

**ENVIRONMENT CLEARANCE
COMPLIANCE
(April-2023 to Sep.-2023)**

**TORRENT POWER LTD.
(Unit : DGEN)
Tal. Vagra,Dist. Bharuch
Gujarat**

DGEN Mega Power Project: Torrent Power Limited, Dahej

Status of Compliance of the stipulated conditions of the Environment Clearance No. J 13012/36/2011-IA.II (T) Dt. October 21, 2011 (One Unit only installed against EC for 2 additional Units). Compliance Report from April 2023 to Sep.2023.		
A. Specific Conditions		
Condition No.	Description of Condition.	Status of compliance.
i)	In Case fuel for running the power, plant is proposed to be changed from natural gas to other fuel (liquid or solid) the project proponent shall apply for such a change in environmental clearance along with necessary documents as required under EIA notification, 2006 (and its amendments). In such a case the necessity for holding public hearing again or otherwise will be determined by the ministry in consultation with the Expert Appraisal committee (Thermal Power).	Complied. No change in fuel is envisaged.
ii)	Vision documents specifying prospective plan for the site shall be formulated and submitted to the Ministry within Six Month.	Complied. Included as Annexure 1 in EIA report, which is already submitted.
iii)	Conservation and regeneration of mangroves in the area within 5.0 kms shall be initiated and implementation initiated during commencement of the proposed and completed before operation of the expansion project. The project proponent shall accordingly first prepare a common plan along with and in consultation and co-operation of other industries (including power producer) in the study area. The District Administration shall be accordingly approached for its effective implementation. The plan shall also include sustainable live hood options and social measures for fishermen community in the region.	Complied. Mangroves plantation carried out in 50 hectares area near Dahej sea shore, 7 km from the Project site, through Forest Department.
iv)	A long term study through a reputed institution assess the cumulative impact of the power plant on the AAQ of the area shall be undertaken. The study shall in particular assess the impact of gas emission on the chemistry of atmosphere and the impact on radiation budget. It shall be ensured that the study takes into account the worst seasonal atmospheric conditions.	Being complied. AAQ monitoring data are collected by GPCB approved third party as per defined frequency. The same is submitted to MoEF vide our half yearly EC compliance report and also to GPCB vide our environmental monitoring report. Further, data acquired from continuous AAQ monitoring stations installed at site is being compiled for analysis and study purpose.
v)	Mass Spectrometer based Helium detector to detect the gas leakage shall be installed.	Complied.
vi)	Scheme for harnessing solar power within the premises for the plant (Particularly at available roof tops) shall be critically examined and status of implementation shall be submitted.	Complied Solar Water Heaters are already installed on Rooftop of Project Office, Administration, Canteen Buildings and residential colony building. 65kw roof top plant has been installed in TPL's housing colony.

vii)	Concentration for photochemical oxidants shall be monitored along with NOx and permanent monitoring station shall be installed at appropriate location in consultation with the central / State pollution Control board.	Complied. Three (3) nos. permanent online AAQ monitoring stations, equipped with relevant Photochemical Oxidants i.e., Ozone is being monitored along with NOx and installed at site as per CPCB guidelines.
viii)	COC of 5.0 shall be adopted.	Complied.
ix)	No ground water shall be extracted for the project work at any stage	Complied
x)	It shall be ensured that the area drainage is not disturbed due to the proposed expansion.	Complied.
xi)	Hydro-geological study of the area shall be reviewed annually to assess the sustainability of the source of water particularly in lean season. The review report duly vetted by the concerned Dept. in the state government shall be submitted to the ministry. In case adverse impact on ground and surface water is observed, immediate mitigating steps to contain the same shall be undertaken.	Water is supplied by GIDC which in turn is sourced from River Narmada. Ground water is not being extracted; hence it is not applicable.
xii)	The treated effluent conforming to the prescribed standard only shall be reused to the extent possible and excess discharged. Arrangements shall be made that effluent and storm water does not get mixed.	Complied. Treated effluent is being used for irrigation, greenbelt/ plantation. Arrangements have been made to ensure that effluent and storm water does not mix.
xiii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation. Continuous monitoring of effluent discharge shall be undertaken, and it shall be ensured that when discharge enters the natural drain the temperature of effluent shall be at ambient.	Complied. Treated sewage is being used for the greenbelt/plantation development.
xiv)	Monitoring of ground and surface water quality (if any nearby) shall be regularly conducted and records maintained. The monitored data shall be submitted to the ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Complied. Monitoring of quality of ground water is undertaken and records are maintained. Reports are submitted herewith.
xv)	A well designed rainwater harvesting shall be put in place. Central groundwater authority/ board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date issue of clearance and details shall be furnished. Status of implementation shall be submitted to the regional office of the ministry.	Complied. Rainwater harvesting system is installed at plant . During the last monsoon around 117565 M3 of rainwater harvesting till date in FY 2023-24.
xvi)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires 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 of the ministry.	Complied.

xvii)	Noise levels emanating from turbines shall be controlled such that the noise in the work zone shall be limited to 75 dBA at 1m from the source of noise. 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.	Complied.
xviii)	NO _x emission from each gas turbine shall not exceed 50 ppm	Complied.
xix)	Stacks of 70 m shall be provided with continuous online monitoring equipment's. Exit velocity of flue gases shall not be less than 22 m/sec.	Stacks of 70 m are provided with continuous online monitoring equipment's.
xx)	Regular monitoring of ground level concentration of NOX shall be carried out in the impact zone and records maintained. If at any stage the 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.	Complied. Monitoring of Ambient Air Quality is being carried out periodically and records are maintained and also submitted to GPCB.
xxi)	Local employable youth shall be trained in skill relevant to the project for eventual employment in the project itself. The action taken report and details therefore to this effect shall be submitted to the regional office of the Ministry and the state govt. Dept, concerned from time to time.	Complied. Company undertakes various CSR activities some of which are listed in Annexure 'A'. In addition, local populace are offered earning opportunities by hiring them for various services/ jobs viz., Horticulture, Driving, employment in company's Canteen, jobs in Hospital project, etc.
xxii)	An amount of RS 13.60 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 2.70 Crores per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted to the regional office of the Ministry along with road map for implantation.	Complied. Company undertakes various CSR activities some of which are listed in Annexure 'A'. In addition, local populace are offered earning opportunities by hiring them for various services/ jobs viz., Horticulture, Driving, employment in company's Canteen, jobs in Hospital project, etc.
xxiii)	CSR scheme shall be identified based on need based assessment in and around villages within 5 km of the site and in constant consultation with the village Panchayat and the district Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating	Complied. Company undertakes various CSR activities some of which are listed in Annexure 'A'. In addition, local populace are offered earning opportunities by hiring them for various services/ jobs viz., Horticulture, Driving, employment in

	programmes. Vocational training programme for possible self-employment and job shall be imparted to identify villagers free of cost.	company's Canteen, jobs in Hospital project, etc.
xxiv)	It shall be ensured that in – built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	No government institute available in close vicinity for social audit. Alternatives are being explored.
xxv)	Green belt consisting of 3 tiers of plantations around the plant with adequate tree density not less than 2500 per ha with survival rate not less than 80% shall be developed. The green belt developed shall not be less than 33 % of total area.	Complied. Greenbelt development is completed and is being maintained.
xxvi)	The project proponent shall formulate a well laid corporate environment policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with conditions stipulated in this clearance latter and other applicable environmental laws and regulation.	Complied.

B. General Conditions:

i)	Storage facilities for auxiliary liquid fuel such as LDO and/HFO/LSHS (if any) shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel with not exceed 0.5%. Disaster Management plan shall be prepared to meet any eventually in case of an accident taking place due to storage of oil.	Complied.
ii)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied. No longer applicable as the plant is commissioned and operational.
iii)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project	Complied. No longer applicable as the plant is commissioned and operational.
vi)	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the cell shall directly report to the head of the organization.	Complied. Project is already completed and commissioned. However Environmental cell is established and is functional.
vii)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. it shall	Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports

	simultaneously be sent to the regional office of MOEF, the respective zonal office of CPCB and the SPCB	are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith
viii)	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.	Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith
ix)	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.	Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith
x)	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. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six-monthly bases. Criteria pollutants levels including NO _x (from stack & ambient air) shall be displayed at the main gate of the power plant and in public domain.	Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith
xi)	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.	Being complied.

xii)	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 dates of start of land development work and commissioning of plant.	Complied. Financial closure: 21 st May, 2011 Land development: January, 2011 EC and Consolidated Consent and Authorization (CC&A) are in place.
xiii)	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.	Agreed

**Status of Compliance of the stipulated conditions of the Environment Clearance No. J 13012/105/2009-IA.II (T) Dt. October 12, 2010.
Period from March 2023 to Sep.2023**

A. Specific Conditions		
Condition No.	Description of Condition	Status of compliance
i)	In Case fuel for running the power, plant is proposed to be changed from natural gas to other fuel (liquid or solid) the project proponent shall apply for such a change in environmental clearance along with necessary documents as required under EIA notification, 2006 (and its amendments). In such a case the necessity for holding public hearing again or otherwise will be determined by the ministry in consultation with the Expert Appraisal committee (Thermal Power).	Complied. No change in fuel is envisaged.
ii)	Land Requirement for the two units viz. 2x400 MW CCPP shall be restricted to 85 and 25 Ha shall be kept for future provision	Complied.
iii)	NO _x emission from each gas turbine shall not exceed 50 ppm	Complied.
iv)	Stacks of 70 m shall be provided with continuous online monitoring equipment's. Exit velocity of flue gases shall not be less than 22 m/sec.	Stacks of 70 m are provided with continuous online monitoring equipment's.
v)	COC of 5.0 shall be adopted.	Complied.
vi)	No ground water shall be extracted for the project work at any stage	Complied
vii)	Minimum required environmental flow suggested by the competent authority of the state Govt. (if any) shall be maintained in the channel/ rivers (as applicable) even in lean season.	Not applicable because the treated wastewater shall be disposed into common effluent discharge system of GIDC.
viii)	Green belt consisting of 3 tiers of plantations around the plant with adequate tree density not less than 2500 per ha with survival rate not less than 80% shall be developed. The green belt developed shall not be less than 33 % of total area.	Complied. Greenbelt development is completed and is being maintained.
ix)	The treated effluent conforming to the prescribed standard only shall be reused to the extent possible and excess discharged. Arrangements shall be made that effluent and storm water does not get mixed.	Complied. Treated effluent is being used for irrigation, greenbelt/ plantation. Arrangements have been made to ensure that effluent and storm water does not mix.
x)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation. Continuous monitoring of effluent discharge shall be undertaken and it shall be ensured that when discharge enters the natural drain the temperature of effluent shall be at ambient.	Complied. Treated sewage is being used for the greenbelt/plantation development.

xi)	Monitoring of ground and surface water quality (if any nearby) shall be regularly conducted, and records maintained. The monitored data shall be submitted to the ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Complied. Monitoring of quality of ground water is undertaken and records are maintained. Reports are submitted herewith.
xii)_	A well designed rainwater harvesting shall be put in place. Central groundwater authority/ board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date issue of clearance and details shall be furnished. Status of implementation shall be submitted to the regional office of the ministry.	Complied. Rainwater harvesting system is installed at plant . During the last monsoon around 117565 M3 of rainwater harvesting till date in FY 2023-24.
xiii)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires 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 of the ministry.	Complied.
xiv)	Noise levels emanating from turbines shall be controlled such that the noise in the work zone shall be limited to 75 dBA at 1m from the source of noise. 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.	Complied.
xv)	Regular monitoring of ground level concentration of ,SO ₂ ,NO _x ,RSPM (PM ₁₀ & PM _{2.5}) 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.	Complied. Monitoring of Ambient Air Quality is being carried out periodically and records are maintained and also submitted to GPCB every month
xvi)	Time bound action plan for implementation of issues raised in public hearing shall be submitted to the ministry within three months.	The project was exempted from Public Hearing since it is located within SEZ.
xvii)	An amount of RS 6.8 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring	Company undertakes various CSR activities some of which are listed in Annexure 'A'. In addition, local

	expenditure of Rs 1.4 Crores 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	populace are offered earning opportunities by hiring them for various services/ jobs viz., Horticulture, Driving, employment in company's Canteen, jobs in Hospital project, etc.
xviii)	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 programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs..	Company undertakes various CSR activities some of which are listed in Annexure 'A'. In addition, local populace are offered earning opportunities by hiring them for various services/ jobs viz., Horticulture, Driving, employment in company's Canteen, jobs in Hospital project, etc.
xix)	It shall be ensured that in – built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	No government institute available in close vicinity for social audit. Alternatives are being explored.
B. General Conditions:		
Condition No.	Description of Condition	Status of compliance
i)	Storage facilities for auxiliary liquid fuel such as LDO and/HFO/LSHS (if any) shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel shall not exceed 0.5%. Disaster Management plan shall be prepared to meet any eventually in case of an accident taking place due to storage of oil.	Complied.
II)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied. No longer applicable as the plant is commissioned and operational.
III)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project	Complied. No longer applicable as the plant is commissioned and operational.

iv)	<p>The project proponent shall advertise in at least two local newspaper 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 Stat Pollution Control Board /Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in</p>	<p>The project was exempted since it is located within SEZ.</p>
vi)	<p>An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the cell shall directly report to the head of the organization.</p>	<p>Complied. Project is already completed and commissioned. However Environmental cell is established and is functional.</p>
vii)	<p>The proponent shall upload the status of compliance of the stipulated environmental clearance 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</p>	<p>Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith</p>
viii)	<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 e-mail) to the respective regional office of MOEF, the respective zonal office of CPCB and the SPCB.</p>	<p>Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith</p>
ix)	<p>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.</p>	<p>Complied Half-yearly EC compliance and Environment reports are uploaded on company website (www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith</p>
x)	<p>Regional office of the ministry of environment & forests will monitor the implementation of the stipulated conditions. A complete set of documents including</p>	<p>Complied Half-yearly EC compliance and Environment reports are uploaded on company website</p>

	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. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six-monthly bases. Criteria pollutants levels including NOX (from stack & ambient air) shall be displayed at the main gate of the power plant and in public domain.	(www.torrentpower.com) and reports are submitted to MoEF (Online), CPCB & GPCB. Half yearly Environment Monitoring reports from April 2023 to Sep. 2023 are attached herewith
xi)	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.	Being complied.
xii)	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 dates of start of land development work and commissioning of plant.	Complied. Financial closure: 21st May, 2011 Land development: January, 2011 EC and Consolidated Consent and Authorization (CC&A) are in place.
xiii)	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.	Agreed

**Status of Compliance of the stipulated conditions of the Environment Clearance No. SEIAA/GUJ/EC/1(d)/136/2008 Dt. 13.10.2008.
Period from March 2023 to Sep.2023**

A. SPECIFIC CONDITION

Condition No.	Description of Condition	Status of compliance
1	Hydrocarbon leak detection system, automatic shut down valve, critical switches and alarm, regular pipeline inspection and fire fighting facilities will be installed to enhance the safe handling of natural gas.	Complied.
2	The natural gas facility will be equipped with an extensive array of gas detection and flame detection equipment.	Complied.
3	Methane gas detectors will be placed in any area where natural gas is being handled.	Complied.

4	Risk mitigation measures including hydrogen flame detectors, adequate local ventilation in the hydrogen storage area, safe handling and operating procedures and adequate fire fighting facilities shall be provided to attend any emergency due to accidental release of hydrogen.	Complied.
A.1	WATER :	
5	No ground water shall be used for the project. water supply for the project shall be sourced from Dahej SEZ Ltd.	Complied. Project is already completed and commissioned.
6	The treated wastewater shall be utilized for green belt within the premises to the maximum extent possible and the balance quantity shall be discharged into the Dahej SEZ underground drainage pipeline.	Complied. Treated effluent is being used for irrigating greenbelt/ plantation.
A.2	AIR :	
7	Natural gas shall be used as fuel in the power plant.	Complied.
8	Adequate stack height as per the GPCB norms shall be provided.	Complied.
9	Gaseous emission at workplaces shall be controlled and kept below the limits prescribed by the factories act and Rules. Their records shall be maintained.	Complied
10	The gaseous emissions and particulate matter from various process units shall conform to the standards prescribed by GPCB. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the prescribed standards.	Complied
A.3	SOLID WASTE:	
11	The exhausted resin shall be disposed of in to nearest TSDF after necessary permission from the GPCB.	Complied.
12	Used Oil / waste Oil shall be sent only to the authorized / registered recycler as per the permission of the GPCB and shall comply to the provisions of the hazardous waste (M&H) rules, 1989, as amended from time to time.	Complied
13	The company must strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous waste (management and Handling) rules 2003. Authorization from the GPCB must be obtained for collection / treatment / storage /disposal of hazardous wastes.	Complied
A.4	SAFETY:	

14	Adequate firefighting facilities will be provided at the proposed power plant.	Complied.
15	Flameproof fittings shall be provided in the manufacturing plant.	Complied.
16	Proper ventilation shall be provided in the work area.	Complied.
17	Storage and use of toxic chemicals shall be minimized to the extent possible.	Complied.
18	During material transfer, spillages shall be avoided, and garland drain be constructed to avoid mixing of accidental spillages with domestic waste and storm water drain.	Complied.
19	Personal protective equipment shall be provided to workers and its usage shall be ensured and supervised.	Complied
20	First aid box and required antidotes for the chemicals used in the unit shall be readily available in adequate quantity at all the times.	Complied
21	Training shall be given to all workers on safety and health aspects of handling chemicals.	Complied
22	Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act and Rules. Pre-employment and periodical medical examination for all workers shall be undertaken as per statutory requirement.	Complied
A.5	NOISE:	
23	The overall noise level in and around the plant area shall be kept well within the prescribed standards by providing noise control measure including acoustic insulation, hoods, silencers, enclosures vibration dampers etc. on all sources of noise generation. The ambient noise levels shall confirm to the standards prescribed under the Environment (Protection) Act and Rules.	Complied.
A.6	GREEN BELT AND OTHER PLANTATION	
24	The project will carry out will tree plantation of 10,000 trees in the surrounding areas in consultation with nearby school, Gram Panchayat, etc. as Corporate Social Responsibility, and ensure their survival over a period of five years.	The following plantation activities have been carried out in H1FY24 1)325 Nos. Shrub, 70 Nos. of herbs & 55 Nos. Tree plantation in DGEN. 2) 2450 Nos. Shrub, 670 Nos. of herbs Plantation in

		Meghdhanush residential township. 3) 30 Nos. shrubs, 25 Nos. of herbs & 15 Nos. Tree plantation at Primary Health centre in village Pakhajan.
B.	GENERAL CONDITIONS:	
25	The applicable shall provide flame detectors, and adequate local ventilation in the hydrogen storage area for emergency and safety measures.	Complied
26	The company shall undertake eco-developmental measure including community welfare program most useful in the project area for the overall improvement. The eco-development plan shall be submitted to GPCB within three months of receipt of the EC.	Being Complied. Various environmental initiatives have already been undertaken.
27	The project management shall also comply with all environment protection measure and risk mitigation measure/safeguards proposed by them.	Complied Project is already completed and commissioned.
28	The company shall develop rainwater harvesting structures to harvest the runoff water for recharge of ground water. Also harvesting of surface as well as rainwater from the rooftops of the building proposed in the project shall be undertaken and the same water shall be used for the various activities of the projects to conserve fresh water.	Complied Rainwater harvesting system is installed at plant. During the last monsoon around 117565 M3 of rainwater harvesting till date in FY 2023-24.
29	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the describe efficiency has been achieved.	Complied.
30	The project management shall also comply with all the environment protection measures, risk mitigation measure and safeguards recommended in the EIA/EMP report as well as other proposals made by them.	Complied
31	The applicant shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of the environmental protection and management.	Complied
32	No further expansion or modifications in the plant shall be carried out without prior	Noted

	approval of the MOEF/SEIAA, as the case may be. In case of deviations or alterations in the project proposal from those submitted to MOEF/SEIAA/SEAC for clearance, a fresh reference shall be made to the SEIAA/SEAC to assess the adequacy of conditions imposed and to add additional environmental protection measure required, if any.	
33	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Noted & Complied
35	It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1 st June and 1 st December of each calendar year.	Complied
36	The project authorities shall also adhere to the stipulations made by the GPCB.	Complied
37	The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied. Financial closure: 21 May 2011 Land development: January 2011 Commercial Operation: December 11, 2014 EC and Consolidate Consent and Authorization (CC&A) are in place.
38	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Noted Agreed to comply
39	The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary. The above conditions will be enforced, inter alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air(Prevention &Control of Pollution) Act 1981, the Environment (Protection) Act 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Complied

"HALF YEARLY ENVIRONMENTAL MONITORING REPORT"

FOR

TORRENT POWER LTD.

DGEN MEGA POWER PROJECT,
DAHEJ, BHARUCH – 392130

APRIL - 2023 TO SEPTEMBER - 2023

PREPARED BY:



M/s POLLUCON LABORATORIES PVT.LTD.

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TC-5945



ISO 9001:2015



ISO 14001:2015



ISO 45001:2018

“HALF YEARLY ENVIRONMENT MONITORING REPORT”

FOR

TORRENT POWER LTD.

DGEN MEGA POWER PROJECT,
DAHEJ, BHARUCH – 392130

For and on behalf of Pollucon Laboratories Pvt. Ltd., Surat

Approved by : Dr. Arun Kumar Bajpai

Signed : 

Designation : Lab Manager (Q)



This report has been prepared by Pollucon laboratories Pvt. Ltd. with all reasonable skills, care and diligence, incorporating our General Terms and Conditions of Business and taking account of the resources devoted, flow chart, diagram etc. is provided by the client itself.

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CHAPTER 1

INTRODUCTION

MONITORING PERIOD:

APRIL 2023 TO SEPTEMBER 2023

Environmental Monitoring was carried out as per the scope of work.

Treated effluent water and treated sewage water sampling and analysis carried out on monthly basis.

Ambient Air Quality Monitoring was conducted. Sampling and analysis for ambient air at specified locations performed; based on the methodology specified in National Ambient Air Quality Standards by Ministry of Environment and Forest Government of India.

Plant stack sampling of all operational units carried out on half yearly basis.

The equipment used for sampling and analysis are calibrated and certified as per NABL requirements with NIST traceability as per ISO/IEC 17025:2017.

Pollucon laboratories Pvt. Ltd., Surat is recognized by Ministry of Environment & Forest, Government of India, New Delhi under the EPA- article 12 A. along with the recognition as Environmental Auditors; under the Honorable High Court; Gujarat Orders.

Laboratory set up is having international recognition from NABL (National Accreditation Board for Laboratories) under the ministry of Science & Technology as per ISO/IEC 17025:2017 for the Environmental / Food / Air / Solid-Hazardous waste, Construction material etc. (Detailed scope is available on NABL web site).

Entire administration and operations of the laboratory is as per ISO 9001:2015 quality systems and is certified by TUV consultants.

Applicable Codes as per Bureau of Indian Standards:

SR. NO.	MONITORING DETAILS	APPLICABLE BIS CODE
1	TREATED EFFLUENT WATER QUALITY	IS:3025
2	TREATED SEWAGE WATER QUALITY	IS:3025
3	AMBIENT AIR QUALITY MONITORING	IS:5182
4	STACK GAS MONITORING	IS:11255
5	NOISE MONITORING	IS 9876 / IS 9989

CHAPTER – 2

TREATED EFFLUENT WATER QUALITY MONITORING

MONITORING PERIOD:
APRIL - 2023 TO SEPTEMBER - 2023

RESULTS OF TREATED EFFLUENT WATER QUALITY MONITORING

SAMPLING LOCATION			GUARD POND		
DATE OF SAMPLING			Apr - 2023	May - 2023	Jun - 2023
			--	--	20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULTS	RESULTS	RESULTS
1	pH	--	--	--	7.02
2	Temperature	°C	--	--	29.6
3	Colour	Hazen	--	--	5
4	Total Suspended Solids	mg/L	--	--	12
5	BOD (3 Days @ 27 °C)	mg/L	--	--	6.4
6	COD	mg/L	--	--	41
7	Oil & Grease	mg/L	--	--	Not Detected
8	Phenolic Compounds as C ₆ H ₅ OH	mg/L	--	--	Not Detected
9	Sulphide as S	mg/L	--	--	Not Detected
10	Ammonical Nitrogen as NH ₃	mg/L	--	--	1.95
11	Chloride as Cl	mg/L	--	--	219
12	Sulphate as SO ₄	mg/L	--	--	51.7
13	Cyanide as CN	mg/L	--	--	Not Detected
14	Fluoride as F	mg/L	--	--	0.65
15	Hexavalent Chromium as Cr ⁺⁶	mg/L	--	--	Not Detected
16	Total Chromium as Cr ⁺³	mg/L	--	--	Not Detected
17	Copper as Cu	mg/L	--	--	Not Detected
18	Nickel as Ni	mg/L	--	--	Not Detected
19	Zinc as Zn	mg/L	--	--	Not Detected
20	Mercury as Hg	mg/L	--	--	Not Detected
21	Lead as Pb	mg/L	--	--	Not Detected
22	Arsenic as As	mg/L	--	--	Not Detected
23	Cadmium as Cd	mg/L	--	--	Not Detected
24	Selenium as Se	mg/L	--	--	Not Detected
25	Boron as B	mg/L	--	--	Not Detected
26	Residual Free Chlorine	mg/L	--	--	Not Detected
27	Sodium as Na	%	--	--	44.00
28	Bio-assay test	%	--	--	100 % survival of fish after 96 hours in 100% effluent
29	Total Dissolved Solids	mg/L	--	--	1029
30	Total Organic Carbon	ppm	--	--	9.8

Continue.....

SAMPLING LOCATION			GUARD POND		
DATE OF SAMPLING			Apr - 2023	May - 2023	Jun - 2023
			--	--	20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
31	Pesticides				
31.1	Aldrin	µg/L	--	--	Not Detected
31.2	Dicofol	µg/L	--	--	Not Detected
31.3	Dieldrin	µg/L	--	--	Not Detected
31.4	Alpha Endosulfan	µg/L	--	--	Not Detected
31.5	Beta Endosulfan	µg/L	--	--	Not Detected
31.6	Endosulfan Sulfate	µg/L	--	--	Not Detected
31.7	Heptachlor	µg/L	--	--	Not Detected
31.8	Hexachlorobenzene (HCB)	µg/L	--	--	Not Detected
31.9	MethoxyChlor	µg/L	--	--	Not Detected
31.10	2,4 DDT	µg/L	--	--	Not Detected
31.11	4,4 DDD	µg/L	--	--	Not Detected
31.12	4,4 DDE	µg/L	--	--	Not Detected
31.13	4,4 DDT	µg/L	--	--	Not Detected
31.14	Alpha-HCH	µg/L	--	--	Not Detected
31.15	Beta-HCH	µg/L	--	--	Not Detected
31.16	Gamma-HCH	µg/L	--	--	Not Detected
31.17	Delta HCH	µg/L	--	--	Not Detected
Organo Phosphorous Pesticides(OPPs)					
31.18	Chlorpyriphos	µg/L	--	--	Not Detected
31.19	Dimethoate	µg/L	--	--	Not Detected
31.20	Ethion	µg/L	--	--	Not Detected
31.21	Malathion	µg/L	--	--	Not Detected
31.22	Monocrotophos	µg/L	--	--	Not Detected
31.23	Parathion-Methyl	µg/L	--	--	Not Detected
31.24	Phorate	µg/L	--	--	Not Detected
31.25	Phosphamidon	µg/L	--	--	Not Detected
31.26	Profenophos	µg/L	--	--	Not Detected
31.27	Quinaphos	µg/L	--	--	Not Detected
Synthetic Pyrethroids (SPs)					
31.28	Deltamethrin	µg/L	--	--	Not Detected
31.29	Fenpropethrin	µg/L	--	--	Not Detected
31.30	Fenvalerate	µg/L	--	--	Not Detected
31.31	Alpha-Cypermethrin	µg/L	--	--	Not Detected
31.32	Beta-Cyfluthrin	µg/L	--	--	Not Detected
31.33	Cyhalothrin	µg/L	--	--	Not Detected
Herbicides					
31.34	Alachlor	µg/L	--	--	Not Detected
31.35	Butachlor	µg/L	--	--	Not Detected
31.36	Fluchloralin	µg/L	--	--	Not Detected
31.37	Pendimethalin	µg/L	--	--	Not Detected

RESULTS OF TREATED EFFLUENT WATER MONITORING

SAMPLING LOCATION			GUARD POND		
DATE OF SAMPLING			Jul - 2023	Aug - 2023	Sep - 2023
			21/07/2023	22/08/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULTS	RESULTS	RESULTS
1	pH	--	6.81	7.11	6.96
2	Temperature	°C	29.4	30.2	31.2
3	Colour	Hazen	5	5	5
4	Total Suspended Solids	mg/L	15	12	9
5	BOD (3 Days @ 27 °C)	mg/L	6.8	6	9.4
6	COD	mg/L	35	30	36
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected
8	Phenolic Compounds as C ₆ H ₅ OH	mg/L	Not Detected	Not Detected	Not Detected
9	Sulphide as S	mg/L	Not Detected	Not Detected	Not Detected
10	Ammonical Nitrogen as NH ₃	mg/L	2.1	1.9	1.2
11	Chloride as Cl	mg/L	236	219	529
12	Sulphate as SO ₄	mg/L	56.8	58.4	121
13	Cyanide as CN	mg/L	Not Detected	Not Detected	Not Detected
14	Fluoride as F	mg/L	0.52	0.58	0.41
15	Hexavalent Chromium as Cr ⁺⁶	mg/L	Not Detected	Not Detected	Not Detected
16	Total Chromium as Cr ⁺³	mg/L	Not Detected	Not Detected	Not Detected
17	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected
18	Nickel as Ni	mg/L	Not Detected	Not Detected	Not Detected
19	Zinc as Zn	mg/L	Not Detected	Not Detected	Not Detected
20	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected
21	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected
22	Arsenic as As	mg/L	Not Detected	Not Detected	Not Detected
23	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected
24	Selenium as Se	mg/L	Not Detected	Not Detected	Not Detected
25	Boron as B	mg/L	Not Detected	Not Detected	Not Detected
26	Residual Free Chlorine	mg/L	Not Detected	Not Detected	Not Detected
27	Sodium as Na	%	42.57	44.00	41.17
28	Bio-assay test	%	100 % survival of fish after 96 hours in 100% effluent	100 % survival of fish after 96 hours in 100% effluent	100 % survival of fish after 96 hours in 100% effluent
29	Total Dissolved Solids	mg/L	1284	1198	1328
30	Total Organic Carbon	ppm	9.9	6.4	9.6

Continue.....

SAMPLING LOCATION			GUARD POND		
DATE OF SAMPLING			Jul - 2023	Aug - 2023	Sep - 2023
			21/07/2023	22/08/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULTS	RESULTS	RESULTS
31	Pesticides				
31.1	Aldrin	µg/L	Not Detected	Not Detected	Not Detected
31.2	Dicofol	µg/L	Not Detected	Not Detected	Not Detected
31.3	Dieldrin	µg/L	Not Detected	Not Detected	Not Detected
31.4	Alpha Endosulfan	µg/L	Not Detected	Not Detected	Not Detected
31.5	Beta Endosulfan	µg/L	Not Detected	Not Detected	Not Detected
31.6	Endosulfan Sulfate	µg/L	Not Detected	Not Detected	Not Detected
31.7	Heptachlor	µg/L	Not Detected	Not Detected	Not Detected
31.8	Hexachlorobenzene (HCB)	µg/L	Not Detected	Not Detected	Not Detected
31.9	MethoxyChlor	µg/L	Not Detected	Not Detected	Not Detected
31.10	2,4 DDT	µg/L	Not Detected	Not Detected	Not Detected
31.11	4,4 DDD	µg/L	Not Detected	Not Detected	Not Detected
31.12	4,4 DDE	µg/L	Not Detected	Not Detected	Not Detected
31.13	4,4 DDT	µg/L	Not Detected	Not Detected	Not Detected
31.14	Alpha-HCH	µg/L	Not Detected	Not Detected	Not Detected
31.15	Beta-HCH	µg/L	Not Detected	Not Detected	Not Detected
31.16	Gamma-HCH	µg/L	Not Detected	Not Detected	Not Detected
31.17	Delta HCH	µg/L	Not Detected	Not Detected	Not Detected
Organo Phosphorous Pesticides(OPPs)					
31.18	Chlorpyriphos	µg/L	Not Detected	Not Detected	Not Detected
31.19	Dimethoate	µg/L	Not Detected	Not Detected	Not Detected
31.20	Ethion	µg/L	Not Detected	Not Detected	Not Detected
31.21	Malathion	µg/L	Not Detected	Not Detected	Not Detected
31.22	Monocrotophos	µg/L	Not Detected	Not Detected	Not Detected
31.23	Parathion-Methyl	µg/L	Not Detected	Not Detected	Not Detected
31.24	Phorate	µg/L	Not Detected	Not Detected	Not Detected
31.25	Phosphamidon	µg/L	Not Detected	Not Detected	Not Detected
31.26	Profenophos	µg/L	Not Detected	Not Detected	Not Detected
31.27	Quinaphos	µg/L	Not Detected	Not Detected	Not Detected
Synthetic Pyrethroids (SPs)					
31.28	Deltamethrin	µg/L	Not Detected	Not Detected	Not Detected
31.29	Fenpropethrin	µg/L	Not Detected	Not Detected	Not Detected
31.30	Fenvalerate	µg/L	Not Detected	Not Detected	Not Detected
31.31	Alpha-Cypermethrin	µg/L	Not Detected	Not Detected	Not Detected
31.32	Beta-Cyfluthrin	µg/L	Not Detected	Not Detected	Not Detected
31.33	Cyhalothrin	µg/L	Not Detected	Not Detected	Not Detected
Herbicides					
31.34	Alachlor	µg/L	Not Detected	Not Detected	Not Detected
31.35	Butachlor	µg/L	Not Detected	Not Detected	Not Detected
31.36	Fluchloralin	µg/L	Not Detected	Not Detected	Not Detected
31.37	Pendimethalin	µg/L	Not Detected	Not Detected	Not Detected

CHAPTER – 3

TREATED SEWAGE WATER QUALITY MONITORING

MONITORING PERIOD:

APRIL - 2023 TO SEPTEMBER - 2023

RESULTS OF TREATED SEWAGE WATER QUALITY MONITORING

SAMPLING LOCATION			STP - 1		
DATE OF SAMPLING			Apr - 2023	May - 2023	Jun - 2023
			26/04/2023	17/05/2023	20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
1	BOD (3 Days @ 27 °C)	mg/L	11.8	14.6	18.4
2	Suspended Solids	mg/L	25	27	29
3	pH	--	7.09	7.19	7.35
4	Fecal Coliform	MPN Index/100 ml	430	280	170

SAMPLING LOCATION			STP - 1		
DATE OF SAMPLING			Jul - 2023	Aug - 2023	Sep - 2023
			21/07/2023	22/08/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
1	BOD (3 Days @ 27 °C)	mg/L	12.6	16.4	11.2
2	Suspended Solids	mg/L	23	27	21
3	pH	--	7.10	7.25	7.56
4	Fecal Coliform	MPN Index/100 ml	540	350	220

RESULTS OF TREATED SEWAGE WATER QUALITY MONITORING

SAMPLING LOCATION			STP - 2		
DATE OF SAMPLING			Apr - 2023	May - 2023	Jun - 2023
			26/04/2023	17/05/2023	20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
1	BOD (3 Days @ 27 °C)	mg/L	12.6	15.2	19.6
2	Suspended Solids	mg/L	21	26	23
3	pH	--	6.89	7.09	7.29
4	Fecal Coliform	MPN Index/100 ml	350	430	94

SAMPLING LOCATION			STP - 2		
DATE OF SAMPLING			Jul - 2023	Aug - 2023	Sep - 2023
			21/07/2023	22/08/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
1	BOD (3 Days @ 27 °C)	mg/L	18.4	19.6	16.0
2	Suspended Solids	mg/L	27	24	22
3	pH	--	7.39	7.32	7.49
4	Fecal Coliform	MPN Index/100 ml	170	280	120

RESULTS OF TREATED SEWAGE WATER QUALITY MONITORING

SAMPLING LOCATION			STP - 3		
DATE OF SAMPLING			Apr - 2023	May - 2023	Jun - 2023
			26/04/2023	17/05/2023	20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
1	BOD (3 Days @ 27 °C)	mg/L	--	--	15.0
2	Suspended Solids	mg/L	--	--	21
3	pH	--	--	--	7.31
4	Fecal Coliform	MPN Index/100 ml	--	--	280

SAMPLING LOCATION			STP - 3		
DATE OF SAMPLING			Jul - 2023	Aug - 2023	Sep - 2023
			21/07/2023	22/08/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT	RESULT
1	BOD (3 Days @ 27 °C)	mg/L	14.6	16.6	13.0
2	Suspended Solids	mg/L	25	28	27
3	pH	--	7.41	7.33	7.85
4	Fecal Coliform	MPN Index/100 ml	350	540	430

CHAPTER – 4
AMBIENT AIR QUALITY MONITORING
MONITORING PERIOD:
APRIL - 2023 TO SEPTEMBER - 2023

RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMPLING LOCATION			NEAR 00CFE03 (SWICHYARD)	
DATE OF SAMPLING			Jun - 23	Sep - 23
			20/06/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Respirable Particulate Matter (PM10)	µg/m ³	68.90	73.08
2	Particulate Matter (PM 2.5)	µg/m ³	30.10	32.88
3	Lead as Pb	µg/m ³	Not Detected	Not Detected
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m ³	Not Detected	Not Detected
5	Arsenic as As	ng/m ³	Not Detected	Not Detected
6	Nickel as Ni	ng/m ³	Not Detected	Not Detected
7	Carbon Monoxide as CO	mg/m ³	0.82	0.85
8	Benzene as C ₆ H ₆	µg/m ³	Not Detected	Not Detected
9	Ammonia as NH ₃	µg/m ³	19.30	20.62
10	Sulphur Dioxide (SO ₂)	µg/m ³	13.90	14.24
11	Oxides of Nitrogen	µg/m ³	23.30	25.98
12	Ozone as O ₃	µg/m ³	13.60	15.38
13	Hydrocarbon as HC	µg/m ³	Not Detected	Not Detected
14	Hydrochloric Acid as HCl	µg/m ³	Not Detected	Not Detected
15	Chlorine as Cl ₂	µg/m ³	Not Detected	Not Detected
16	Hydrogen Sulphide as H ₂ S	µg/m ³	Not Detected	Not Detected
17	Hydrogen Fluoride as HF	µg/m ³	Not Detected	Not Detected
18	Carbon Disulphide as CS ₂	µg/m ³	Not Detected	Not Detected

RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMPLING LOCATION			NEAR 00CFE02(NEAR RESERVOIR)	
DATE OF SAMPLING			Jun - 23	Sep - 23
			20/06/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Respirable Particulate Matter (PM10)	µg/m ³	63.30	67.48
2	Particulate Matter (PM 2.5)	µg/m ³	27.90	30.66
3	Lead as Pb	µg/m ³	Not Detected	Not Detected
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m ³	Not Detected	Not Detected
5	Arsenic as As	ng/m ³	Not Detected	Not Detected
6	Nickel as Ni	ng/m ³	Not Detected	Not Detected
7	Carbon Monoxide as CO	mg/m ³	0.67	0.72
8	Benzene as C ₆ H ₆	µg/m ³	Not Detected	Not Detected
9	Ammonia as NH ₃	µg/m ³	15.50	17.68
10	Sulphur Dioxide (SO ₂)	µg/m ³	10.80	11.73
11	Oxides of Nitrogen	µg/m ³	21.30	23.41
12	Ozone as O ₃	µg/m ³	11.40	12.95
13	Hydrocarbon as HC	µg/m ³	Not Detected	Not Detected
14	Hydrochloric Acid as HCl	µg/m ³	Not Detected	Not Detected
15	Chlorine as Cl ₂	µg/m ³	Not Detected	Not Detected
16	Hydrogen Sulphide as H ₂ S	µg/m ³	Not Detected	Not Detected
17	Hydrogen Fluoride as HF	µg/m ³	Not Detected	Not Detected
18	Carbon Disulphide as CS ₂	µg/m ³	Not Detected	Not Detected

RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMPLING LOCATION			NEAR 00CFE01(NEAR GUARD POND)	
DATE OF SAMPLING			Jun - 23	Sep - 23
			20/06/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Respirable Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	70.70	74.58
2	Particulate Matter (PM 2.5)	$\mu\text{g}/\text{m}^3$	28.90	33.42
3	Lead as Pb	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m^3	Not Detected	Not Detected
5	Arsenic as As	ng/m^3	Not Detected	Not Detected
6	Nickel as Ni	ng/m^3	Not Detected	Not Detected
7	Carbon Monoxide as CO	mg/m^3	0.94	0.98
8	Benzene as C ₆ H ₆	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
9	Ammonia as NH ₃	$\mu\text{g}/\text{m}^3$	21.70	22.58
10	Sulphur Dioxide (SO ₂)	$\mu\text{g}/\text{m}^3$	15.30	15.69
11	Oxides of Nitrogen	$\mu\text{g}/\text{m}^3$	26.40	28.53
12	Ozone as O ₃	$\mu\text{g}/\text{m}^3$	16.10	17.34
13	Hydrocarbon as HC	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
14	Hydrochloric Acid as HCl	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
15	Chlorine as Cl ₂	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
16	Hydrogen Sulphide as H ₂ S	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
17	Hydrogen Fluoride as HF	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected
18	Carbon Disulphide as CS ₂	$\mu\text{g}/\text{m}^3$	Not Detected	Not Detected

RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMPLING LOCATION			MEGHDHNUSH TOWNSHIP - ATALI	
DATE OF SAMPLING			Jun - 23	Sep - 23
			20/06/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Respirable Particulate Matter (PM10)	µg/m ³	61.90	65.63
2	Particulate Matter (PM 2.5)	µg/m ³	24.60	27.69
3	Lead as Pb	µg/m ³	Not Detected	Not Detected
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m ³	Not Detected	Not Detected
5	Arsenic as As	ng/m ³	Not Detected	Not Detected
6	Nickel as Ni	ng/m ³	Not Detected	Not Detected
7	Carbon Monoxide as CO	mg/m ³	0.59	0.64
8	Benzene as C ₆ H ₆	µg/m ³	Not Detected	Not Detected
9	Ammonia as NH ₃	µg/m ³	14.80	15.78
10	Sulphur Dioxide (SO ₂)	µg/m ³	8.60	9.46
11	Oxides of Nitrogen	µg/m ³	18.30	21.28
12	Ozone as O ₃	µg/m ³	9.70	10.94
13	Hydrocarbon as HC	µg/m ³	Not Detected	Not Detected
14	Hydrochloric Acid as HCl	µg/m ³	Not Detected	Not Detected
15	Chlorine as Cl ₂	µg/m ³	Not Detected	Not Detected
16	Hydrogen Sulphide as H ₂ S	µg/m ³	Not Detected	Not Detected
17	Hydrogen Fluoride as HF	µg/m ³	Not Detected	Not Detected
18	Carbon Disulphide as CS ₂	µg/m ³	Not Detected	Not Detected

RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMPLING LOCATION			AMBETHA VILLAGE	
DATE OF SAMPLING			Jun - 23	Sep - 23
			20/06/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Respirable Particulate Matter (PM10)	µg/m ³	75.40	78.98
2	Particulate Matter (PM 2.5)	µg/m ³	32.80	35.47
3	Lead as Pb	µg/m ³	Not Detected	Not Detected
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m ³	Not Detected	Not Detected
5	Arsenic as As	ng/m ³	Not Detected	Not Detected
6	Nickel as Ni	ng/m ³	Not Detected	Not Detected
7	Carbon Monoxide as CO	mg/m ³	1.07	1.09
8	Benzene as C ₆ H ₆	µg/m ³	Not Detected	Not Detected
9	Ammonia as NH ₃	µg/m ³	21.60	23.68
10	Sulphur Dioxide (SO ₂)	µg/m ³	17.10	18.36
11	Oxides of Nitrogen	µg/m ³	28.50	30.74
12	Ozone as O ₃	µg/m ³	18.00	18.94
13	Hydrocarbon as HC	µg/m ³	Not Detected	Not Detected
14	Hydrochloric Acid as HCl	µg/m ³	Not Detected	Not Detected
15	Chlorine as Cl ₂	µg/m ³	Not Detected	Not Detected
16	Hydrogen Sulphide as H ₂ S	µg/m ³	Not Detected	Not Detected
17	Hydrogen Fluoride as HF	µg/m ³	Not Detected	Not Detected
18	Carbon Disulphide as CS ₂	µg/m ³	Not Detected	Not Detected

RESULTS OF AMBIENT AIR QUALITY MONITORING

SAMPLING LOCATION			DAHEJ VILLAGE	
DATE OF SAMPLING			Jun - 23	Sep - 23
			20/06/2023	22/09/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Respirable Particulate Matter (PM10)	µg/m ³	77.00	80.83
2	Particulate Matter (PM 2.5)	µg/m ³	37.10	40.16
3	Lead as Pb	µg/m ³	Not Detected	Not Detected
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m ³	Not Detected	Not Detected
5	Arsenic as As	ng/m ³	Not Detected	Not Detected
6	Nickel as Ni	ng/m ³	Not Detected	Not Detected
7	Carbon Monoxide as CO	mg/m ³	1.15	1.20
8	Benzene as C ₆ H ₆	µg/m ³	Not Detected	Not Detected
9	Ammonia as NH ₃	µg/m ³	25.90	26.63
10	Sulphur Dioxide (SO ₂)	µg/m ³	19.10	19.41
11	Oxides of Nitrogen	µg/m ³	30.30	32.79
12	Ozone as O ₃	µg/m ³	21.20	21.98
13	Hydrocarbon as HC	µg/m ³	Not Detected	Not Detected
14	Hydrochloric Acid as HCl	µg/m ³	Not Detected	Not Detected
15	Chlorine as Cl ₂	µg/m ³	Not Detected	Not Detected
16	Hydrogen Sulphide as H ₂ S	µg/m ³	Not Detected	Not Detected
17	Hydrogen Fluoride as HF	µg/m ³	Not Detected	Not Detected
18	Carbon Disulphide as CS ₂	µg/m ³	Not Detected	Not Detected

CHAPTER – 5
STACK GAS MONITORING
MONITORING PERIOD:
APRIL - 2023 TO SEPTEMBER - 2023

RESULTS OF STACK GAS MONITORING

SAMPLING LOCATION			EMERGENCY DIESEL GENERATOR - 1 (Capacity 780.8 KW)
DATE OF SAMPLING			Jun - 2023
			20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT
1	Particulate Matter	mg/Nm ³	31.7
2	Sulphur Dioxide	ppm	5.3
3	Oxides of Nitrogen	ppm	26.6
4	Hydrocarbon as HC	ppm	Not Detected
5	Carbon Monoxide as CO	ppm	11.8

RESULTS OF STACK GAS MONITORING

SAMPLING LOCATION			EMERGENCY DIESEL GENERATOR - 2 (Capacity 780.8 KW)
DATE OF SAMPLING			Jun - 2023
			20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT
1	Particulate Matter	mg/Nm ³	45.4
2	Sulphur Dioxide	ppm	6.9
3	Oxides of Nitrogen	ppm	34.1
4	Hydrocarbon as HC	ppm	Not Detected
5	Carbon Monoxide as CO	ppm	14.9

RESULTS OF STACK GAS MONITORING

SAMPLING LOCATION			EMERGENCY DIESEL GENERATOR - 3 (Capacity 780.8 KW)
DATE OF SAMPLING			Jun - 2023
			20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT
1	Particulate Matter	mg/Nm ³	43.6
2	Sulphur Dioxide	ppm	6.2
3	Oxides of Nitrogen	ppm	30.8
4	Hydrocarbon as HC	ppm	Not Detected
5	Carbon Monoxide as CO	ppm	13.5

RESULTS OF STACK GAS MONITORING

SAMPLING LOCATION			EMERGENCY DIESEL GENERATOR - 4 (Capacity 780.8 KW)
DATE OF SAMPLING			Jun - 2023
			20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT
1	Particulate Matter	mg/Nm ³	52.4
2	Sulphur Dioxide	ppm	8.2
3	Oxides of Nitrogen	ppm	37.4
4	Hydrocarbon as HC	ppm	Not Detected
5	Carbon Monoxide as CO	ppm	18.9

RESULTS OF STACK GAS MONITORING

SAMPLING LOCATION			MEGHDHANUSH DG SET (Capacity 125 KVA)
DATE OF SAMPLING			Jun - 2023
			20/06/2023
SR. NO.	PARAMETERS	UNIT	RESULT
1	Particulate Matter	mg/Nm ³	26.9
2	Sulphur Dioxide	ppm	4.7
3	Oxides of Nitrogen	ppm	23.8
4	Hydrocarbon as HC	ppm	Not Detected
5	Carbon Monoxide as CO	ppm	11.4

CHAPTER – 6
NOISE MONITORING
MONITORING PERIOD:
APRIL - 2023 TO SEPTEMBER - 2023

RESULTS OF NOISE MONITORING

DATE OF SAMPLING		Jun - 2023	
		20/06/2023	
SR. NO.	SAMPLING LOCATION	DAY TIME dB (A)	NIGHT TIME dB (A)
1	Near 03 UEN	61.2	56.2
2	In Between 51 & 52 UMC	58.7	52.7
3	In Between 52 & 53 UMC	64.9	54.1
4	Near 51 URA SW	60.6	52.4
5	Near 53 URA SE	63.8	50.5

CHAPTER – 7
GROUND WATER MONITORING
MONITORING PERIOD:
APRIL - 2023 TO SEPTEMBER - 2023

RESULTS OF GROUND WATER MONITORING

SAMPLING LOCATION			B-1 Borewell (Near Guard Pond NE)	B-2 Borewell (Guard Pond SW)
DATE OF SAMPLING			Aug-23	Aug-23
			22/08/2023	22/08/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Colour	Co-pt	10	30
2	pH	--	7.25	7.06
3	Turbidity	NTU	30.90	6.98
4	Total Dissolved Solids	mg/L	2298	223
5	Total Hardness as CaCO ₃	mg/L	229	48
6	Chloride as Cl	mg/L	710	15.9
7	Fluoride as F	mg/L	0.75	0.65
8	Iron as Fe	mg/L	0.290	0.230
9	Calcium as Ca	mg/L	64	16
10	Magnesium as Mg	mg/L	16.60	1.92
11	Cadmium as Cd	mg/L	Not Detected	Not Detected
12	Arsenic as As	mg/L	Not Detected	Not Detected
13	Selenium as Se	mg/L	Not Detected	Not Detected
14	Mercury as Hg	mg/L	Not Detected	Not Detected
15	Cyanide as CN	mg/L	Not Detected	Not Detected
16	Hexavalent Chromium as Cr ⁺⁶	mg/L	Not Detected	Not Detected
17	Temperature	°C	31.0	30.7
18	Conductivity	µmho/cm	3716	384
19	Total Suspended Solids	mg/L	17	18
20	Alkalinity	mg/L	201	106
21	Nitrate Nitrogen as NO ₃	mg/L	1.98	0.95
22	Sulphate as SO ₄	mg/L	44.2	31.6
23	Lead as Pb	mg/L	Not Detected	Not Detected
24	Zinc as Zn	mg/L	0.050	0.040
25	Total Chromium as Cr ⁺³	mg/L	Not Detected	Not Detected
26	Minimum Depth as water Availability	Foot	21.9	21.7

RESULTS OF GROUND WATER MONITORING

SAMPLING LOCATION			B-4 Borewell (Ground Water Bore Well B/4-SW 00USA)	B-5 Borewell (Ground Water Bore Well B/5-SW 51URA)
DATE OF SAMPLING			Aug-23	Aug-23
			22/08/2023	22/08/2023
SR. NO.	PARAMETERS	UNIT	RESULT	RESULT
1	Colour	Co-pt	4	10
2	pH	--	8.12	8.01
3	Turbidity	NTU	2.90	3.10
4	Total Dissolved Solids	mg/L	4412	251
5	Total Hardness as CaCO ₃	mg/L	384	102
6	Chloride as Cl	mg/L	1470	30.9
7	Fluoride as F	mg/L	0.68	0.82
8	Iron as Fe	mg/L	0.032	0.028
9	Calcium as Ca	mg/L	88	32
10	Magnesium as Mg	mg/L	15.36	5.28
11	Cadmium as Cd	mg/L	Not Detected	Not Detected
12	Arsenic as As	mg/L	Not Detected	Not Detected
13	Selenium as Se	mg/L	Not Detected	Not Detected
14	Mercury as Hg	mg/L	Not Detected	Not Detected
15	Cyanide as CN	mg/L	Not Detected	Not Detected
16	Hexavalent Chromium as Cr ⁺⁶	mg/L	Not Detected	Not Detected
17	Temperature	°C	30.6	30.7
18	Conductivity	µmho/cm	6518	363
19	Total Suspended Solids	mg/L	8	14
20	Alkalinity	mg/L	572	83
21	Nitrate Nitrogen as NO ₃	mg/L	0.12	0.18
22	Sulphate as SO ₄	mg/L	184	31.7
23	Lead as Pb	mg/L	Not Detected	Not Detected
24	Zinc as Zn	mg/L	0.025	Not Detected
25	Total Chromium as Cr ⁺³	mg/L	Not Detected	Not Detected
26	Minimum Depth as water Availability	Foot	24.3	23.4