-23)Unit -I

Sl. No.	Month	PM	SO ₂	NOx
		mg/Nm ³		
1	April	32.0	1299.0	342
2	May	41.0	1384.5	350.5
3	June	39.0	1266.5	345.5
4	July	29.0	1088	329
5	August	24.0	1137	332
6	September	31.0	1111.0	321.5

Unit -II

Sl. No.	Month	PM	SO ₂	NOx
		mg/Nm ³		
1	April	36.0	1292.5	344.5
2	May	42	1185.5	342.0
3	June	42.5	1244.0	346.5
4	July	30.5	1215.0	347.0
5	August	33.5	1041.0	327.0
6	September	29.5	1118.5	333.0



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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG06885-230420-SA-GMR-WARORA	Date: 20.04.2023
ULR No.:	TC748723000004102F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Stack Emission	Sample Collected by	Laboratory
Sampling Location	Unit # II	Sample Quantity / Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 25 mL X 1 No. PVC Bottle O ₂ : 2L X 1 No. Gas Bladder Hg: 200mL X 2 No. PVC Bottle
Date of Sampling	13.04.2023	Date of Receipt of Sample	14.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	14.04.2023	Date of Completion of Analysis	19.04.2023

Stack Details	
Stack Identity	Unit -2
Stack attached to	ESP Outlet
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
Fuel Consumption (L/h)	-
Load at the time of monitoring (MW)	-
Time of Monitoring (h)	11:30 to 12:00

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
1	Flue gas Temperature	°C	135	-	IS 11255 (Part 3):2008; RA 2018
2	Flue gas Velocity	m/s	25.1	-	IS 11255 (Part 3):2008; RA 2018
3	Total gas quantity	Nm ³ /h	1227163	-	IS 11255 (Part 3):2008; RA 2018
4	Particulate Matter (PM)	mg/Nm ³	37	50	IS 11255 (Part 1):1985 RA 2019
5	Sulphur Dioxide (SO ₂)	mg/Nm ³	1310	600	IS 11255 (Part 2):1985; RA 2019
6	Oxides of Nitrogen (NO _x)	mg/Nm ³	342	450	IS 11255 (Part 7): 2005; RA 2017





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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG06885-230420-SA-GMR-WARORA	Date: 20.04.2023
ULR No.:	TC748723000004102F	

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
7	Mercury	mg/Nm ³	0.0029	0.03 max.	CPCB Guidelines on Methodologies for Source Emission Monitoring, Chapter 5&6; Pg.No.54-84
8	Oxygen (O ₂)	%	8.0	-	IS 13270:1992, Reaffirmed 2019

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit
 2. LOQ: Limit of Quantification
 3. #: Limit as per Environmental protection Rule 1986, Amd Rules 2015 (Schedule-I Sr.No. 25)
 4. Results of SO₂, NO_x & PM are corrected to 6% O₂, on dry basis.
 5. The result listed refers only to the tested sample(s) and applicable parameter(s).
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TEST REPORT

Report No.:	ME-NG07645-230429-SA-GMR-WARORA	Date: 29.04.2023
ULR No.:	TC748723000007026F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Stack Emission	Sample Collected by	Laboratory
Sampling Location	Unit # I	Sample Quantity / Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 25 mL X 1 No. PVC Bottle O ₂ : 2L X 1 No. Gas Bladder Hg: 200mL X 2 No. PVC Bottle
Date of Sampling	25.04.2023	Date of Receipt of Sample	26.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	27.04.2023	Date of Completion of Analysis	29.04.2023

Stack Details	
Stack Identity	Unit -1
Stack attached to	ESP Outlet
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
Fuel Consumption (L/h)	-
Load at the time of monitoring (MW)	-
Time of Monitoring (h)	11:30 to 12:00

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Atmospheric Pollution (Stack Emission)</u>				
1	Flue gas Temperature	°C	131	-	IS 11255 (Part 3):2008; RA 2018
2	Flue gas Velocity	m/s	25.1	-	IS 11255 (Part 3):2008; RA 2018
3	Total gas quantity	Nm ³ /h	1249821	-	IS 11255 (Part 3):2008; RA 2018
4	Particulate Matter (PM)	mg/Nm ³	32	50	IS 11255 (Part 1):1985 RA 2019
5	Sulphur Dioxide (SO ₂)	mg/Nm ³	1299	600	IS 11255 (Part 2):1985; RA 2019
6	Oxides of Nitrogen (NO _x)	mg/Nm ³	342	450	IS 11255 (Part 7): 2005; RA 2017





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TEST REPORT

Report No.:	ME-NG07645-230429-SA-GMR-WARORA	Date: 29.04.2023
ULR No.:	TC748723000007026F	

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
7	Mercury	mg/Nm ³	0.0026	0.03 max.	CPCB Guidelines on Methodologies for Source Emission Monitoring, Chapter 5&6; Pg.No.54-84
8	Oxygen (O ₂)	%	7.8	-	IS 13270:1992, Reaffirmed 2019

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit
 2. LOQ: Limit of Quantification
 3. #: Limit as per Environmental protection Rule 1986, Amd Rules 2015 (Schedule-I Sr.No. 25)
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TEST REPORT

Report No.:	ME-NG07646-230426-SA-GMR-WARORA	Date: 26.04.2023
ULR No.:	TC748723000007027F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Stack Emission	Sample Collected by	Laboratory
Sampling Location	Unit # II	Sample Quantity / Packing	Thimble: 1 X 1 No. SO ₂ : 30 mL X 1 No. PVC Bottle NO _x : 25 mL X 1 No. PVC Bottle O ₂ : 2L X 1 No. Gas Bladder
Date of Sampling	25.04.2023	Date of Receipt of Sample	26.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	27.04.2023	Date of Completion of Analysis	28.04.2023

Stack Details	
Stack Identity	Unit -2
Stack attached to	ESP Outlet
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
Fuel Consumption (L/h)	-
Load at the time of monitoring (MW)	-
Time of Monitoring (h)	12:10 to 12:40

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
1	Flue gas Temperature	°C	130	-	IS 11255 (Part 3):2008; RA 2018
2	Flue gas Velocity	m/s	25.0	-	IS 11255 (Part 3):2008; RA 2018
3	Total gas quantity	Nm ³ /h	1250206	-	IS 11255 (Part 3):2008; RA 2018
4	Particulate Matter (PM)	mg/Nm ³	35	50	IS 11255 (Part 1):1985 RA 2019
5	Sulphur Dioxide (SO ₂)	mg/Nm ³	1275	600	IS 11255 (Part 2):1985; RA 2019
6	Oxides of Nitrogen (NO _x)	mg/Nm ³	347	450	IS 11255 (Part 7): 2005; RA 2017
7	Oxygen (O ₂)	%	8.2	-	IS 13270:1992, Reaffirmed 2019

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QF/SALE/04
Issue No 03
Date 05.12.2019.
Amd 01 Date
24.12.2022

Harish Mendhi
Technical Manager
Chemical Testing





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TEST REPORT

Report No.:	ME-NG07646-230426-SA-GMR-WARORA	Date: 26.04.2023
ULR No.:	TC748723000007027F	

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit
 2. LOQ: Limit of Quantification
 3. #: Limit as per Environmental protection Rule 1986, Amd Rules 2015 (Schedule-I Sr.No. 25)
 4. Results of SO₂, NO_x & PM are corrected to 6% O₂, on dry basis.
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Harish Mendhi
Technical Manager
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TEST REPORT

Report No.:	ME-NG06131-230412-SA-GMR-WARORA	Date: 12.04.2023
ULR No.:	TC748723000005598F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near CHP	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: 2L X 3No. Gas Bladder
Date of Sampling	03.04.2023 to 04.04.2023	Date of Receipt of Sample	04.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	04.04.2023	Date of Completion of Analysis	11.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	10.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	12.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	24	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Lead (as Pb)	µg/m ³	BQL (LOQ: 0.02)	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
6	Carbon Monoxide (CO)	mg/m ³	0.86	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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TEST REPORT

Report No.:	ME-NG06131-230412-SA-GMR-WARORA	Date: 12.04.2023
ULR No.:	TC748723000005598F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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TEST REPORT

Report No.:	ME-NG06132-230412-SA-GMR-WARORA	Date: 12.04.2023
ULR No.:	TC748723000005599F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Reservoir	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: 2L X 3 No. Gas Bladder
Date of Sampling	03.04.2023 to 04.04.2023	Date of Receipt of Sample	04.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	04.04.2023	Date of Completion of Analysis	11.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	9.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	10.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	68	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	25	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Lead (as Pb)	µg/m ³	BQL (LOQ:0.02)	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
6	Carbon Monoxide (CO)	mg/m ³	0.94	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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TEST REPORT

Report No.:	ME-NG06132-230412-SA-GMR-WARORA	Date: 12.04.2023
ULR No.:	TC748723000005599F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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TEST REPORT

Report No.:	ME-NG06133-230412-SA-GMR-WARORA	Date: 12.04.2023
ULR No.:	TC748723000005600F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Switch Yard	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: 2L X 3No. Gas Bladder
Date of Sampling	03.04.2023 to 04.04.2023	Date of Receipt of Sample	04.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	04.04.2023	Date of Completion of Analysis	11.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	Sulphur Dioxide (SO ₂)	µg/m ³	12.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	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
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	64	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	22	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Lead (as Pb)	µg/m ³	BQL (LOQ:0.02)	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
6	Carbon Monoxide (CO)	mg/m ³	1.01	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT

Page 1 of 2
QF/SALE/03
Issue No 03
Date 05.12.2019.
Amd 02 Date
24.12.2022

Harish Mendhi
Harish Mendhi
Technical Manager
Chemical Testing





Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA

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TEST REPORT

Report No.:	ME-NG06133-230412-SA-GMR-WARORA	Date: 12.04.2023
ULR No.:	TC748723000005600F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com

TEST REPORT



Report No.:	ME-NG06681-230414-SA-GMR-WARORA	Date: 14.04.2023
ULR No.:	TC748723000006103F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near CHP	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: 2L X 3 No. Gas Bladder
Date of Sampling	10.04.2023 to 11.04.2023	Date of Receipt of Sample	11.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	12.04.2023	Date of Completion of Analysis	13.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	9.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	11.3	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	67	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	24	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	0.96	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT

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Issue No 03
Date 05.12.2019
Amd 02 Date
24.12.2022

Harish Mendhi
Harish Mendhi
Technical Manager
Chemical Testing





Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA

Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG06681-230414-SA-GMR-WARORA	Date: 14.04.2023
ULR No.:	TC748723000006103F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of SO₂, NO₂, PM₁₀, PM_{2.5}, 1 h. TWA in case of CO.
 7. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG06682-230414-SA-GMR-WARORA	Date: 14.04.2023
ULR No.:	TC748723000006104F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Reservoir	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: 2L X 3 No. Gas Bladder
Date of Sampling	10.04.2023 to 11.04.2023	Date of Receipt of Sample	11.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	12.04.2023	Date of Completion of Analysis	13.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	Sulphur Dioxide (SO ₂)	µg/m ³	10.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	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
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	21	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	1.06	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG06682-230414-SA-GMR-WARORA	Date: 14.04.2023
ULR No.:	TC748723000006104F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of SO₂, NO₂, PM₁₀, PM_{2.5}, 1 h. TWA in case of CO.
 7. The result listed refers only to the tested sample(s) and applicable parameter(s).
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TEST REPORT

Report No.:	ME-NG06683-230414-SA-GMR-WARORA	Date: 14.04.2023
ULR No.:	TC748723000006105F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Switch Yard	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: 2L X 3No. Gas Bladder
Date of Sampling	10.04.2023 to 11.04.2023	Date of Receipt of Sample	11.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	12.04.2023	Date of Completion of Analysis	13.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	Sulphur Dioxide (SO ₂)	µg/m ³	12.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	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
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	67	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	26	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	0.97	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT

Page 1 of 2
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Harish Mendhi
Harish Mendhi
Technical Manager
Chemical Testing





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TEST REPORT

Report No.:	ME-NG06683-230414-SA-GMR-WARORA	Date: 14.04.2023
ULR No.:	TC748723000006105F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of SO₂, NO₂, PM₁₀, PM_{2.5}, 1 h. TWA in case of CO.
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TEST REPORT

Report No.:	ME-NG07121-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006521F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near CHP	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: 2L X 3No. Gas Bladder
Date of Sampling	17.04.2023 to 18.04.2023	Date of Receipt of Sample	18.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	19.04.2023	Date of Completion of Analysis	20.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	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
2	Nitrogen Dioxide (NO ₂)	µg/m ³	16.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	22	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	1.01	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT

Page 1 of 2
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Amd 02 Date
24.12.2022

Harish Mendhi
Harish Mendhi
Technical Manager
Chemical Testing





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TEST REPORT

Report No.:	ME-NG07121-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006521F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of SO₂, NO₂, PM₁₀, PM_{2.5}, 1 h. TWA in case of CO.
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TEST REPORT

Report No.:	ME-NG07122-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006522F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Reservoir	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: 2L X 3 No. Gas Bladder
Date of Sampling	17.04.2023 to 18.04.2023	Date of Receipt of Sample	18.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	19.04.2023	Date of Completion of Analysis	20.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	8.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	11.0	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	21	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	0.91	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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TEST REPORT

Report No.:	ME-NG07122-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006522F	

- Note:**
1. BQL: Below Quantification Limit.
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 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of SO₂, NO₂, PM₁₀, PM_{2.5}, 1 h. TWA in case of CO.
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Harish Mendhi
Technical Manager
Chemical Testing





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TEST REPORT

Report No.:	ME-NG07123-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006523F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Switch Yard	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: 2L X 3No. Gas Bladder
Date of Sampling	17.04.2023 to 18.04.2023	Date of Receipt of Sample	18.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	19.04.2023	Date of Completion of Analysis	20.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	Sulphur Dioxide (SO ₂)	µg/m ³	9.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	11.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	48	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	19	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	0.83	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA

Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG07123-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006523F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of SO₂, NO₂, PM₁₀, PM_{2.5}, 1 h. TWA in case of CO.
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Harish Mendhi
Technical Manager
Chemical Testing





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TEST REPORT



Report No.:	ME-NG07571-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006952F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near CHP	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: 2L X 3 No. Gas Bladder
Date of Sampling	24.04.2023 to 25.04.2023	Date of Receipt of Sample	25.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	25.04.2023	Date of Completion of Analysis	27.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	10.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	14.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	49	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	25	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	0.95	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





Mahabal Enviro Engineers Pvt. Ltd.

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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com

TEST REPORT



Report No.:	ME-NG07571-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006952F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
 7. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG07572-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006953F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Reservoir	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: 2L X 3 No. Gas Bladder
Date of Sampling	24.04.2023 to 25.04.2023	Date of Receipt of Sample	25.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	25.04.2023	Date of Completion of Analysis	27.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	Sulphur Dioxide (SO ₂)	µg/m ³	8.3	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	11.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	20	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	1.07	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG07572-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006953F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
 7. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Phone: 0712-2612162/2612212 email: nagpur@mahabal.com



TEST REPORT

Report No.:	ME-NG07573-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006954F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Near Switch Yard	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: 2L X 3 No. Gas Bladder
Date of Sampling	24.04.2023 to 25.04.2023	Date of Receipt of Sample	25.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	25.04.2023	Date of Completion of Analysis	27.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
1	Sulphur Dioxide (SO ₂)	µg/m ³	12.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	14.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	23	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Carbon Monoxide (CO)	mg/m ³	1.04	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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TEST REPORT

Report No.:	ME-NG07573-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006954F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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TEST REPORT

Report No.:	ME-NG06883-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006297F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Aanandwan Warora	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: 2L X 3No. Gas Bladder
Date of Sampling	13.04.2023 to 14.04.2023	Date of Receipt of Sample	14.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	15.04.2023	Date of Completion of Analysis	18.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	10.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	Nitrogen Dioxide (NO ₂)	µg/m ³	12.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
3	Particulate Matter (size less than 10µm) 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
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	20	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Lead (as Pb)	µg/m ³	BQL (LOQ:0.02)	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
6	Carbon Monoxide (CO)	mg/m ³	0.92	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT

Page 1 of 2
QF/SALE/03
Issue No 03
Date 05.12.2019.
Amd 02 Date
24.12.2022


Harish Mendhi
Technical Manager
Chemical Testing





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TEST REPORT

Report No.:	ME-NG06883-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006297F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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TEST REPORT

Report No.:	ME-NG06884-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006298F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Ambient Air	Sample Collected by	Laboratory
Sampling Location	Temporary Township	Sample Quantity / Packing	PM ₁₀ : Pb: 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: 2L X 3No. Gas Bladder
Date of Sampling	13.04.2023 to 14.04.2023	Date of Receipt of Sample	14.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	15.04.2023	Date of Completion of Analysis	18.04.2023

Sr. No.	Parameter	Unit	Result	#NAAQS	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Atmospheric Pollution (Ambient Air)</u>				
1	Sulphur Dioxide (SO ₂)	µg/m ³	11.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
2	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
3	Particulate Matter (size less than 10µm) or PM ₁₀	µg/m ³	59	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
4	Particulate Matter (size less than 2.5µm) or PM _{2.5}	µg/m ³	24	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
5	Lead (as Pb)	µg/m ³	BQL (LOQ:0.02)	01	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
6	Carbon Monoxide (CO)	mg/m ³	0.86	04	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)

END OF REPORT





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TEST REPORT

Report No.:	ME-NG06884-230421-SA-GMR-WARORA	Date: 21.04.2023
ULR No.:	TC748723000006298F	

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. Duration of Sampling: 24h
 4. TWA: Time Weighted Average
 5. NAAQS: National Ambient Air Quality Standard
 6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM₁₀, PM_{2.5}, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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TEST REPORT

Report No.:	ME-NG07532-230428-SA-GMR-WARORA	Date: 28.04.2023
ULR No.:	TC748723000006920F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description/Type	Ambient Noise		
Date of Sampling	10.04.2023	Sampling Procedure	IS 9876:1981

Sr. No.	Location	Time in h	Sound Level L_{eq} dB (A)
	Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Noise)		
1	Near CHP	10:20	66.7
		23:10	61.4
2	Near Switch Yard	10:40	64.5
		23:20	59.3
3	Near Reservoir	10:55	61.2
		23:45	58.5

As per The Noise Pollution (Regulation & Control) Rules, 2000 (Rules 3(1) and 4(1))			
Area Code	Area Type	Limits in dB (A) weighted scale	
		Day Time (6:00 a.m. to 10:00 p.m.)	Night Time (10:00 p.m. to 6:00 a.m.)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

END OF REPORT

- Note:**
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TEST REPORT

Report No.:	ME- NG06411-230413-SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	-	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Workplace Air	Sample Collected by	Laboratory
Sampling Location	CHP Transformer House	Sample Quantity / Packing	Filter Paper 1 X 1 No.
Date of Sampling	06.04.2023	Date of Receipt of Sample	07.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	08.04.2023	Date of Completion of Analysis	08.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
1	Total Dust	mg/m ³	3.8	NIOSH 0500

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. TWA: Time Weighted Average
 4. Duration of Sampling: 1 h
 5. The result listed refers only to the tested sample(s) and applicable parameter(s).
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TEST REPORT

Report No.:	ME- NG06412-230413-SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	-	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Workplace Air	Sample Collected by	Laboratory
Sampling Location	CHP Penthouse	Sample Quantity / Packing	Filter Paper 1 X 1 No.
Date of Sampling	06.04.2023	Date of Receipt of Sample	07.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	08.04.2023	Date of Completion of Analysis	08.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
1	Total Dust	mg/m ³	3.3	NIOSH 0500

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. TWA: Time Weighted Average
 4. Duration of Sampling: 1 h
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TEST REPORT

Report No.:	ME- NG06413-230413-SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	-	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Workplace Air	Sample Collected by	Laboratory
Sampling Location	CHP Crusher House	Sample Quantity / Packing	Filter Paper 1 X 1 No.
Date of Sampling	06.04.2023	Date of Receipt of Sample	07.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	08.04.2023	Date of Completion of Analysis	08.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
1	Total Dust	mg/m ³	3.2	NIOSH 0500

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. TWA: Time Weighted Average
 4. Duration of Sampling: 1 h
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TEST REPORT

Report No.:	ME- NG06414-230413-SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	-	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Workplace Air	Sample Collected by	Laboratory
Sampling Location	CHP Bunker Floor	Sample Quantity / Packing	Filter Paper 1 X 1 No.
Date of Sampling	06.04.2023	Date of Receipt of Sample	07.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	08.04.2023	Date of Completion of Analysis	08.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
1	Total Dust	mg/m ³	4.1	NIOSH 0500

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. TWA: Time Weighted Average
 4. Duration of Sampling: 1 h
 5. The result listed refers only to the tested sample(s) and applicable parameter(s).
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TEST REPORT

Report No.:	ME- NG06415-230413-SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	-	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Workplace Air	Sample Collected by	Laboratory
Sampling Location	AHP Fly Slio Area	Sample Quantity / Packing	Filter Paper 1 X 1 No.
Date of Sampling	06.04.2023	Date of Receipt of Sample	07.04.2023
Sampling Procedure	As per method reference		
Date of Start of Analysis	08.04.2023	Date of Completion of Analysis	08.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
1	Total Dust	mg/m ³	2.8	NIOSH 0500

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit.
 2. LOQ: Limit of Quantification.
 3. TWA: Time Weighted Average
 4. Duration of Sampling: 1 h
 5. The result listed refers only to the tested sample(s) and applicable parameter(s).
 6. This report is not to be reproduced except in full, without the written approval of the laboratory.
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TEST REPORT

Report No.:	ME-NG06242-230413 - SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	TC748723000005686F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Domestic Effluent	Sample Collected by	Laboratory
Sampling Location	STP Inlet	Sample Quantity / Packing	2 L X 1 No. PVC Can 100mL X 1 No. PVC Can 1L X 1 No. Glass Bottle
Date of Sampling	04.04.2023	Date of Receipt of Sample	05.04.2023
Sampling Procedure	IS:3025(Part I):1987, RA 2019; APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.04.2023	Date of Completion of Analysis	12.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
	<u>Discipline: Chemical Testing;</u> <u>Product Group: Pollution & Environment (Waste Water)</u>			
1.	pH	-	7.8	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
2.	Total Dissolved Solids	mg/L	1094	IS 3025 (Part 16):1984 RA 2017, Ed.2.1(1999-12)
3.	Total Suspended Solids	mg/L	12	APHA 23 rd Ed. 2017, 2540-D, 2-70
4.	Biochemical Oxygen Demand (3 days 27°C)	mg/L	6.8	IS 3025 (Part 44): 1993, RA 2019
5.	Chemical Oxygen Demand	mg/L	24	APHA 23 rd Ed. 2017, 5220-B, 5-18
6.	Oil and Grease	mg/L	BQL (LOQ:1)	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1

END OF REPORT

- Note:**
1. BQL: Below Quantification Limit.
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TEST REPORT

Report No.:	ME-NG06244-230413 - SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	TC748723000005688F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	DM Plant	Sample Quantity / Packing	2 L X 1 No. PVC Can 100mL X 1 No. PVC Can 1L X 1 No. Glass Bottle
Date of Sampling	04.04.2023	Date of Receipt of Sample	05.04.2023
Sampling Procedure	IS:3025(Part I):1987, RA 2019; APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.04.2023	Date of Completion of Analysis	12.04.2023

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)				
1.	pH	-	7.9	5.5-9.0	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
2.	Total Dissolved Solids	mg/L	1294	2100 Max.	IS 3025 (Part 16):1984 RA 2017, Ed.2.1(1999-12)
3.	Total Suspended Solids	mg/L	9	100 Max.	APHA 23 rd Ed. 2017, 2540-D, 2-70
4.	Biochemical Oxygen Demand (3 days 27°C)	mg/L	8.5	30 Max.	IS 3025 (Part 44): 1993, RA 2019
5.	Chemical Oxygen Demand	mg/L	28	250 Max.	APHA 23 rd Ed. 2017, 5220-B, 5-18
6.	Oil and Grease	mg/L	BQL (LOQ:1)	10 Max.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1

END OF REPORT

- Note:**
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PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA

Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**



TEST REPORT

Report No.:	ME-NG06245-230413 - SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	TC748723000005689F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
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	04.04.2023	Date of Receipt of Sample	05.04.2023
Sampling Procedure	IS:3025(Part I):1987, RA 2019; APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.04.2023	Date of Completion of Analysis	12.04.2023

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	<u>Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)</u>				
1.	Free Available Chlorine	mg/L	BQL (LOQ:0.05)	0.5 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
2.	Phosphate Total (as P)	mg/L	0.791	5.0 Max.	APHA 23 rd Ed. 2017, 4500-P B, 4-160, E, 4-164
	<u>Residues in water (Trace metal Element)</u>				
3.	Total Chromium (as Cr)	mg/L	BQL (LOQ:0.01)	0.2 Max.	IS 3025 (Part 2) 2019
4.	Zinc (as Zn)	mg/L	BQL (LOQ:0.02)	1.0 Max.	IS 3025 (Part 2) 2019

END OF REPORT

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TEST REPORT

Report No.:	ME-NG06246-230413 - SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	TC748723000005690F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	Condenser Cooling Water	Sample Quantity / Packing	1 L X 1 No. PVC Can
Date of Sampling	04.04.2023	Date of Receipt of Sample	05.04.2023
Sampling Procedure	IS:3025(Part I):1987, RA 2019; APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.04.2023	Date of Completion of Analysis	12.04.2023

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)				
1.	Temperature	°C	29.0	Not to exceed 5°C higher than the intake water	APHA 23 rd Ed. 2017, 2550-B, 2-74
2.	pH	-	7.8	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
3.	Free Available Chlorine	mg/L	BQL (LOQ:0.05)	0.5 Max.	APHA 23 rd Ed. 2017, 4500-Cl-G, 4-72

END OF REPORT

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TEST REPORT

Report No.:	ME-NG06247-230413 - SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	TC748723000005691F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
Sample Description / Type	Industrial Effluent	Sample Collected by	Laboratory
Sampling Location	Boiler Blowdown	Sample Quantity / Packing	1 L X 1 No. PVC Can 500mL X 1 No. PVC Can 1 L X 1 No. Glass Bottle
Date of Sampling	04.04.2023	Date of Receipt of Sample	05.04.2023
Sampling Procedure	IS:3025(Part I):1987, RA 2019; APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.04.2023	Date of Completion of Analysis	12.04.2023

Sr. No.	Parameter	Unit	Result	#Limit	Method Reference
	Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)				
1.	Total Suspended Solids	mg/L	BQL (LOQ:5)	100 Max.	APHA 23 rd Ed. 2017, 2540-D, 2-70
2.	Oil and Grease	mg/L	BQL (LOQ:1)	10 Max.	IS 3025 (Part 39): 1991, Reaffirmed 2021, Amds.1
	Residues in water (Trace metal Element)				
3.	Copper (as Cu)	mg/L	BQL (LOQ:0.01)	1.0 Max.	IS 3025 (Part 2) 2019
4.	Iron (as Fe)	mg/L	0.081	1.0 Max.	IS 3025 (Part 2) 2019

END OF REPORT

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TEST REPORT

Report No.:	ME-NG06248-230413 - SA-GMR-WARORA	Date: 13.04.2023
ULR No.:	TC748723000005692F	

Name and Address of Customer	GMR WARORA ENERGY LIMITED. Plot No. B-1, Mohabala, MIDC Growth Center, Post & Tehsil: Warora, Dist: Chandrapur (M.S.)		SO No.: 4800169725 SO Date: 10.04.2023
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	04.04.2023	Date of Receipt of Sample	05.04.2023
Sampling Procedure	IS:3025(Part I):1987, RA 2019; APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	05.04.2023	Date of Completion of Analysis	12.04.2023

Sr. No.	Parameter	Unit	Result	Method Reference
	Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)			
1.	pH	-	8.1	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
2.	Total Suspended Solids	mg/L	28	APHA 23 rd Ed. 2017, 2540-D, 2-70
3.	Oil and Grease	mg/L	BQL (LOQ: 1)	IS 3025 (Part 39): 1991, Reaffirmed 2021, Amds.1

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