Half Yearly Compliance Report
2025
01 Jun(01 Oct - 31 Mar)

Acknowledgement

Proposal Name	1050 MW Combined Cycle Power Plant of M/S Torrent Power Generation Ltd.
Name of Entity / Corporate Office	Mr. Deepak Dalal
Village(s)	N/A
District	SURAT

Proposal No.	IA/GJ/THE/11781/2007
Plot / Survey / Khasra No.	N/A
State	GUJARAT
MoEF File No.	J-13012/2/2004.IA-II(T)

Category	Thermal Projects
Sub-District	N/A
Entity's PAN	*****0294J
Entity name as per PAN	TORRENT POWER LIMITED

Compliance Reporting Details

Reporting Year	2025
Remarks (if any)	EC Half Yearly Compliance Report for the Period of FY 2024-25 (October to March)
Reporting Period	01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office Mr. Deepak Dalal

	Project Area as per EC Granted	Actual Project Area in Possession
Private	100	100
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	100	100

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Electricity	MW	N/A	1147.50	1547249 MWH (of unit 10, unit 20 & unit 30))	
2	Electricity	MW	N/A	1147.50	37,07,660 MWH (unit 10, 20 & 30)	
3	Electricity	MW	N/A	1147.50	37,07,660 MWH (unit 10, 20, 30)	
4	Electricity	MW	N/A	1147.50	34,16,693 MWH (of Unit 10, 20, 30)	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	The gas consumption will be increased from 2700 TPD to 3320 TPD.
PPs Submission: Complied Complied to amended requirement of 3320 TPD for Sugen 3 Units		Date: 19/05/2025
2	WATER QUALITY MONITORING AND PRESERVATION	Water consumption will be reduced from 35456 m3/day to 31968 m3/day.
PPs Submission: Complied Complied with revised condition requirement after expansion is less than 42624 KLD		Date: 19/05/2025
3	ENERGY PRESERVATION MEASURES	Natural gas / RLNG shall only be used as fuel.
PPs Submission: Complied Complied		Date: 19/05/2025
4	GREENBELT	Greenbelt shall be raised in an area of 33 ha.
PPs Submission: Complied Complied		Date: 19/05/2025
5	ENERGY PRESERVATION MEASURES	Natural gas/RLNG will only be used. Naptha will not be used.
PPs Submission: Complied Complied		Date: 19/05/2025

General Conditions

Sr.No.	Condition Type	Condition Details
1	Statutory compliance	All the conditions stipulated by GPCB vide their letter nos. PC/NOC/SRT-1351/687 dated 9th January 2004, SRT-1351/13954 dated 5th May,2004 and PC/NOC/SRT-1351/14052 dated 12th May,2004 should be strictly implemented
PPs Submission: Complied Complied		Date: 19/05/2025
2	MISCELLANEOUS	Total land requirement should be restricted to 100.00 ha.
PPs Submission: Complied Complied		Date: 19/05/2025
3	AIR QUALITY MONITORING AND PRESERVATION	Nox emissions should be restricted to 50 ppm for gas and 100ppm for naphtha by installation of low dry NOx burners.
PPs Submission: Complied Complied		Date: 21/05/2025
4	ENERGY PRESERVATION MEASURES	Gas requirements shall be 2700 TPD having calorific value of 8000 kcl/kg.
PPs Submission: Complied Complied to amended requirement of 3320 TPD for Sugen 3 units		Date: 19/05/2025
5	MISCELLANEOUS	Naphtha @ 5,250 TPD having calorific value of 13,000 kcl/kg with sulphur content not exceeding 0.1% shall be used in case of emergency and non-availability of gas
PPs Submission: Complied Not Applicable		Date: 19/05/2025
6	WATER QUALITY MONITORING AND PRESERVATION	Water requirement should not exceed 35,456 m3/day. For continuous monitoring of the treated waste water quality, a continuous monitoring station at the final outlet should be installed (before discharge of the waste water into the Tapi river through Dohkar Nala). The water quality will be as per the standards prescribed by the GPCB
PPs Submission: Complied Complied, with revised. condition requirement after expansion is less than 42624 KLD		Date: 19/05/2025
7	WATER QUALITY MONITORING AND PRESERVATION	Closed Circuit cooling devices should be provided and minimum makeup water should be used.
PPs Submission: Complied Complied		Date: 19/05/2025
8	Risk Mitigation and Disaster	Adequate safety measured/devices should be provided / installed to

	Management	contain gas/naphtha in case of accident. Leak detection devices should be installed at strategic places for early detection and warning.
PPs Submission: Complied Complied		Date: 19/05/2025
9	Statutory compliance	Necessary permission from Chief Controller of Explosives should be obtained before starting the plant operation
PPs Submission: Complied Petroleum storage license for 20KL for BSDG 1 and 2 Diesel Storage tanks is available. License No. P/WC/GJ/15/2458 (P177188) available and valid till 31.12.2033. Gas Cylinder Storage License No. G/WC/GJ/06/1463 available and renewed online and valid till 30.09.2030 for 339 nos. of Hydrogen Gas Cylinders and 270 nos. of Carbon Dioxide Gas Cylinders		Date: 19/05/2025
10	Noise Monitoring & Prevention	Noise level should be limited to 75dBA, and regular maintenance of equipment be undertaken. For people working in the area of generator and other high noise area, earplug should be provided.
PPs Submission: Complied Complied		Date: 19/05/2025
11	AIR QUALITY MONITORING AND PRESERVATION	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured.
PPs Submission: Complied Complied		Date: 19/05/2025
12	WATER QUALITY MONITORING AND PRESERVATION	Rainwater harvesting should be adopted. Central Groundwater Authority/Board shall be consulted for finalization of appropriate water harvesting technology before commencement of commissioning of the plant.
PPs Submission: Complied Noted and Complied		Date: 19/05/2025
13	AIR QUALITY MONITORING AND PRESERVATION	Regular monitoring of the air quality should be carried out in and around the power plant and records maintained. Complete analysis of the recorded data should be regularly undertaken, and results should be submitted to the ministry six month for review.
PPs Submission: Complied Noted and Complied		Date: 21/05/2025
14	Statutory compliance	All other mitigative measure shall be taken as enumerated in Chapter 6 of EIA
PPs Submission: Complied Complied		Date: 19/05/2025
15	PUBLIC HEARING	The Project proponent should be advertise at least in two local news paper widely circulated in the region around the project of which should be in vernacular language of the locality concerned , informing that the project has been accorded environmental clearance and copies of clearance letters are available with the state pollution control board / committee and may also be seen at Website of

		Ministry of Environment and Forest at http://envfor.nic
PPs Submission: Complied Noted and Complied		Date: 19/05/2025
16	Statutory compliance	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguard
PPs Submission: Complied Noted and complied		Date: 19/05/2025
17	Statutory compliance	Half-yearly report on the status of implementation of the stipulated conditions and environmental safeguard should be submitted to the Ministry / regional Office / CPCB /SPCB
PPs Submission: Complied Complied. Report submitted to MOEFCC/ CPCB and GPCB		Date: 21/05/2025
18	Statutory compliance	Regional Office of the Ministry of Environment & Forest located at Bhopal will monitor the implementation of the stipulated condition. Completed set of Environmental Impact Assessment Report and Environment management plan should be forward to the Regional Office for their use during monitoring.
PPs Submission: Complied Complied		Date: 19/05/2025
19	Corporate Environmental Responsibility	Separate funds should be allocated for the implementation of environmental protection measures along with item-wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measure should not be diverted for other purpose and year –wise expenditure should be reported to the Ministry
PPs Submission: Complied Complied		Date: 19/05/2025
20	Statutory compliance	The Project authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the dated of start of land development work
PPs Submission: Complied Complied		Date: 19/05/2025
21	MISCELLANEOUS	Full co operation should be extended to the Scientists/ officers from the Ministry / regional Office of the Ministry at Bhopal/the CPCB /The SPCB who would be monitoring the compliance of environmental status.
PPs Submission: Complied Info Noted		Date: 19/05/2025
22	MISCELLANEOUS	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.

PPs Submission: Complied Info Noted		Date: 19/05/2025
23	Statutory compliance	The Environmental clearance accorded shall be valid for a period of 5 years for construction / operation of the power plant. In case, if the project authorities fails to do so within this stipulated period, this environmental clearance shall stand lapsed automatically.
PPs Submission: Complied Info Noted		Date: 19/05/2025
24	MISCELLANEOUS	In case of any deviation or alteration in the project proposed from these submitted this Ministry for clearance, 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.
PPs Submission: Complied Info Noted		Date: 19/05/2025
25	Statutory compliance	The above stipulation would be enforced among other under the water (Prevention and Control of pollution) Act, 1974, the Air (Prevention and Control of pollution) Act, 1981, The Environment (Protection) Act, 1986, Hazardous Waste (Management and Handling) Rules, 1989 and its amendments, the public liability Insurance Act,1991 and its amendments, The Environment Impact Assessment Notification of January 1994 and its amendments.
PPs Submission: Complied Complied		Date: 19/05/2025
26	AIR QUALITY MONITORING AND PRESERVATION	Three stack of 70 m height each should be installed with continuous online monitoring system.
PPs Submission: Complied Complied		Date: 19/05/2025

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	

Note: This acknowledgement is as per the details submitted by project proponent. In no way is this document to be considered as conclusion on any action on the compliance of the project. This is strictly for the project proponent's reference purpose.

Half Yearly Compliance Report
2025
01 Jun(01 Oct - 31 Mar)

Acknowledgement

Proposal Name	Expansion of 1150 MW gas based combined cycle power plant by addition of 382.5 (Unosugen) MW gas based combined cycle power plant of Torrent Power Ltd.
Name of Entity / Corporate Office	Torrent Power Ltd
Village(s)	N/A
District	SURAT

Proposal No.	IA/GJ/THE/10585/2009
Plot / Survey / Khasra No.	N/A
State	GUJARAT
MoEF File No.	J-13012/74/2009-IA.II (T)

Category	Thermal Projects
Sub-District	N/A
Entity's PAN	*****0294J
Entity name as per PAN	TORRENT POWER LIMITED

Compliance Reporting Details

Reporting Year	2025
Remarks (if any)	EC Half Yearly Compliance Report for the Period of FY 2024-25 (Oct to Mar).
Reporting Period	01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office Torrent Power Ltd

	Project Area as per EC Granted	Actual Project Area in Possession
Private	100	100
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	100	100

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Electricity	MW	N/A	1530	1603871 MWH (Including 4 units)	
2	Electricity	MW	N/A	1530	50,40,065 MWH (including 4 units)	
3	Electricity	MW	N/A	1530	50,40,065 MWH (including 4 units)	
4	Electricity	MW	N/A	1530	41,00,823 MWH (including 4 units)	

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details
1	ENERGY PRESERVATION MEASURES	Change of Fuel – apply again for EC with necessary public hearing.
PPs Submission: Complied Complied. No change in fuel is envisaged.		Date: 12/05/2025
2	Statutory compliance	NOx, emission from each Gas Turbine shall not exceed 50ppm
PPs Submission: Complied Complied		Date: 12/05/2025
3	AIR QUALITY MONITORING AND PRESERVATION	Stack of 70 m shall be provided with continuous online monitoring equipment. Exit velocity of flue gases should not be less than 25m/s.
PPs Submission: Complied Stacks of 70 m are provided with continuous online monitoring equipment.		Date: 12/05/2025
4	GREENBELT	Green belt consisting of 3 tiers of plantations around the plant of 150m width and adequate tree density not less than 2500 per ha with survival rate not less than 75% shall be developed. In areas where 150m width is not possible, Green Belt of not less than 50m width shall be raised with a adequate justification.
PPs Submission: Complied Complied. Greenbelt development is completed and is being maintained.		Date: 12/05/2025
5	Statutory compliance	Reuse the effluent with prescribed standards to maximum extent.

PPs Submission: Complied Complied. Treated effluent is being used for the irrigation, greenbelt/ plantation.		Date: 12/05/2025
6	MISCELLANEOUS	Arrangement shall be made that effluents and storm water do not get mixed.
PPs Submission: Complied Arrangements have been made to ensure that effluent and storm water does not mix.		Date: 12/05/2025
7	Statutory compliance	A sewage treatment plant shall be provided and treated sewage shall be used for greenbelt. Continuous monitoring of effluent discharge shall be undertaken, it shall be ensured that when discharge enters the natural drain the temperature of effluent shall be at ambient.
PPs Submission: Complied Treated sewage is being used for the greenbelt/plantation development. Arrangements have been made to ensure that when discharge enters the natural drain the temperature of effluent shall be at ambient.		Date: 12/05/2025
8	Statutory compliance	Monitoring of ground and surface water quality, the monitored data shall be submitted to the ministry regularly. Monitoring point 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.
PPs Submission: Complied Reports are submitted to MOEFCC, GPCB and CPCB		Date: 21/05/2025
9	MISCELLANEOUS	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 3 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.
PPs Submission: Complied Study conducted by TCE. Report submitted to CGWB Ahmedabad		Date: 19/05/2025
10	Risk Mitigation and Disaster Management	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.
PPs Submission: Complied Complied		Date: 19/05/2025
11	Noise Monitoring & Prevention	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75dBA at 1m from the source of noise. For people working in the high noise area, requisite personal protective equipment like earplug/earmuff 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.

PPs Submission: Complied Complied		Date: 19/05/2025
12	AIR QUALITY MONITORING AND PRESERVATION	Regular monitoring of ground level concentration of SO2, NOx, RSPM (PM10 and PM2.5) etc. shall be carried out in the impact zone and records maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to Regional Office of this Ministry.
PPs Submission: Complied Monthly environment reports are submitted to GPCB (HO and RO). Half yearly report submitted to ministry		Date: 21/05/2025
13	AIR QUALITY MONITORING AND PRESERVATION	The data shall also be put on the website of the company.
PPs Submission: Complied Noted and complied		Date: 19/05/2025
14	MISCELLANEOUS	An amount of 6.8 Crores shall be earmarked as one time capital cost for CSR program.
PPs Submission: Complied Complied		Date: 19/05/2025
15	MISCELLANEOUS	Subsequently a recurring expenditure of Rs. 1.4 Crores per annum shall be earmarked as recurring expenditure for CSR activities.
PPs Submission: Complied Annexure A attached.		Date: 19/05/2025
16	MISCELLANEOUS	Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.
PPs Submission: Complied No longer applicable as plant is commissioned and operational		Date: 19/05/2025
17	MISCELLANEOUS	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.
PPs Submission: 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 companys Canteen, jobs in Hospital project, etc.		Date: 19/05/2025
18	MISCELLANEOUS	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.

PPs Submission: 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 companys Canteen, jobs in Hospital project, etc.		Date: 19/05/2025
19	MISCELLANEOUS	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.
PPs Submission: Complied The company has already spent Rs. 6.80 Cr as per MOEFCC guideline		Date: 19/05/2025

General Conditions

Sr.No.	Condition Type	Condition Details
1	MISCELLANEOUS	Gas requirement will be 2 MMSCMD
PPs Submission: Complied Complied for expansion unit of Unosugen		Date: 19/05/2025
2	MISCELLANEOUS	Water requirement of about 10,656 KLD for the proposed expansion The total water requirement for the existing and proposed expansion will be 42,624 KLD
PPs Submission: Complied Complied for all Four units, Unosugen and Sugen 3 Units		Date: 19/05/2025
3	AIR QUALITY MONITORING AND PRESERVATION	A stack of 70 m for non fired Heat Recovery steam Generator will be provided. Low NOx hybrid burners will be installed
PPs Submission: Complied Complied		Date: 19/05/2025
4	Risk Mitigation and Disaster Management	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 Explosive, 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.
PPs Submission: Complied Site Emergency plan is in place		Date: 19/05/2025
5	Human Health Environment	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
PPs Submission: Complied Complied during project phase		Date: 19/05/2025
6	MISCELLANEOUS	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.
PPs Submission: Complied Complied		Date: 19/05/2025
7	MISCELLANEOUS	The housing may be in the form of temporary structures to be removed after the completion of the project.
PPs Submission: Complied Complied		Date: 19/05/2025
8	PUBLIC HEARING	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
PPs Submission: Complied Complied		Date: 19/05/2025
9	PUBLIC HEARING	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 on the website of the Company by the proponent.
PPs Submission: Complied Noted and complied		Date: 19/05/2025
10	MISCELLANEOUS	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.
PPs Submission: Complied Noted and complied		Date: 19/05/2025
11	Statutory compliance	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.
PPs Submission: Complied Half yearly EC compliance and environment reports are uploaded on the company website and reports are submitted to MOEFCC, CPCB and GPCB.		Date: 21/05/2025
12	Statutory compliance	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.

PPs Submission: Complied Half yearly EC compliance and environment reports are submitted to MOEFCC, CPCB and GPCB regularly.		Date: 21/05/2025
13	Statutory compliance	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.
PPs Submission: Complied Half yearly EC compliance and environment reports are submitted to MOEFCC, CPCB and GPCB regularly		Date: 19/05/2025
14	Statutory compliance	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.
PPs Submission: Complied Complied		Date: 19/05/2025
15	MISCELLANEOUS	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.
PPs Submission: Complied Complied		Date: 19/05/2025
16	Statutory compliance	Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six-monthly basis.
PPs Submission: Complied Noted and complied		Date: 19/05/2025
17	AIR QUALITY MONITORING AND PRESERVATION	Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant and in public domain.
PPs Submission: Complied Complied		Date: 19/05/2025
18	MISCELLANEOUS	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. This 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.
PPs Submission: Complied Half yearly EC compliance and environment reports are submitted to MOEFCC, CPCB and GPCB regularly		Date: 19/05/2025

19	MISCELLANEOUS	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.

PPs Submission: Complied Project is completed and under commercial operation since 4th April 2013	Date: 19/05/2025

20	MISCELLANEOUS	Full cooperation to Scientists/Officers from MOEF & RO and CPCB/SPCB.

PPs Submission: Complied Complied	Date: 19/05/2025

21	Statutory compliance	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.

PPs Submission: Complied Info Noted	Date: 19/05/2025

22	Statutory compliance	EC is valid for the period of Five Years to start operations by the power plant.

PPs Submission: Complied Complied	Date: 19/05/2025

23	Statutory compliance	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 provision of Environment (Protection) Act, 1986.

PPs Submission: Complied Noted	Date: 19/05/2025

24	Statutory compliance	In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, 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.

PPs Submission: Complied Noted	Date: 19/05/2025

25	Statutory compliance	The above stipulation 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 Waste (Management and Handling) Rules, 1989 and its amendments, the public liability Insurance Act,1991 and its amendments,.

PPs Submission: Complied Complied	Date: 19/05/2025

26	PUBLIC HEARING	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

PPs Submission: Complied Noted	Date: 19/05/2025

Visit Remarks

Last Site Visit Report Date:	N/A
Additional Remarks:	

Note: This acknowledgement is as per the details submitted by project proponent. In no way is this document to be considered as conclusion on any action on the compliance of the project. This is strictly for the project proponent's reference purpose.

HALF YEARLY ENVIRONMENTAL MONITORING REPORT

(OCTOBER 2024 TO MARCH 2025)

FOR

M/S TORRENT POWER LTD.

SUGEN MEGA POWER PROJECT

TA: KAMREJ, DIST-SURAT

PREPARED BY

M/s. ECO EARTH TECHNOLOGIES

Plot No-3202/A/2/1, T-1,3rd Floor, GIDC Multilevel Shed
Near Advance Paint, G.I.D.C Ind. Estate
Ankleshwar 393002, Dist: Bharuch, Gujarat
Phone No. +91-9409133000/9601758907
Email ID: ecoearth.technologies@gmail.com
Website: www.ecoearthtechnologies.com

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CHAPTER – 1

1.0 INTRODUCTION

(OCOTBER 2024 TO MARCH 2025)

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

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.

Ground Water samples were collected during the monitoring period. Sampling and analysis for ground water was carried out as per the procedure specified in APHA (23rdEdition) and Codes as per the Bureau of Indian standard.

Treated Effluent water and sewage water sampling and analysis carried out on monthly basis. Noise measurement carried out for day and night time on monthly basis. Plant stack sampling of all operational units carried out on monthly basis and Diesel Generator stack sampling and analysis carried out on quarterly basis. Soil sampling is also carried out on quarterly 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.

Eco Earth Technologies, Ankleshwar 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 Honourable 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	Ambient Air Quality	IS:5182/ CPCB Method
2	Stack Emission Analysis	IS:11255
3	Treated Effluent Water Quality	IS:3025
4	Treated Sewage Water Quality	IS:3025
5	Ground Water Quality	IS:3025
6	Soil Analysis	USDA/IS 2720 etc.
7	Noise Level	IS 9876/IS 9989

The Environment Monitoring was carried out at the following locations:

SR. NO.	DESCRIPTION	NO. OF LOCATION	FREQUENCY	PARAMETERS	MONITORING STATIONS
1	**Ambient Air Quality Monitoring**	6	Monthly	a) Particulate Matter (PM_{10}) b) Particulate Matter ($PM_{2.5}$) c) Oxides of SulphuR d) Oxides of Nitrogen e) Lead as Pb f) Benzo (a) Pyrene (BaP) g) Arsenic as As h) Nickel as Ni i) Carbon Monoxide as CO j) Benzene as C_6H_6 k) Ammonia as NH_3 l) Sulphur Dioxide as SO_2 m) Nitrogen Dioxide as NO_2 n) Ozone as O_3	1 (L1-A1) Station A – SUKAN BUILDING GPS Location: N 21°20.694' , E 72°59.494' 2 (L2-A2) Station B – SWITCH YARD GPS Location: N 21°20.639' , E 72°59.144' 3 (L3-A3) Station C – SHARDASHISH COLONYGPS Location: N 21°19.777' , E 72°59.056' 4 (L4-A4) Station D – SURBHI (INTEK WELL) GPS Location: N 21°19.191' , E 72°58.859' 5 (L5-A5) Station E – AKHAKHOL VILLAGE GPS Location: N 21°20.072' , E 72°59.498' 6 (L6-A6) Station F – NAVI PARDI VILLAGE GPS Location: N 21°20.014' , E 72°57.624'
2	**Stack Monitoring**				
	(a) Stack -Plant Unit	8	Monthly	a) Particulate Matter b) Oxides of Sulphur c) Oxides of Nitrogen	1 (L1 – SM1) Heat recovery and Steam Generation 10 UHA GPS Location:N21°20.340' , E 72°59.342' 2 (L2 - SM 2) Heat recovery and Steam Generation 20 UHA GPS Location:N21°20.364' , E 72°59.349' 3 (L3 - SM 3) Heat recovery and Steam Generation 30 UHA GPS Location:N21°20.408' , E 72°59.367' 4 (L4 - SM 4)Heat recovery and Steam Generation 40 UHA GPS Location:N21°20.445' , E 72°59.384' 5 (L5 - SM 5) Natural Gas Dew Point Water Heater 00EKT01 GPS Location:N21°20.369' , E 72°59.422' 6 (L6 - SM 6) Natural Gas Dew Point Water Heater 00EKT02 GPS Location:N21°20.370 , E 72°59.424' 7 (L7 - SM 7) Natural Gas Dew Point Water Heater-1 40EKT01 GPS Location:N21°20.394' , E 72°59.398' 8 (L8 - SM 8) Natural Gas Dew Point Water Heater-2 40EKT02 GPS Location:N21°20.392' , E 72°59.402'
	(b) Stack - Diesel Generator Unit	3	Quarterly	a) Particulate Matter b) Oxides of Sulphur c) Oxides of Nitrogen d) Non Methyl Hydro Carbon e) Carbon Monoxide f) Sulfur Content in fuel sample	1 (L9 - SM 9) Black Start Diesel Generator 00XKA01 GPS Location:N21°20.345' , E 72°59.300' 2 (L10 - SM 10)Black Start Diesel Generator 00XKA02 GPS Location:N21°20.345' , E 72°59.301' 3 (L11 - SM 11) Emergency Diesel Generator 40XKA GPS Location:N21°20.503' , E 72°59.339'

SR. NO.	DESCRIPTION	NO. OF LOCATION	FREQUENCY	PARAMETERS	MONITORING STATIONS
3	**Ground Water Sampling**	2	Monthly	a) pH b) Temperature c) Turbidity d) Conductivity e) Total Dissolved Solids f) Total Suspended Solids g) Alkalinity h) Total Hardness i) Ca Hardness as $CaCO_3$ j) Mg Hardness as $CaCO_3$ k) Chloride as Cl l) Nitrate as NO_3 m) Sulphate as SO_4 n) Iron as Fe o) Mercury as Hg p) Cadmium as Cd q) Selenium as Se r) Arsenic as As s) Cyanide as CN t) Lead as Pb u) Zinc as Zn v) Hexavalent Chromium as Cr^{+6} w) Water Table (Depth)	1 (L1-GW1) AKHAKHOL VILLAGE GPS Location: N 21°,20.150' E 72 °, 59.497' 2 (L2-GW2) NAVI PARDI VILLAGE GPS Location: N 21°,19.914' E 072 °, 57.583'
4	**Treated Effluent Water Sampling**	1	Monthly	a) pH b) Temperature c) Colour d) Oil and Grease e) Suspended Solid f) Phenolic Compound g) Sulphide h) Total Dissolved Solids i) BOD (3 day @ 27 °C) j) COD k) Hexavalent Chromium l) Total Chromium m) Ammonical Nitrogen n) Chloride o) Sulphate	1 (L1-TEW) GUARD POND GPS Location: N 21°,20.399' E 072°,59.021'
5	**Sewage Water Sampling**	2	Monthly	a) pH b) BOD (3 Days @ 27 °C) c) Suspended Solids d) Fecal Coliform	1. (L1 – SW1) SUGEN STPPLANT (SUGEN) GPS Location:N21°,20.393' E 072°,59.087' 2. (L2 – SW2) Unit- 40 (BEHIND ASWAD) GPS Location:N21°,20.499' E 072°,59.500'
SR. NO.	**DESCRIPTION**	NO. OF LOCATION	FREQUENCY	PARAMETERS	MONITORING STATIONS
6	**Noise Level Data Monitoring**	14	Monthly	a) Daytime Noise Level in dB(A) b) Nighttime Noise Level in dB(A)	1 (L1 - N1) Boundary wall at Back Side of GSPL gas station GPS Location: N 21°20.370 ',E 072°59.462' 2 (L2 – N2) Boundary wall at Back Side

					Maintenance Lay Down GPS Location: N 21°20.279',E 072°59.365' 3 (L3 – N3) Boundary wall at Backside of fire water reservoir GPS Location: N 21°20.237',E 072°59.252' 4 (L4 – N4) Nr. Sukan : AAQM Station GPS Location: N 21°20.682',E 072°59.579' 5 (L5 – N5) Boundary wall at Barrier Gate : 2 - Tejpath GPS Location: N 21°20.686',E 072°59.112' 6 (L6 – N6) Boundary wall at Banyan tree Gate to satkar GPS Location: N 21°20.439',E 072°59.981' 7 (L7 – N7) Shardashish : Nr. Ashok Circle – Pond gate GPS Location: N 21°19.889',E 072°58.867' 8 (L8 – N8) Shardashish : Akhakhol Gate GPS Location: N 21°19.87 ',E 072°59.092' 9 (L9 – N9) Near Swagat Gate GPS Location: N 21°19.518',E 072°59.440' 10 (L10 – N10) Surbhi GPS Location: N 21°19.19',E 072°58.871' 11 (L11 – N11) Akhakhol Village GPS Location: N 21°20.175',E 072°59.362' 12 (L12 – N12) NaviPardi Village GPS Location: N 21°19.798',E 072°57.541' 13 (L13 – N13) Unit- 40 Entry Gate - East Side GPS Location: N 21°20.439',E 072°59.527' 14 (L14 – N14) Tejpath Turn – West Side Of Sanman Circle GPS Location: N 21°20.823'E 072°59.233'
7	**Soil Sampling**	6	Six Monthly - (Six Location)	a) Bulk Density b) Organic matter c) Water Holding Capacity d) pH (20% slurry) e) Colour f) Texture 1. Clay 2. Silt 3. Sand g) Bicarbonates h) Chlorides i) Conductivity	1 (L1 – SL1) Hazardous Waste Storage Area GPS Location:N21°20.403' , E 72°59.063' 2 (L2 – SL2) Oil Separator UBH (Near URD) GPS Location:N21°20.372' , E 72°59.086' 3 (L3 – SL3) Oil Separator UBH (Switchyard) GPS Location:N21°20.532' , E 72°59.177' 4 (L4 – SL4) Biocide and Chemicals Storage

				j) Potassium k) Phosphorus l) Nitrogen	Building (UPQ) GPS Location:N21°20.322' , E 72°59.190' 5 (L5 – SL5) Oil Separator UBH (Near Chiller Building) GPS Location:N21°20.315' , E 72°59.270' 6 (L6 – SL6) Water Treatment Chemical Storage (UGD) GPS Location:N21°20.303' , E 72°59.336' 7 (L7 – SL7) Storage of Lubricant & Chemical GPS Location: N 21°20.331 , E 72°59.320' 8 (L8 – SL8) Oil Separator UBH (Opp. Unit 20) GPS Location: N 21°20.420' , E 72°59.272' 9 (L9 – SL9) 40UBF Oil Separator Sump GPS Location: N 21°20.504' , E 72°59.325' 10 (L10 – SL10) Switchyard (GIS) Oil Sump GPS Location: N 21°20.592' , E 72°59.274' 11 (L11 – SL11) 40UPQ GPS Location: N 21°20.448' , E 72°59.471' 12 (L12 – SL12) 40UGD GPS Location: N 21°20.324' , E 72°59.387'

(L = Location, A = Air, GW = Ground Water, TEW = Treated Effluent Water, SW = Sewage Water, N = Noise, SL = Soil, SM = Stack Monitoring Stations)

CHAPTER 2

2.0 RESULTS OF AMBIENT AIR QUALITY MONITORING

(October 2024 TO MARCH 2025)

2.0 AMBIENT AIR QUALITY MONITORING:

LOCATION DETAILS:

SR.NO.	MONITORING STATIONS	LANDMARKS
1	L1 – A1 (GPS Location: N 21°20.694' , E 72°59.494')	SUKAN BUILDING
2	L2 – A2 (GPS Location: N 21°20.639' , E 72°59.144')	SWITCH YARD
3	L3 – A3 (GPS Location: N 21°19.777' , E 72°59.056')	SHARDASHISH COLONY
4	L4 – A4 (GPS Location: N 21°19.191' , E 72°58.859')	SURBHI (INTEK WELL)
5	L5 – A5 (GPS Location: N 21°20.072' , E 72°59.498')	AKHAKHOL VILLAGE
6	L6 – A6 (GPS Location: N 21°20.014' , E 72°57.624')	NAVI PARDI VILLAGE

DETAIL OF ANALYSIS METHOD:

SR. NO.	PARAMETERS	UNIT	METHODOLOGY	LIMIT#	GPCB Limit*	Minimum Detection Limit
1	Particulate Matter (PM_{10})	$\mu g/m^3$	Gravimetric	100	100	< 10
2	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	Gravimetric	60	60	< 5.0
3	Lead as Pb	$\mu g/m^3$	AAS Method after sampling on EPM 2000 Filter paper	1.0	Not Specified	< 0.001
4	Benzo (a) Pyrene (BaP) - particulate phase only	ng/m^3	Solvent Extraction followed by GC Analysis	1.0	Not Specified	< 0.001
5	Arsenic as As	ng/m^3	AAS Method after sampling on EPM 2000 Filter paper	6.0	Not Specified	< 0.001
6	Nickel as Ni	ng/m^3	AAS Method after sampling on EPM 2000 Filter paper	20	Not Specified	< 0.001
7	Carbon Monoxide as CO	mg/m^3	Non-Dispersive Infra-Red (NDIR)	4.0	Not Specified	< 0.001
8	Benzene as C_6H_6	$\mu g/m^3$	Gas chromatography based on Continuous Analyser	5.0	Not Specified	< 0.001
9	Ammonia as NH_3	$\mu g/m^3$	Indophenol Blue method	400	Not Specified	<1.0
10	Sulphur Dioxide as SO_2	$\mu g/m^3$	Improved West and Gaeke	80	80	< 1.0
11	Nitrogen Dioxide as NO_2	$\mu g/m^3$	Modified Jacob & Hochheiser	80	80	< 1.0
12	Ozone as O_3	$\mu g/m^3$	Chemical Method	180	Not Specified	< 1.0

2.1: RESULTS OF AAQM ANALYSIS

[OCTOBER 2024]

Date of Sampling			14.10.2024	14.10.2024	14.10.2024
SR. NO.	TEST PARAMETER	UNIT	Sukan Building	Switch Yard	Shardashish
1	Particulate Matter PM 10	µg/m3	50.21	55.42	56.10
2	Particulate Matter PM 2.5	µg/m3	17.56	21.13	19.58
3	Sulphur dioxide (SO2)	µg/m3	18.90	16.59	20.11
4	Nitrogen Dioxide (NO2)	µg/m3	19.13	17.23	20.84
5	OZONE (O3)	µg/m3	06.00	07.00	08.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

Date of Sampling			14.10.2024	14.10.2024	14.10.2024
SR. NO.	TEST PARAMETER	UNIT	Surbhi (Intake Well)	Akhakhol Village	Navi Pardi Village
1	Particulate Matter PM 10	µg/m3	51.42	60.20	65.38
2	Particulate Matter PM 2.5	µg/m3	18.60	21.84	23.15
3	Sulphur dioxide (SO2)	µg/m3	17.28	20.13	21.47
4	Nitrogen Dioxide (NO2)	µg/m3	18.03	21.47	22.36
5	OZONE (O3)	µg/m3	06.00	09.00	11.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

2.2: RESULTS OF AAQM ANALYSIS

[NOVEMBER 2024]

Date of Sampling			18.11.2024	18.11.2024	18.11.2024
SR. NO.	TEST PARAMETER	UNIT	Sukan Building	Switch Yard	Shardashish
1	Particulate Matter PM 10	µg/m3	52.69	54.27	57.41
2	Particulate Matter PM 2.5	µg/m3	16.42	22.83	18.20
3	Sulphur dioxide (SO2)	µg/m3	18.27	15.46	21.16
4	Nitrogen Dioxide (NO2)	µg/m3	20.83	18.59	20.37
5	OZONE (O3)	µg/m3	07.00	06.00	09.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

Date of Sampling			18.11.2024	18.11.2024	18.11.2024
SR. NO.	TEST PARAMETER	UNIT	Surbhi (Intake Well)	Akhakhol Village	Navi Pardi Village
1	Particulate Matter PM 10	µg/m3	50.70	62.30	61.46
2	Particulate Matter PM 2.5	µg/m3	19.33	22.49	21.80
3	Sulphur dioxide (SO2)	µg/m3	16.51	19.87	20.69
4	Nitrogen Dioxide (NO2)	µg/m3	17.42	20.51	22.74
5	OZONE (O3)	µg/m3	05.00	08.00	10.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

2.3: RESULTS OF AAQM ANALYSIS

[DECEMBER 2024]

Date of Sampling			12.12.2024	12.12.2024	12.12.2024
SR. NO.	TEST PARAMETER	UNIT	Sukan Building	Switch Yard	Shardashish
1	Particulate Matter PM 10	µg/m3	50.93	51.08	55.34
2	Particulate Matter PM 2.5	µg/m3	19.17	18.53	21.85
3	Sulphur dioxide (SO2)	µg/m3	18.62	17.04	18.29
4	Nitrogen Dioxide (NO2)	µg/m3	20.40	17.24	19.36
5	OZONE (O3)	µg/m3	4.00	6.00	8.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

Date of Sampling			12.12.2024	12.12.2024	12.12.2024
SR. NO.	TEST PARAMETER	UNIT	Surbhi (Intake Well)	Akhakhol Village	Navi Pardi Village
1	Particulate Matter PM 10	µg/m3	49.82	56.78	59.63
2	Particulate Matter PM 2.5	µg/m3	18.53	21.85	20.51
3	Sulphur dioxide (SO2)	µg/m3	15.71	20.59	18.62
4	Nitrogen Dioxide (NO2)	µg/m3	18.38	18.37	22.71
5	OZONE (O3)	µg/m3	6.00	11.00	9.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

2.4: RESULTS OF AAQM ANALYSIS

[January 2025]

Date of Sampling			08.01.2025	08.01.2025	08.01.2025
SR. NO.	TEST PARAMETER	UNIT	Sukan Building	Switch Yard	Shardashish
1	Particulate Matter PM 10	µg/m3	53.26	57.48	54.30
2	Particulate Matter PM 2.5	µg/m3	18.69	21.45	22.39
3	Sulphur dioxide (SO2)	µg/m3	19.35	16.83	19.20
4	Nitrogen Dioxide (NO2)	µg/m3	21.40	17.01	19.01
5	OZONE (O3)	µg/m3	5.00	8.00	6.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

Date of Sampling			08.01.2025	08.01.2025	08.01.2025
SR. NO.	TEST PARAMETER	UNIT	Surbhi (Intake Well)	Akhakhol Village	Navi Pardi Village
1	Particulate Matter PM 10	µg/m3	45.30	58.70	63.81
2	Particulate Matter PM 2.5	µg/m3	18.66	22.52	23.10
3	Sulphur dioxide (SO2)	µg/m3	16.29	19.63	21.57
4	Nitrogen Dioxide (NO2)	µg/m3	17.57	17.48	22.86
5	OZONE (O3)	µg/m3	4.00	10.00	11.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

2.5: RESULTS OF AAQM ANALYSIS

[February 2025]

Date of Sampling			10.02.2025	10.02.2025	10.02.2025
SR. NO.	TEST PARAMETER	UNIT	Sukan Building	Switch Yard	Shardashish
1	Particulate Matter PM 10	µg/m3	49.31	56.87	59.28
2	Particulate Matter PM 2.5	µg/m3	19.45	21.25	17.62
3	Sulphur dioxide (SO2)	µg/m3	17.53	19.36	20.84
4	Nitrogen Dioxide (NO2)	µg/m3	21.89	17.42	19.31
5	OZONE (O3)	µg/m3	6.00	4.00	8.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

Date of Sampling			10.02.2025	10.02.2025	10.02.2025
SR. NO.	TEST PARAMETER	UNIT	Surbhi (Intake Well)	Akhakhol Village	Navi Pardi Village
1	Particulate Matter PM 10	µg/m3	57.00	61.74	58.30
2	Particulate Matter PM 2.5	µg/m3	22.49	19.25	20.62
3	Sulphur dioxide (SO2)	µg/m3	21.72	18.48	23.81
4	Nitrogen Dioxide (NO2)	µg/m3	19.68	20.59	22.48
5	OZONE (O3)	µg/m3	7.00	8.00	10.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

2.6: RESULTS OF AAQM ANALYSIS

[MARCH 2025]

Date of Sampling			17.03.2025	17.03.2025	17.03.2025
SR. NO.	TEST PARAMETER	UNIT	Sukan Building	Switch Yard	Shardashish
1	Particulate Matter PM 10	µg/m3	45.56	51.32	55.71
2	Particulate Matter PM 2.5	µg/m3	16.96	19.25	15.32
3	Sulphur dioxide (SO2)	µg/m3	19.05	14.68	17.89
4	Nitrogen Dioxide (NO2)	µg/m3	18.26	11.49	14.20
5	OZONE (O3)	µg/m3	8.00	6.00	9.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

Date of Sampling			17.03.2025	17.03.2025	17.03.2025
SR. NO.	TEST PARAMETER	UNIT	Surbhi (Intake Well)	Akhakhol Village	Navi Pardi Village
1	Particulate Matter PM 10	µg/m3	48.39	56.23	52.81
2	Particulate Matter PM 2.5	µg/m3	18.53	22.84	19.03
3	Sulphur dioxide (SO2)	µg/m3	13.46	19.30	17.65
4	Nitrogen Dioxide (NO2)	µg/m3	11.02	15.87	14.33
5	OZONE (O3)	µg/m3	10.00	7.00	11.00
6	LEAD as (Pb)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
7	Carbon Monoxide (CO)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
8	Ammonia (NH3)	µg/m3	BDL (< 1.0)	BDL (< 1.0)	BDL (< 1.0)
9	BENZENE C6H6	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
10	BENZO (a) Pyrene (BaP)-particulate phase only	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
11	Arsenic as (As)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
12	Nickle as (Ni)	µg/m3	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

CHAPTER 3

3.0 RESULTS OF PLANT STACK EMISSION MONITORING

(October 2024 TO MARCH 2025)

3.0 PLANT STACKEMISSION MONITORING:

LOCATION DETAILS

SR. NO.	MONITORING STATIONS	LANDMARKS
1	(L1 – SM1) **GPS Location**: N 21°20.340' , E 72°59.342'	Heat recovery and Steam Generation 10 UHA
2	(L2 - SM 2) **GPS Location**: N 21°20.364' , E 72°59.349'	Heat recovery and Steam Generation 20 UHA
3	(L3 - SM 3) **GPS Location**: N 21°20.408' , E 72°59.367'	Heat recovery and Steam Generation 30 UHA
4	(L4 - SM 4) **GPS Location**: N 21°20.445' , E 72°59.384'	Heat recovery and Steam Generation 40 UHA
5	(L5 - SM 5) **GPS Location**: N 21°20.369' , E 72°59.422'	Natural Gas Dew Point Water Heater 00EKT01
6	(L6 - SM 6) **GPS Location**: N 21°20.370 , E 72°59.424'	Natural Gas Dew Point Water Heater 00EKT02
7	(L7 - SM 7) **GPS Location**: N 21°20.394' , E 72°59.398'	Natural Gas Dew Point Water Heater-1 40EKT01
8	(L8 - SM 8) **GPS Location**: N 21°20.392' , E 72°59.402'	Natural Gas Dew Point Water Heater-2 40EKT02

DETAILS OF ANALYSIS METHOD:

SR. NO.	TEST PARAMETER	UNIT	GPCB LIMIT	TEST/SAMPLING METHOD
1	Particulate Matter	mg/Nm^3	150	IS:11255 (Part-1)
2	Sulfur dioxide (as SO_2)	ppm	100	IS:11255 (Part-2)
3	Oxides of Nitrogen	ppm	50	IS:11255 (Part-7)

3.1: RESULTS OF STACK ANALYSIS

[OCTOBER 2024]

Date of Sampling		-	14.10.2024	14.10.2024	15.10.2024
SR. NO.	TEST PARAMETERS	SM # 1 Heat recovery and Steam Generation Unit 10 UHA	SM # 2 Heat recovery and Steam Generation Unit 20 UHA	SM # 3 Heat recovery and Steam Generation Unit 30 UHA	SM #4 Heat recovery and Steam Generation Unit 40 UHA
1	Particulate Matter (mg/Nm3)	-	< 5	< 5	< 5
2	Sulfur dioxide as SO2 (ppm)	-	3.69	3.54	4.01
3	Oxides of Nitrogen (ppm)	-	16.95	17.21	18.11

Date of Sampling		15.10.2024	15.10.2024	15.10.2024	15.10.2024
SR. NO.	TEST PARAMETERS	SM # 5 Natural Gas Dew Point Water Heater 00EKT01	SM # 6 Natural Gas Dew Point Water Heater 00EKT02	SM #7 Natural Gas Dew Point Water Heater Unit - 40 - 4OEKT01	SM #8 Natural Gas Dew Point Water Heater Unit - 40 - 40EKT02
1	Particulate Matter (mg/Nm3)	< 5	< 5	< 5	< 5
2	Sulfur dioxide as SO2 (ppm)	03.80	3.91	3.62	3.27
3	Oxides of Nitrogen (ppm)	15.67	14.29	16.98	14.80

ND*: Below detection limit: PM: 5 mg/Nm^3, Sulfur dioxide (as SO_2): 1.00 ppm.

Results on 11 % O_2 Correction when Oxygen is greater than 11 % and 12 % CO_2 Correction when CO_2 is less than 12 %.
SM#1 was not in operation during monitoring.

3.2: RESULTS OF STACK ANALYSIS

[NOVEMBER 2024]

Date of Sampling		-	-	-	-
SR. NO.	**TEST PARAMETERS**	**SM # 1 Heat recovery and Steam Generation Unit 10 UHA**	**SM # 2 Heat recovery and Steam Generation Unit 20 UHA**	**SM # 3 Heat recovery and Steam Generation Unit 30 UHA**	**SM #4 Heat recovery and Steam Generation Unit 40 UHA**
1	Particulate Matter (mg/Nm3)	-	-	-	-
2	Sulfur dioxide as SO2 (ppm)	-	-	-	-
3	Oxides of Nitrogen (ppm)	-	-	-	-

Date of Sampling		-	-	-	-
SR. NO.	**TEST PARAMETERS**	**SM # 5 Natural Gas Dew Point Water Heater 00EKT01**	**SM # 6 Natural Gas Dew Point Water Heater 00EKT02**	**SM #7 Natural Gas Dew Point Water Heater Unit - 40 - 4OEKT01**	**SM #8 Natural Gas Dew Point Water Heater Unit - 40 - 40EKT02**
1	Particulate Matter (mg/Nm3)	-	-	-	-
2	Sulfur dioxide as SO2 (ppm)	-	-	-	-
3	Oxides of Nitrogen (ppm)	-	-	-	-

ND*: Below detection limit: PM: 5 mg/Nm^3, Sulfur dioxide (as SO_2): 1.00 ppm.

Results on 11 % O_2 Correction when Oxygen is greater than 11 % and 12 % CO_2 Correction when CO_2 is less than 12 %
SM#1, SM#2, SM#3, SM#4, SM#5, SM#6, SM#7 & SM#8 were not in operation during monitoring

3.3: RESULTS OF STACK ANALYSIS

[DECEMBER 2024]

Date of Sampling		-	-	-	-
SR. NO.	TEST PARAMETERS	SM # 1 Heat recovery and Steam Generation Unit 10 UHA	SM # 2 Heat recovery and Steam Generation Unit 20 UHA	SM # 3 Heat recovery and Steam Generation Unit 30 UHA	SM #4 Heat recovery and Steam Generation Unit 40 UHA
1	Particulate Matter (mg/Nm3)	-	-	-	-
2	Sulfur dioxide as SO2 (ppm)	-	-	-	-
3	Oxides of Nitrogen (ppm)	-	-	-	-

Date of Sampling		-	-	-	-
SR. NO.	TEST PARAMETERS	SM # 5 Natural Gas Dew Point Water Heater 00EKT01	SM # 6 Natural Gas Dew Point Water Heater 00EKT02	SM #7 Natural Gas Dew Point Water Heater Unit - 40 - 4OEKT01	SM #8 Natural Gas Dew Point Water Heater Unit - 40 - 40EKT02
1	Particulate Matter (mg/Nm3)	-	-	-	-
2	Sulfur dioxide as SO2 (ppm)	-	-	-	-
3	Oxides of Nitrogen (ppm)	-	-	-	-

ND*: Below detection limit: PM: 5 mg/Nm^3, Sulfur dioxide (as SO_2): 1.00 ppm.

Results on 11 % O_2 Correction when Oxygen is greater than 11 % and 12 % CO_2 Correction when CO_2 is less than 12 %
SM#1, SM#2, SM#3, SM#4, SM#5, SM#6, SM#7 & SM#8 were not in operation during monitoring

3.4: RESULTS OF STACK ANALYSIS

[JANUARY 2025]

Date of Sampling		-	-	-	-
SR. NO.	TEST PARAMETERS	SM # 1 Heat recovery and Steam Generation Unit 10 UHA	SM # 2 Heat recovery and Steam Generation Unit 20 UHA	SM # 3 Heat recovery and Steam Generation Unit 30 UHA	SM #4 Heat recovery and Steam Generation Unit 40 UHA
1	Particulate Matter (mg/Nm3)	-	-	-	-
2	Sulfur dioxide as SO2 (ppm)	-	-	-	-
3	Oxides of Nitrogen (ppm)	-	-	-	-

Date of Sampling		-	-	-	-
SR. NO.	TEST PARAMETERS	SM # 5 Natural Gas Dew Point Water Heater 00EKT01	SM # 6 Natural Gas Dew Point Water Heater 00EKT02	SM #7 Natural Gas Dew Point Water Heater Unit - 40 - 4OEKT01	SM #8 Natural Gas Dew Point Water Heater Unit - 40 - 40EKT02
1	Particulate Matter (mg/Nm3)	-	-	-	-
2	Sulfur dioxide as SO2 (ppm)	-	-	-	-
3	Oxides of Nitrogen (ppm)	-	-	-	-

ND*: Below detection limit: PM: 5 mg/Nm^3, Sulfur dioxide (as SO_2): 1.00 ppm.

Results on 11 % O_2 Correction when Oxygen is greater than 11 % and 12 % CO_2 Correction when CO_2 is less than 12 %
SM#1, SM#2, SM#3, SM#4, SM#5, SM#6, SM#7 & SM#8 were not in operation during monitoring

3.5: RESULTS OF STACK ANALYSIS

[FEBRUARY 2025]

Date of Sampling		11.02.2025	-	-	-
SR. NO.	TEST PARAMETERS	SM # 1 Heat recovery and Steam Generation Unit 10 UHA	SM # 2 Heat recovery and Steam Generation Unit 20 UHA	SM # 3 Heat recovery and Steam Generation Unit 30 UHA	SM #4 Heat recovery and Steam Generation Unit 40 UHA
1	Particulate Matter (mg/Nm3)	< 5	-	-	-
2	Sulfur dioxide as SO2 (ppm)	02.84	-	-	-
3	Oxides of Nitrogen (ppm)	16.29	-	-	-

Date of Sampling		11.02.2025	11.02.2025	-	-
SR. NO.	TEST PARAMETERS	SM # 5 Natural Gas Dew Point Water Heater 00EKT01	SM # 6 Natural Gas Dew Point Water Heater 00EKT02	SM #7 Natural Gas Dew Point Water Heater Unit - 40 - 4OEKT01	SM #8 Natural Gas Dew Point Water Heater Unit - 40 - 40EKT02
1	Particulate Matter (mg/Nm3)	< 5	< 5	-	-
2	Sulfur dioxide as SO2 (ppm)	04.13	03.73	-	-
3	Oxides of Nitrogen (ppm)	18.65	12.58	-	-

ND*: Below detection limit: PM: 5 mg/Nm^3, Sulfur dioxide (as SO_2): 1.00 ppm.

Results on 11 % O_2 Correction when Oxygen is greater than 11 % and 12 % CO_2 Correction when CO_2 is less than 12
SM#2, SM#3, SM#4, SM#7 & SM#8 were not in operation during monitoring.

3.6: RESULTS OF STACK ANALYSIS

[MARCH 2025]

Date of Sampling		17.03.2025	-	-	-
SR. NO.	TEST PARAMETERS	SM # 1 Heat recovery and Steam Generation Unit 10 UHA	SM # 2 Heat recovery and Steam Generation Unit 20 UHA	SM # 3 Heat recovery and Steam Generation Unit 30 UHA	SM #4 Heat recovery and Steam Generation Unit 40 UHA
1	Particulate Matter (mg/Nm3)	< 5	-	-	-
2	Sulfur dioxide as SO2 (ppm)	2.63	-	-	-
3	Oxides of Nitrogen (ppm)	14.68	-	-	-

Date of Sampling		17.03.2025	17.03.2025	19.09.2024	19.09.2024
SR. NO.	TEST PARAMETERS	SM # 5 Natural Gas Dew Point Water Heater 00EKT01	SM # 6 Natural Gas Dew Point Water Heater 00EKT02	SM #7 Natural Gas Dew Point Water Heater Unit - 40 - 4OEKT01	SM #8 Natural Gas Dew Point Water Heater Unit - 40 - 40EKT02
1	Particulate Matter (mg/Nm3)	< 5	< 5	-	-
2	Sulfur dioxide as SO2 (ppm)	03.89	03.09	-	-
3	Oxides of Nitrogen (ppm)	17.42	11.50	-	-

ND*: Below detection limit: PM: 5 mg/Nm^3, Sulfur dioxide (as SO_2): 1.00 ppm.

Results on 11 % O_2 Correction when Oxygen is greater than 11 % and 12 % CO_2 Correction when CO_2 is less than 12 %.
SM#2, SM#3, SM#4, SM#7 & SM#8 were not in operation during monitoring.

CHAPTER 4

4.0 RESULTS OF DG STACK EMISSION MONITORING

(October 2024 TO MARCH 2025)

4.0 D G STACK EMSSION MONITORING

LOCATION DETAILS

SR. NO.	MONITORING STATIONS	LANDMARKS
1	(L9 - SM 9)**GPS Location**: N 21°20.345' , E 72°59.300'	Black Start Diesel Generator 00XKA01
2	(L10 - SM 10)**GPS Location**: N 21°20.345' , E 72°59.301'	Black Start Diesel Generator 00XKA02
3	(L11 - SM 11)**GPS Location**: N 21°20.503' , E 72°59.339'	Emergency Diesel Generator 40XKA

DETAILS OF ANALYSIS METHOD:

SR. NO.	TEST PARAMETER	UNIT	PERMISSIBLE LIMIT	METHOD OF MEASUREMENT
			CCA/GPCB	
1	Particulate Matter	mg/Nm^3	150	IS:11255 (Part-1) 2014
2	Sulfur dioxide (as SO_2)	ppm	100	IS:11255 (Part-2) 2017
3	Oxides of Nitrogen	ppm	50	IS:11255 (Part-7) 2014
4	Non-Methyl Hydro Carbon (NMHC)	mg/Nm^3	Not Specified	Gas Chromatography
5	Carbon Monoxide (CO)	mg/Nm^3	Not Specified	IS 5182 (Part 10) : 1999
6	Sulfur Content in fuel	%	Not Specified	by gravimetric method

4.1: RESULTS OF DG STACK EMISSION MONITORING [OCTOBER 2024]

	Date of Sampling	15.10.2024	15.10.2024	15.10.2024
SR. NO.	**TEST PARAMETERS**	**SM # 9 BLACK START DIESEL GENERATOR 00XKA01**	**SM # 10 BLACK START DIESEL GENERATOR 00XKA02**	**SM # 11 EMERGENCY DIESEL GENERATOR 40XKA**
1	Particulate Matter (mg/Nm3)	25.61	27.84	24.69
2	Sulfur Dioxide as SO2 (ppm)	14.03	11.98	12.50
3	Oxides of Nitrogen (ppm)	28.96	29.41	27.57
4	Non-Methyl Hydro Carbon (NMHC) (mg/m3)	01.95	02.11	01.56
5	Carbon Monoxide (CO) mg/Nm3	19.00	22.00	25.00
6	Sulfur Content in fuel (%)	BDL<(0.01)	BDL<(0.01)	BDL<(0.01)

4.2: RESULTS OF DG STACK EMISSION MONITORING [JANUARY 2025]

	Date of Sampling	21.01.2025	21.01.2025	21.01.2025
SR. NO.	**TEST PARAMETERS**	**SM # 9 BLACK START DIESEL GENERATOR 00XKA01**	**SM # 10 BLACK START DIESEL GENERATOR 00XKA02**	**SM # 11 EMERGENCY DIESEL GENERATOR 40XKA**
1	Particulate Matter (mg/Nm3)	29.60	25.40	22.81
2	Sulfur Dioxide as SO2 (ppm)	15.32	13.60	11.79
3	Oxides of Nitrogen (ppm)	31.52	27.48	25.30
4	Non-Methyl Hydro Carbon (NMHC) (mg/m3)	01.50	03.09	02.40
5	Carbon Monoxide (CO) mg/Nm3	17.00	23.00	20.00
6	Sulfur Content in fuel (%)	BDL<(0.01)	BDL<(0.01)	BDL<(0.01)

4.3: RESULTS OF DG STACK EMISSION MONITORING [MARCH 2025]

	Date of Sampling	17.03.2025	17.03.2025	17.03.2025
SR. NO.	**TEST PARAMETERS**	**SM # 9 BLACK START DIESEL GENERATOR 00XKA01**	**SM # 10 BLACK START DIESEL GENERATOR 00XKA02**	**SM # 11 EMERGENCY DIESEL GENERATOR 40XKA**
1	Particulate Matter (mg/Nm3)	29.35	26.87	25.49
2	Sulfur Dioxide as SO2 (ppm)	11.02	8.36	12.45
3	Oxides of Nitrogen (ppm)	32.89	27.65	29.51
4	Non-Methyl Hydro Carbon (NMHC) (mg/m3)	02.16	01.83	02.41
5	Carbon Monoxide (CO) mg/Nm3	21.00	19.00	16.00
6	Sulfur Content in fuel (%)	BDL<(0.01)	BDL<(0.01)	BDL<(0.01)

CHAPTER 5

5.0 RESULTS OF TREATED EFFLUENT WATER QUALITY MONITORING

(October 2024 TO MARCH 2025)

5.0 TREATED EFFLUENT WATER QUALITY MONITORING:

MONITORING DETAILS [(October 2024 TO MARCH 2025)]

SR. NO.	MONITORING STATIONS	LANDMARKS
1	**TEW** – GPS Location:N21°20.399' E 072°59.021'	Guard Pond

ANALYSIS METHOD DETAILS:

SR. NO.	PARAMETERS	UNIT	GPCB NORMS	METHOD ADOPTED	MINIMUM DETECTABLE LIMIT
1	pH	--	6.5 to 8.5	APHA : (4500 – H+ B) 23rd Edition	1
2	Temperature	°C	40°C	IS 3025 (Part 9):1984 (Reaffirmed 2006)	2
3	Colour	Co. Pt	100 Co-pt scale	APHA : (2550 B&C) 23rd Edition	1
4	Oil and Grease	mg/L	10 mg/L	APHA (23rd Edition) 5520 B	0.001
5	Suspended Solid	mg/L	300 mg/L	APHA : (2540 D) 23rd Edition	1
6	Phenolic Compound	mg/L	1 mg/L	APHA : (5530 D) 23rd Edition	0.001
7	Sulphide	mg/L	2 mg/L	APHA (23rd Edition) 4500 S2 F Iodometric Method	0.001
8	Total Dissolved Solids	mg/L	2100 mg/L	APHA : (2540 C) 23rd Edition	5
9	BOD (3 day @ 27 °C)	mg/L	30 mg/L	IS 3025 (Part–44)	1
10	COD	mg/L	100 mg/L	APHA (23rd Edition) 5220 B Open Reflux Method	1
11	Hexavalent Chromium	mg/L	0.1 mg/L	APHA (23rd Edition) 3500 Cr B Colorimetric Method	0.001
12	Total Chromium	mg/L	2 mg/L	APHA (23rd Edition) 3111 B	0.001
13	Ammonical Nitrogen	mg/L	50 mg/L	APHA : (4500 NH3) 23rd Edition	0.001
14	Chloride	mg/L	600 mg/L	APHA : (4500 Cl B) 23rd Edition	0.001
15	Sulphate	mg/L	1000 mg/L	APHA : (4500 SO4-2 E) 23rd Edition	0.001

5.1 CHEMICAL ANALYSIS OF TREATED EFFLUENT WATER [OCTOBER 2024]

Sr. No.	Parameter	Unit (SI)	Results	GPCB Limit	Test Method
1	pH @ 25°C	-	6.71	6.5 – 8.5	APHA : (4500 – H+ B) 23rd Edition
2	Temperature	ºC	30.20	40	IS 3025 (Part 9):1984 (Reaffirmed 2006)
3	Total Suspended Solids	mg/L	10.40	300	APHA : (2540 D) 23rd Edition
4	Total Dissolved Solids	mg/L	1706	2100	APHA : (2540 C) 23rd Edition
5	BOD (5 day at 20 ºC)	mg/L	9.89	30	IS 3025 (Part 44):1993 (Reaffirmed 2014)
6	COD	mg/L	30.85	100	APHA : (5220 B) 23rd Edition
7	Oil & Grease	mg/L	BDL(<0.001)	10	APHA : (5520 B) 23rd Edition
8	Ammonical Nitrogen	mg/L	BDL	50	APHA : (4500 NH3) 23rd Edition
9	Phosphates	mg/L	BDL	Not Specified	APHA : (4500-P) 23rd Edition
10	Chlorides	mg/L	491.51	600	APHA : (4500 Cl B) 23rd Edition
11	Sulphates	mg/L	210.33	1000	APHA : (4500 SO4-2 E) 23rd Edition
12	Hexavalent Chromium	mg/L	BDL(<0.001)	0.1	APHA : (3500 Cr) 23rd Edition
13	Total Iron	mg/L	BDL(<0.001)	Not Specified	APHA : (3500-Fe B) 23rd Edition
14	Colour	Pt. Co. Scale	< 5	100	APHA : (2550 B&C) 23rd Edition
15	Phenolic Compound	mg/L	BDL(<0.001)	1	APHA : (5530 D) 23rd Edition
16	Sulphides	mg/L	BDL(<0.001)	2	APHA : (4500 SO2 F) 23rd Edition
17	Total Chromium	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cr) 23rd Edition
18	Total Copper	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cu A) 23rd Edition
19	Total Zinc	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Zn A) 23rd Edition

5.2 CHEMICAL ANALYSIS OF TREATED EFFLUENT WATER [NOVEMBER 2024]

Sr. No.	Parameter	Unit (SI)	Results	GPCB Limit	Test Method
1	pH @ 25°C	-	6.69	6.5 – 8.5	APHA : (4500 – H+ B) 23rd Edition
2	Temperature	ºC	31.40	40	IS 3025 (Part 9):1984 (Reaffirmed 2006)
3	Total Suspended Solids	mg/L	8.00	300	APHA : (2540 D) 23rd Edition
4	Total Dissolved Solids	mg/L	1861.42	2100	APHA : (2540 C) 23rd Edition
5	BOD (5 day at 20 ºC)	mg/L	8.12	30	IS 3025 (Part 44):1993 (Reaffirmed 2014)
6	COD	mg/L	27.77	100	APHA : (5220 B) 23rd Edition
7	Oil & Grease	mg/L	BDL(<0.001)	10	APHA : (5520 B) 23rd Edition
8	Ammonical Nitrogen	mg/L	BDL	50	APHA : (4500 NH3) 23rd Edition
9	Phosphates	mg/L	BDL	Not Specified	APHA : (4500-P) 23rd Edition
10	Chlorides	mg/L	551.88	600	APHA : (4500 Cl B) 23rd Edition
11	Sulphates	mg/L	316.72	1000	APHA : (4500 SO4-2 E) 23rd Edition
12	Hexavalent Chromium	mg/L	BDL(<0.001)	0.1	APHA : (3500 Cr) 23rd Edition
13	Total Iron	mg/L	BDL(<0.001)	Not Specified	APHA : (3500-Fe B) 23rd Edition
14	Colour	Pt. Co. Scale	< 5	100	APHA : (2550 B&C) 23rd Edition
15	Phenolic Compound	mg/L	BDL(<0.001)	1	APHA : (5530 D) 23rd Edition
16	Sulphides	mg/L	BDL(<0.001)	2	APHA : (4500 SO2 F) 23rd Edition
17	Total Chromium	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cr) 23rd Edition
18	Total Copper	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cu A) 23rd Edition
19	Total Zinc	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Zn A) 23rd Edition

5.3 CHEMICAL ANALYSIS OF TREATED EFFLUENT WATER [DECEMBER 2024]

Sr. No.	Parameter	Unit (SI)	Results	GPCB Limit	Test Method
1	pH @ 25°C	-	7.54	6.5 – 8.5	APHA : (4500 – H+ B) 23rd Edition
2	Temperature	ºC	30.09	40	IS 3025 (Part 9):1984 (Reaffirmed 2006)
3	Total Suspended Solids	mg/L	11.75	300	APHA : (2540 D) 23rd Edition
4	Total Dissolved Solids	mg/L	1750.00	2100	APHA : (2540 C) 23rd Edition
5	BOD (5 day at 20 ºC)	mg/L	1.82	30	IS 3025 (Part 44):1993 (Reaffirmed 2014)
6	COD	mg/L	8.67	100	APHA : (5220 B) 23rd Edition
7	Oil & Grease	mg/L	BDL(<0.001)	10	APHA : (5520 B) 23rd Edition
8	Ammonical Nitrogen	mg/L	BDL	50	APHA : (4500 NH3) 23rd Edition
9	Phosphates	mg/L	BDL	Not Specified	APHA : (4500-P) 23rd Edition
10	Chlorides	mg/L	189.40	600	APHA : (4500 Cl B) 23rd Edition
11	Sulphates	mg/L	183.76	1000	APHA : (4500 SO4-2 E) 23rd Edition
12	Hexavalent Chromium	mg/L	BDL(<0.001)	0.1	APHA : (3500 Cr) 23rd Edition
13	Total Iron	mg/L	BDL(<0.001)	Not Specified	APHA : (3500-Fe B) 23rd Edition
14	Colour	Pt. Co. Scale	< 5	100	APHA : (2550 B&C) 23rd Edition
15	Phenolic Compound	mg/L	BDL(<0.001)	1	APHA : (5530 D) 23rd Edition
16	Sulphides	mg/L	BDL(<0.001)	2	APHA : (4500 SO2 F) 23rd Edition
17	Total Chromium	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cr) 23rd Edition
18	Total Copper	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cu A) 23rd Edition
19	Total Zinc	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Zn A) 23rd Edition

5.4 CHEMICAL ANALYSIS OF TREATED EFFLUENT WATER [JANAURY 2025]

Sr. No.	Parameter	Unit (SI)	Results	GPCB Limit	Test Method
1	pH @ 25°C	-	7.11	6.5 – 8.5	APHA : (4500 – H+ B) 23rd Edition
2	Temperature	ºC	31.40	40	IS 3025 (Part 9):1984 (Reaffirmed 2006)
3	Total Suspended Solids	mg/L	8.20	300	APHA : (2540 D) 23rd Edition
4	Total Dissolved Solids	mg/L	1630.00	2100	APHA : (2540 C) 23rd Edition
5	BOD (5 day at 20 ºC)	mg/L	5.68	30	IS 3025 (Part 44):1993 (Reaffirmed 2014)
6	COD	mg/L	11.90	100	APHA : (5220 B) 23rd Edition
7	Oil & Grease	mg/L	BDL(<0.001)	10	APHA : (5520 B) 23rd Edition
8	Ammonical Nitrogen	mg/L	BDL	50	APHA : (4500 NH3) 23rd Edition
9	Phosphates	mg/L	BDL	Not Specified	APHA : (4500-P) 23rd Edition
10	Chlorides	mg/L	264.60	600	APHA : (4500 Cl B) 23rd Edition
11	Sulphates	mg/L	360.20	1000	APHA : (4500 SO4-2 E) 23rd Edition
12	Hexavalent Chromium	mg/L	BDL(<0.001)	0.1	APHA : (3500 Cr) 23rd Edition
13	Total Iron	mg/L	BDL(<0.001)	Not Specified	APHA : (3500-Fe B) 23rd Edition
14	Colour	Pt. Co. Scale	< 5	100	APHA : (2550 B&C) 23rd Edition
15	Phenolic Compound	mg/L	BDL(<0.001)	1	APHA : (5530 D) 23rd Edition
16	Sulphides	mg/L	BDL(<0.001)	2	APHA : (4500 SO2 F) 23rd Edition
17	Total Chromium	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cr) 23rd Edition
18	Total Copper	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cu A) 23rd Edition
19	Total Zinc	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Zn A) 23rd Edition

5.5 CHEMICAL ANALYSIS OF TREATED EFFLUENT WATER [FEBRUARY 2025]

Sr. No.	Parameter	Unit (SI)	Results	GPCB Limit	Test Method
1	pH @ 25°C	-	7.94	6.5 – 8.5	APHA : (4500 – H+ B) 23rd Edition
2	Temperature	ºC	29.10	40	IS 3025 (Part 9):1984 (Reaffirmed 2006)
3	Total Suspended Solids	mg/L	19.00	300	APHA : (2540 D) 23rd Edition
4	Total Dissolved Solids	mg/L	1158	2100	APHA : (2540 C) 23rd Edition
5	BOD (5 day at 20 ºC)	mg/L	14.28	30	IS 3025 (Part 44):1993 (Reaffirmed 2014)
6	COD	mg/L	43.25	100	APHA : (5220 B) 23rd Edition
7	Oil & Grease	mg/L	BDL(<0.001)	10	APHA : (5520 B) 23rd Edition
8	Ammonical Nitrogen	mg/L	BDL	50	APHA : (4500 NH3) 23rd Edition
9	Phosphates	mg/L	BDL	Not Specified	APHA : (4500-P) 23rd Edition
10	Chlorides	mg/L	323.37	600	APHA : (4500 Cl B) 23rd Edition
11	Sulphates	mg/L	161.70	1000	APHA : (4500 SO4-2 E) 23rd Edition
12	Hexavalent Chromium	mg/L	BDL(<0.001)	0.1	APHA : (3500 Cr) 23rd Edition
13	Total Iron	mg/L	BDL(<0.001)	Not Specified	APHA : (3500-Fe B) 23rd Edition
14	Colour	Pt. Co. Scale	< 5	100	APHA : (2550 B&C) 23rd Edition
15	Phenolic Compound	mg/L	BDL(<0.001)	1	APHA : (5530 D) 23rd Edition
16	Sulphides	mg/L	BDL(<0.001)	2	APHA : (4500 SO2 F) 23rd Edition
17	Total Chromium	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cr) 23rd Edition
18	Total Copper	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cu A) 23rd Edition
19	Total Zinc	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Zn A) 23rd Edition

5.6 CHEMICAL ANALYSIS OF TREATED EFFLUENT WATER [MARCH 2025]

Sr. No.	Parameter	Unit (SI)	Results	GPCB Limit	Test Method
1	pH @ 25°C	-	6.93	6.5 – 8.5	APHA : (4500 – H+ B) 23rd Edition
2	Temperature	ºC	29.20	40	IS 3025 (Part 9):1984 (Reaffirmed 2006)
3	Total Suspended Solids	mg/L	23.20	300	APHA : (2540 D) 23rd Edition
4	Total Dissolved Solids	mg/L	1590	2100	APHA : (2540 C) 23rd Edition
5	BOD (5 day at 20 ºC)	mg/L	10.46	30	IS 3025 (Part 44):1993 (Reaffirmed 2014)
6	COD	mg/L	29.62	100	APHA : (5220 B) 23rd Edition
7	Oil & Grease	mg/L	BDL(<0.001)	10	APHA : (5520 B) 23rd Edition
8	Ammonical Nitrogen	mg/L	BDL	50	APHA : (4500 NH3) 23rd Edition
9	Phosphates	mg/L	BDL	Not Specified	APHA : (4500-P) 23rd Edition
10	Chlorides	mg/L	528.34	600	APHA : (4500 Cl B) 23rd Edition
11	Sulphates	mg/L	102.56	1000	APHA : (4500 SO4-2 E) 23rd Edition
12	Hexavalent Chromium	mg/L	BDL(<0.001)	0.1	APHA : (3500 Cr) 23rd Edition
13	Total Iron	mg/L	BDL(<0.001)	Not Specified	APHA : (3500-Fe B) 23rd Edition
14	Colour	Pt. Co. Scale	< 5	100	APHA : (2550 B&C) 23rd Edition
15	Phenolic Compound	mg/L	BDL(<0.001)	1	APHA : (5530 D) 23rd Edition
16	Sulphides	mg/L	BDL(<0.001)	2	APHA : (4500 SO2 F) 23rd Edition
17	Total Chromium	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cr) 23rd Edition
18	Total Copper	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Cu A) 23rd Edition
19	Total Zinc	mg/L	BDL(<0.001)	Not Specified	APHA : (3500 Zn A) 23rd Edition

CHAPTER 6

6.0 RESULTS OF TREATED SEWAGE WATER QUALITY MONITORING

(OCTOBER 2024 TO MARCH 2025)

6.0 SEWEGE WATER QUALITY MONITORING:

MONITORING DETAILS [(October 2024 TO March 2025)]

SR. NO.	MONITORING STATIONS	LANDMARKS
1	**(L1 – SW1)** (SUGEN PLANT) GPS Location: N 21°20.393' E 072°59.087'	SUGEN PLANT
2	**(L2 – SW2)** UNO-SUGEN (BEHIND ASWAD) GPS Location: N 21°20.499' E 072°59.500'	UNO-SUGEN (BEHIND ASWAD)

ANALYSIS METHOD DETAILS:

SR. NO.	PARAMETERS	UNIT	METHOD ADOPTED	GPCB NORMS	MINIMUM DETECTABLE LIMIT
1	BOD (3 Days @ 27 °C)	mg/L	IS 3025 (Part–44)	<30 mg/L	1.0
2	Suspended Solids	mg/L	IS 3025 (Part – 17)	< 100 mg/L	1.0
3	pH	--	IS 3025 (Part–11) Electrometric Method	6.5 to 9.0	1.0
4	Fecal Coliform	MPN/100ml	APHA(23rdEdi)9221 C&E	< 1000	--

6.1 CHEMICAL ANALYSIS OF STP WATER [OCTOBER 2024]

SR. NO.	PARAMETERS	UNIT	PLANT (SUGEN)	Uno - Sugen (BEHIND ASWAD)	GPCB NORMS
1	pH	--	7.85	7.80	6.5 to 9.0
2	Suspended Solids	mg/L	19.68	20.15	< 100 mg/L
3	BOD (3 Days @ 27 °C)	mg/L	5.74	5.5	30 mg/L
4	Fecal Coliform	MPN/100ml	170.26	164.8	< 1000

6.2 CHEMICAL ANALYSIS OF STP WATER [NOVEMBER 2024]

SR. NO.	PARAMETERS	UNIT	PLANT (SUGEN)	Uno - Sugen (BEHIND ASWAD)	GPCB NORMS
1	pH	--	7.36	7.41	6.5 to 9.0
2	Suspended Solids	mg/L	7.2	7	< 100 mg/L
3	BOD (3 Days @ 27 °C)	mg/L	5.29	5.16	30 mg/L
4	Fecal Coliform	MPN/100ml	164.59	172.84	< 1000

6.3 CHEMICAL ANALYSIS OF STP WATER [DECEMBER 2024]

SR. NO.	PARAMETERS	UNIT	PLANT (SUGEN)	Uno - Sugen (BEHIND ASWAD)	GPCB NORMS
1	pH	--	7.12	7.00	6.5 to 9.0
2	Suspended Solids	mg/L	8.40	12.30	< 100 mg/L
3	BOD (3 Days @ 27 °C)	mg/L	BDL	3.85	30 mg/L
4	Fecal Coliform	MPN/100ml	153.27	189.39	< 1000

6.4 CHEMICAL ANALYSIS OF STP WATER [JANAURY 2025]

SR. NO.	PARAMETERS	UNIT	PLANT (SUGEN)	Uno - Sugen (BEHIND ASWAD)	GPCB NORMS
1	pH	--	7.48	STP under maintenance	6.5 to 9.0
2	Suspended Solids	mg/L	6.09		< 100 mg/L
3	BOD (3 Days @ 27 °C)	mg/L	2.25		30 mg/L
4	Fecal Coliform	MPN/100ml	140.79		< 1000

6.5 CHEMICAL ANALYSIS OF STP WATER [FEBRUARY 2025]

SR. NO.	PARAMETERS	UNIT	PLANT (SUGEN)	Uno - Sugen (BEHIND ASWAD)	GPCB NORMS
1	pH	--	7.59	STP under maintenance	6.5 to 9.0
2	Suspended Solids	mg/L	12.40		< 100 mg/L
3	BOD (3 Days @ 27 °C)	mg/L	10.53		30 mg/L
4	Fecal Coliform	MPN/100ml	192.57		< 1000

6.6 CHEMICAL ANALYSIS OF STP WATER [MARCH 2025]

SR. NO.	PARAMETERS	UNIT	PLANT (SUGEN)	Uno - Sugen (BEHIND ASWAD)	GPCB NORMS
1	pH	--	7.25	7.09	6.5 to 9.0
2	Suspended Solids	mg/L	22.80	18.60	< 100 mg/L
3	BOD (3 Days @ 27 °C)	mg/L	13.99	12.63	30 mg/L
4	Fecal Coliform	MPN/100ml	221.68	206.58	< 1000

CHAPTER 7

7.0 RESULTS OF GROUND WATER QUALITY MONITORING

(OCTOBER 2024 TO MARCH 2025)

7.0 GROUND WATER QUALITY MONITORING:

MONITORING DETAILS [(OCTOBER 2024 TO MARCH 2025)]

SR. NO.	MONITORING STATIONS	LANDMARKS
1	**(L1-GW1)** GPS Location: N 21°20.150' E 72° 59.497'	AKHAKHOL VILLAGE (UP STREAM)
2	**(L2-GW2)**GPS Location: N 21°19.914' E 072° 57.583'	NAVI PARDI VILLAGE (DOWN STREAM)
3	**(L3-GW3)**GPS Location: 21.331300, 72.980106	Shardashish

DETAILS OF ANALYSIS METHOD:

SR. NO.	PARAMETERS	UNIT	METHOD ADOPTED	PERMISSIBLE LIMIT IN THE ABSENCE OF ALTERNATE SOURCE AS PER IS:10500 2012	MINIMUM DETECTABLE LIMIT
1	pH	--	IS 3025 (Part – 11) Electrometric Method	6.5 to 8.5#	2
2	Temperature	^0C	IS-3025(Part-9)	NS*	2
3	Turbidity	NTU	APHA (23rd Edition) 2130 B	Max 5	0.02
4	Conductivity	µs/cm	IS 3025 (Part – 14)	NS*	2
5	Total Dissolved Solids	mg/L	IS 3025 (Part-16)	Max 2000	10
6	Total Suspended Solids	mg/L	IS 3025 (Part – 17)	NS*	2.0
7	Alkalinity	mg/L	IS 3025 (Part – 23)	Max 600	2.0
8	Total Hardness	mg/L	IS 3025 (Part – 21) EDTA Method	Max 600	2.0
9	Ca Hardness as Ca	mg/L	IS 3025 (Part – 40)	NS*	1.0
10	Mg Hardness as Mg	mg/L	IS 3025 (Part – 46)	Max 100	1.0
11	Chloride as Cl	mg/L	IS3025(Part-32) Argentometric Method	Max 1000	1.0
12	Nitrate as NO_3	mg/L	IS3025(Part-34) Chromotopic Acid Method	Max 45#	0.5
13	Sulphate as SO_4	mg/L	IS 14543 IS 3025(P-24)	Max 400	1.0
14	Iron as Fe	mg/L	APHA (23rd Edition) 3111 B	Max 0.3#	0.3
15	Mercury as Hg	mg/L	APHA (23rd Edition) 3112 B	Max 0.001#	0.006
16	Cadmium as Cd	mg/L	APHA (23rd Edition) 3111 B	Max 0.003#	0.002
17	Selenium as Se	mg/L	APHA (23rd Edition) 3114 B	Max 0.01#	0.002
18	Arsenic as As	mg/L	APHA (23rd Edition) 3114 B	Max 0.05	0.005

SR. NO.	PARAMETERS	UNIT	METHOD ADOPTED	PERMISSIBLE LIMIT IN THE ABSENCE OF ALTERNATE SOURCE AS PER IS:10500 2012	MINIMUM DETECTABLE LIMIT
19	Cyanide as CN	mg/L	APHA (23rd Edition) 4500 CN E Colorimetric Method	Max 0.05#	0.001
20	Lead as Pb	mg/L	APHA (23rd Edition) 3111 B	Max 0.01#	0.005
21	Zinc as Zn	mg/L	APHA (23rd Edition) 3111 B	Max 15	0.06
22	Hexavalent Chromium as Cr^{+6}	mg/L	APHA (23rd Edition) 3500 Cr B Colorimetric Method	Max 0.05#	0.05

7.1: RESULTS OF GROUND WATER QUALITY [OCTOBER 2024]

Sr. No.	Parameter	Unit (SI)	Akhakhol	Navi Pardi	Shardashish
1	pH(@25°C)	-	7.53	7.89	7.21
2	Conductivity	µs/Cm	2910.00	2286.00	3174.00
3	Temperature	°C	31.2	30.50	30.10
4	Turbidity	NTU	0.7	0.9	0.5
5	TDS	mg/L	1314.00	1089.00	1590.00
6	TSS	mg/L	17.48	15.91	21.45
7	Total Alkalinity	mg/L	340.00	357.00	427.00
8	Total Hardness	mg/L	381.00	366.00	436.00
9	Chloride	mg/L	412.00	267.00	598.00
10	Sulphate	mg/L	250.00	144.00	315.00
11	Iron	mg/L	0.11	0.74	0.16
12	Hexavalent Chromium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
13	Calcium Hardness	mg/L	307.00	298.00	392.00
14	Magnesium Hardness	mg/L	74.00	68.00	44.00
15	Nitrate	mg/L	13.47	12.10	17.82
16	Mercury	mg/L	BDL(<0.0001)	BDL(<0.0001)	BDL(<0.0001)
17	Cadmium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
18	Selenium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
19	Arsenic	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
20	Cyanide	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
21	Lead	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
22	Zinc	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

7.2: RESULTS OF GROUND WATER QUALITY [NOVEMBER 2024]

Sr. No.	Parameter	Unit (SI)	Akhakhol	Navi Pardi	Shardashish
1	pH(@25°C)	-	7.41	7.73	7.36
2	Conductivity	µs/Cm	1872.00	3778.00	3134.00
3	Temperature	°C	31.60	30.40	30.11
4	Turbidity	NTU	0.6	0.5	0.3
5	TDS	mg/L	986.29	1189.35	1576.00
6	TSS	mg/L	19.53	14.39	23.80
7	Total Alkalinity	mg/L	324.67	310.78	390.00
8	Total Hardness	mg/L	330.85	356.72	1244.00
9	Chloride	mg/L	320.97	253.25	416.00
10	Sulphate	mg/L	210.36	138.79	342.81
11	Iron	mg/L	0.10	0.84	0.19
12	Hexavalent Chromium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
13	Calcium Hardness	mg/L	287.13	260.81	315.29
14	Magnesium Hardness	mg/L	68.26	71.53	39.12
15	Nitrate	mg/L	15.45	11.26	19.72
16	Mercury	mg/L	BDL(<0.0001)	BDL(<0.0001)	BDL(<0.0001)
17	Cadmium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
18	Selenium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
19	Arsenic	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
20	Cyanide	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
21	Lead	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
22	Zinc	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

7.3: RESULTS OF GROUND WATER QUALITY [DECEMBER 2024]

Sr. No.	Parameter	Unit (SI)	Akhakhol	Navi Pardi	Shardashish
1	pH(@25°C)	-	7.58	7.62	7.42
2	Conductivity	µs/Cm	3526.40	2883.20	3015.40
3	Temperature	°C	31.20	30.58	30.10
4	Turbidity	NTU	0.7	0.5	0.4
5	TDS	mg/L	1763.20	1841.60	1458.20
6	TSS	mg/L	15.30	12.63	25.39
7	Total Alkalinity	mg/L	330.51	286.55	284.45
8	Total Hardness	mg/L	310.42	340.97	1125.69
9	Chloride	mg/L	289.36	210.58	380.71
10	Sulphate	mg/L	194.40	142.39	222.36
11	Iron	mg/L	0.18	0.73	0.24
12	Hexavalent Chromium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
13	Calcium Hardness	mg/L	257.84	242.54	286.51
14	Magnesium Hardness	mg/L	71.52	65.89	27.60
15	Nitrate	mg/L	18.97	14.59	15.39
16	Mercury	mg/L	BDL(<0.0001)	BDL(<0.0001)	BDL(<0.0001)
17	Cadmium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
18	Selenium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
19	Arsenic	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
20	Cyanide	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
21	Lead	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
22	Zinc	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

7.4: RESULTS OF GROUND WATER QUALITY [JANUARY 2025]

Sr. No.	Parameter	Unit (SI)	Akhakhol	Navi Pardi	Shardashish
1	pH(@25°C)	-	7.46	7.52	7.30
2	Conductivity	µs/Cm	2050.76	3162.60	2841.97
3	Temperature	°C	31.10	31.40	30.50
4	Turbidity	NTU	0.5	0.2	0.4
5	TDS	mg/L	1125.36	1581.00	1370.00
6	TSS	mg/L	19.32	10.73	21.43
7	Total Alkalinity	mg/L	278.10	175.00	240.97
8	Total Hardness	mg/L	296.51	232.00	325.10
9	Chloride	mg/L	193.52	67.02	301.58
10	Sulphate	mg/L	170.29	37.70	210.46
11	Iron	mg/L	0.23	0.73	0.17
12	Hexavalent Chromium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
13	Calcium Hardness	mg/L	228.16	156.20	293.60
14	Magnesium Hardness	mg/L	68.35	75.80	31.50
15	Nitrate	mg/L	20.46	11.25	12.87
16	Mercury	mg/L	BDL(<0.0001)	BDL(<0.0001)	BDL(<0.0001)
17	Cadmium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
18	Selenium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
19	Arsenic	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
20	Cyanide	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
21	Lead	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
22	Zinc	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

7.5: RESULTS OF GROUND WATER QUALITY [FEBRUARY 2025]

Sr. No.	Parameter	Unit (SI)	Akhakhol	Navi Pardi	Shardashish
1	pH(@25°C)	-	7.91	7.58	7.47
2	Conductivity	µs/Cm	2740.00	2468.00	3149.00
3	Temperature	°C	28.10	29.40	29.20
4	Turbidity	NTU	0.7	0.3	0.9
5	TDS	mg/L	1420.00	1234.00	1569.38
6	TSS	mg/L	15.81	19.35	42.20
7	Total Alkalinity	mg/L	387.25	210.38	416.39
8	Total Hardness	mg/L	296.21	329.46	486.00
9	Chloride	mg/L	198.30	128.41	166.00
10	Sulphate	mg/L	170.25	119.29	279.10
11	Iron	mg/L	0.07	0.11	0.15
12	Hexavalent Chromium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
13	Calcium Hardness	mg/L	206.71	276.17	366.00
14	Magnesium Hardness	mg/L	89.52	53.29	120.00
15	Nitrate	mg/L	10.89	19.36	15.35
16	Mercury	mg/L	BDL(<0.0001)	BDL(<0.0001)	BDL(<0.0001)
17	Cadmium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
18	Selenium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
19	Arsenic	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
20	Cyanide	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
21	Lead	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
22	Zinc	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

7.6: RESULTS OF GROUND WATER QUALITY [MARCH 2025]

Sr. No.	Parameter	Unit (SI)	Akhakhol	Navi Pardi	Shardashish
1	pH(@25°C)	-	7.53	8.07	7.56
2	Conductivity	µs/Cm	3780.00	2964.00	2865.78
3	Temperature	°C	28.40	28.30	29.10
4	Turbidity	NTU	0.3	0.5	0.6
5	TDS	mg/L	1800.00	1598.00	1428.39
6	TSS	mg/L	22.49	11.52	58.32
7	Total Alkalinity	mg/L	412.62	184.36	326.21
8	Total Hardness	mg/L	325.62	259.30	481.36
9	Chloride	mg/L	170.55	153.72	148.26
10	Sulphate	mg/L	162.42	122.81	183.50
11	Iron	mg/L	0.05	0.09	0.08
12	Hexavalent Chromium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
13	Calcium Hardness	mg/L	243.70	198.04	388.11
14	Magnesium Hardness	mg/L	81.92	61.26	93.25
15	Nitrate	mg/L	15.81	13.65	11.39
16	Mercury	mg/L	BDL(<0.0001)	BDL(<0.0001)	BDL(<0.0001)
17	Cadmium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
18	Selenium	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
19	Arsenic	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
20	Cyanide	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
21	Lead	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
22	Zinc	mg/L	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

CHAPTER 8

8.0 RESULTS OF SOIL QUALITY MONITORING

(OCTOBER 2024 TO MARCH 2025)

8.0 SOIL QUALITY MONITORING:

MONITORING DETAILS:

SR. NO.	MONITORING STATIONS	LANDMARKS
1	(L1 – SL1) **GPS Location**: N 21°20.403' E 72°59.063'	HAZARDOUS WASTE STORAGE AREA
2	(L2 – SL2) **GPS Location**: N 21°20.372' E 72°59.086'	OIL SEPERATOR UBH (NEAR URD)
3	(L3 – SL3) **GPS Location**: N 21°20.532', E 72°59.177'	OIL SEPERATOR UBH (SWITCHYARD
4	(L4 – SL4) **GPS Location**: N 21°20.322' E 72°59.190'	BIOCIDE AND CHEMICALS STORAGE BUILDING (UPQ)
5	(L5 – SL5) **GPS Location**: N 21°20.315' E 72°59.270'	OIL SEPARATOR UBH (NEAR CHILLER BUILDING)
6	(L6 – SL6) **GPS Location**: N 21°20.303' E 72°59.336'	WATER TREATMENT CHEMICAL STORAGE (UGD)
7	(L7- SL7) **GPS Location**: N 21°20.331 E 72°59.320'	STORAGE OF LUBRICANT & CHEMICAL
8	(L8- SL8) **GPS Location**: N 21°20.420' E 72°59.272'	OIL SEPARATOR UBH (OPP. UNIT 20)
9	(L9- SL9) **GPS Location**: N 21°20.504' E 72°59.325'	40 UBF OIL SEPARATOR SUMP (Unit 40)
10	(L10- SL10) **GPS Location**: N 21°20.592' E 72°59.274'	SWITCHYARD (GIS) OIL SUMP (Unit 40)
11	(L11- SL11) **GPS Location**: N 21°20.448' E 72°59.471'	40UPQ
12	(L12- SL12) **GPS Location**: N 21°20.324' E 72°59.387'	40UGD

8.0 SOIL QUALITY MONITORING:

ANALYSIS METHOD DETAILS:

SR. NO.	TEST PARAMETER	UNIT	Minimum Detection Limit	REFERENCE
1	Bulk Density	g/cm^3	--	USDA / IS 2720 etc.
2	Organic matter	%	0.2	
3	Water Holding Capacity	%	2	
4	Colour	--	--	
5	pH (20% slurry)	--	--	
6	Clay	%	--	
7	Silt	%	--	
8	Sand	%	--	
9	Bicarbonates	mg/Kg	50	
10	Chlorides	mg/Kg	5	
11	Conductivity	µmho/cm	--	
12	Potassium	mg/kg	5	
13	Phosphorus	%	0.05	
14	Nitrogen	%	0.02	

8.1: RESULTS OF SOIL QUALITY MONITORING

[FEB 2025]

SR NO	PARAMETER	UNIT	RESULT Monitoring Date: [10.02.2025]					
			SL1	SL2	SL3	SL4	SL5	SL6
			HAZARDOUS WASTE STORAGE AREA	OIL SEPARATOR UBH (NEAR URD)	OIL SEPARATOR UBH (SWICHYARD)	BIOCIDE TREATMENT & CHEMICAL STORAGE BUILDING (UPQ)	OIL SEPERATOR UBH (NEAR CHILLER BUILDING)	WATER TREATMENT CHEMICAL STORAGE (UGD)
1	Bulk Density	g/cm^3	1.46	1.38	1.40	1.27	1.38	1.49
2	Organic matter	%	0.58	0.41	0.19	0.29	0.42	0.24
3	Water Holding Capacity	%	49.3	52.68	61.51	50.75	48.29	41.86
4	pH (20% slurry)	--	7.92	7.4	7.85	8.1	7.62	8.09
5	Colour	--	Brownish	Dark Brownish	dark Brownish	Brownish	Brownish	Brownish
6	Texture	%	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy
7	Bicarbonates	mg/Kg	0.017	0.016	0.011	0.011	0.017	0.018
8	Chlorides	mg/kg	130.710	173.390	239.670	143.250	242.300	190.310
9	Conductivity	mmho/cm	218	225	241	228	234	225
10	Potassium	mg/kg	0.0425	0.021	0.053	0.042	0.031	0.0326
11	Phosphorus as P_2O_5	%	0.038	0.025	0.093	0.071	0.028	0.031
12	Nitrogen	%	0.046	0.051	0.062	0.043	0.049	0.058

8.2: RESULTS OF SOIL QUALITY MONITORING [MARCH 2025]

SR NO	PARAMETER	UNIT	RESULT Monitoring Date: [18.03.2025]					
			SL7	SL8	SL9	SL10	SL11	SL12
			STORAGE OF LUBRICANT & CHEMICAL	OIL SEPARATOR UBH (OPP.UNIT 20)	40UBF OIL SEPARATOR SUMP (UNO-SUGEN)	SWITCHYARD (GIS) OIL SUMP (UNO SUGEN)	40UPQ	40UGD
1	Bulk Density	g/cm^3	1.34	1.29	1.14	1.15	1.31	1.2
2	Organic matter	%	0.195	0.186	0.22	0.248	0.256	0.231
3	Water Holding Capacity	%	46.81	41.65	51.2	43.81	40.27	46.1
4	pH (20% slurry)	--	7.63	8.02	7.42	7.6	7.85	7.42
5	Colour	--	Dark Brownish	Dark Brownish	Dark Brownish	Dark Brownish	Dark Brownish	Dark Brownish
6	Texture	%	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy
7	Bicarbonates	mg/Kg	0.019	0.017	0.014	0.016	0.014	0.012
8	Chlorides	mg/kg	263.17	185.69	212.48	223.8	185.31	231.69
9	Conductivity	mmho/cm	231.52	222	253.5	269.51	235	184
10	Potassium	mg/kg	0.0382	0.0356	0.0420	0.0311	0.0375	0.0286
11	Phosphorus as P_2O_5	%	0.0159	0.0184	0.0213	0.0213	0.0148	0.0186
12	Nitrogen	%	0.0273	0.0316	0.0291	0.0315	0.0256	0.0275

CHAPTER 9

9.0 RESULTS OF NOISE MONITORING

(OCTOBER 2024 TO MARCH 2025)

9.0 NOISE LEVEL MONITORING

MONITORING DETAILS:

SR. NO.	MONITORING STATIONS	LANDMARKS
1	(L1 - N1) **GPS Location**: N 21°20.370′ E 072°59.462′	Boundary wall at Back Side of GSPL gas station
2	(L2 – N2)**GPS Location**: N 21°20.279′ E 072°59.365′	Boundary wall at Back Side Maintenance Lay Down
3	(L3 – N3) **GPS Location**: N 21°20.237′ E 072°59.252′	Boundary wall at Backside of fire water reservoir
4	(L4 – N4)**GPS Location**: N 21°20.682′ E 072°59.579′	Near Sukan : AAQM Station
5	(L5 – N5) **GPS Location**: N 21°20.686′ E 072°59.112′	Boundary wall at Barrier Gate : 2 - Tejpath
6	(L6 – N6) **GPS Location**: N 21°20.439′ E 072°59.981′	Boundary wall at Banyan tree Gate to satkar
7	(L7 – N7) **GPS Location**: N 21°19.889′E 072°58.867′	Shardashish : Nr. Ashok Circle –Pond gate
8	(L8 – N8) **GPS Location**: N 21°19.87′ E 072°59.092′	Shardashish : Akhakhol Gate
9	(L9 – N9) **GPS Location**: N 21°19.518′ E 072°59.440′	Near Swagat Gate
10	(L10 – N10) **GPS Location**: N 21°19.19′ E 072°58.871′	Surbhi
11	(L11 – N11) **GPS Location**: N 21°20.175′E 072°59.362′	Akhakhol Village
12	(L12 – N12) **GPS Location**: N 21°19.798′ E 072°57.541′	NaviPardi Village
13	(L13 – N13) **GPS Location**: N 21°20.439′ E 072°59.527′	Unit-40 Entry Gate - East Side
14	(L14 – N14) **GPS Location**: N 21°20.823′E 072°59.233′	Tejpath Turn – West Side Of Sanman Circle

THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2010

LIMIT	Day Time	Night Time
Ambient Air Quality Standards in respect of Noise for Industrial Area	75 dB[A]	70 dB[A]
Ambient Air Quality Standards in respect of Noise for Residential Area	55 dB[A]	45 dB[A]
Ambient Air Quality Standards in respect of Noise for Silence Zone	50 dB[A]	40 dB[A]

Note Silence zone is defined as an area comprising not less than 100 meters around hospitals, educational institutions and courts.

The silence zones are zones which are declared as such by the competent authority.

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.

9.1 RESULTS OF NOISE MONITORING– [DAY TIME] [OCTOBER 2024 TO MARCH 2025]

SR NO	PARAMETER	NOISE MONITORING – dB(A) [DAY TIME]					
		15.10.2024	18.11.2024	12.12.2024	09.01.2025	10.02.2025	18.03.2025
1	N1 # Boundary wall at Back Side of GSPL gas station	56.9	56.0	52.4	54.6	54.9	62.3
2	N2 # Boundary wall at Back Side Maintenance Lay Down	52.6	48.9	46.8	52.8	52.7	55.1
3	N3 # Boundary wall at Backside of fire water reservoir	59.3	40.8	47.8	51.9	49.9	57.3
4	N4 # Nr. Sukan : AAQM Station	58.9	48.05	47.9	49.6	51.3	50.2
5	N5 # Boundary wall at Barrier Gate : 2 - Tejpath	56.5	47.04	46.7	51.8	53.6	56.5
6	N6 # Boundary wall at Banyan tree Gate to satkar	54.9	49.03	58.4	57.5	52.2	54.9
7	N7 # Shardashish : Nr. Ashok Circle –Pond gate	61.3	49.03	46.8	48.7	49.7	52.2
8	N8 # Shardashish : Akhakhol Gate	53.8	43.08	52.3	51.3	48.3	51.6
9	N9 # Near Swagat Gate	62.9	63.09	61.9	62.9	69.3	58.3
10	N10 # Surbhi	51.3	46.07	48.3	58.4	53.8	55.7
11	N11 # Akhakhol Village	63.7	61.09	59.7	63.7	61.9	61.0
12	N12 # NaviPardi Village	69.4	68.07	63.8	68.5	64.7	65.8
13	N13 # Entry Gate - East Side	53.7	46.08	57.6	49.7	53.4	67.2
14	N14 # Tejpath Turn – West Side Of Sanman Circle	52.2	48.05	46.02	51.3	51.9	63.9

9.2 RESULTS OF NOISE MONITORING – [NIGHT TIME] [OCTOBER 2024 TO MARCH 2025]

SR NO	PARAMETER	NOISE MONITORING – dB(A) [NIGHT TIME]					
		15.10.2024	18.11.2024	12.12.2024	09.01.2025	10.02.2025	18.03.2025
1	N1 # Boundary wall at Back Side of GSPL gas station	46.1	45.6	44.7	42.1	47.1	53.6
2	N2 # Boundary wall at Back Side Maintenance Lay Down	45.2	43.8	41.2	43.8	49.3	47.2
3	N3 # Boundary wall at Backside of fire water reservoir	42.8	38.6	40.5	44.6	46.2	49.3
4	N4 # Nr. Sukan : AAQM Station	41.9	42.7	43.3	45.1	43.8	44.8
5	N5 # Boundary wall at Barrier Gate : 2 - Tejpath	42.1	45.3	42.8	41.2	40.1	43.6
6	N6 # Boundary wall at Banyan tree Gate to satkar	44.5	43.7	46.5	48.3	47.9	40.2
7	N7 # Shardashish : Nr. Ashok Circle –Pond gate	41.5	46.5	41.3	42.0	45.2	45.7
8	N8 # Shardashish : Akhakhol Gate	41.0	40.6	47.9	49.6	43.6	43.6
9	N9 # Near Swagat Gate	44.7	52.3	50.2	52.4	52.9	44.8
10	N10 # Surbhi	42.1	44.9	45.2	47.9	40.2	41.6
11	N11 # Akhakhol Village	46.8	54.8	51.3	53.1	56.7	53.8
12	N12 # NaviPardi Village	54.6	57.1	58.6	59.6	52.9	50.8
13	N13 # Entry Gate - East Side	51.2	45.3	48.3	47.2	49.2	47.3
14	N14 # Tejpath Turn – West Side Of Sanman Circle	50.1	47.6	42.2	43.5	46.8	45.2