



## SEIL Energy India Limited

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SEIL P2/APPCB/BZA/2025/006  
20<sup>th</sup> June 2025

To  
The Member Secretary,  
Andhra Pradesh Pollution Control Board,  
Paryavaran Bhavan, APIIC Colony Road,  
Gurunanak Colony, Autonagar,  
Vijayawada– 520007.

Sub: **Submission of Half-Yearly CTO Compliance Report for the Period October 2024 to March 2025 – SEIL Energy India Limited Project-2**

Ref: Consent To Operate (CTO) Order No: APPCB/VJA/NLR/182/HO/CFO/2016 dated 14.12.2021 valid till 28.02.2027

Dear Sir,

With reference to the above, we hereby submit the Half-Yearly compliance report for the period October 2024 to March 2025 against the conditions stipulated in Consent To Operate (CTO) issued to SEIL Energy India Limited Project-2, located in SPSR Nellore District.

Hope the above is in order.

Thanking you,

Yours faithfully,  
For **M/s. SEIL Energy India Limited**

**Gnanadesigan N**  
Head HSE - SEIL

Copy To: The Regional Officer, APPCB, Nellore



**UNIVERSAL**  
**ENVIRO ASSOCIATES LLP**  
SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001: 2015 and  
ISO 45001 : 2018

Date: 20-06-2025

To  
The Member Secretary,  
Andhra Pradesh Pollution Control Board,  
Paryavaran Bhavan, APIIC Colony Road,  
Gurunanak Colony, Autonagar,  
Vijayawada— 520007.

Sub: Third Party Certificate -Half yearly compliance report on conditions of CTO — Reg.  
Ref: CFO No. APPCB/VJA/NLR/182/HO/CFO/2016, Dated: 14.12.2021.

Respected Sir/Madam,

With reference to the "Consent To Operate" (CTO) issued to M/s. SEIL Energy India Limited Project-2, Nellore, we are herewith certifying that M/s. SEIL Energy India Limited Project-2 has complied all the conditions imposed in CTO for the reporting period of October 2024 to March 2025.

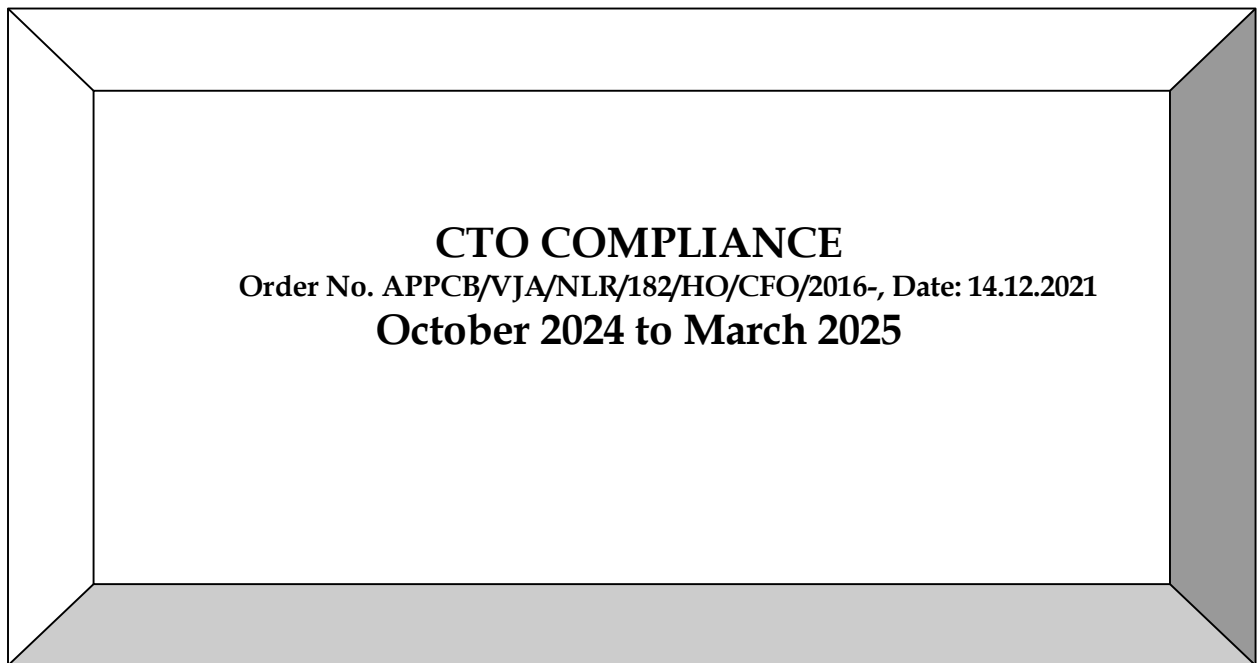
Thanking You,  
Yours Sincerely,  
For UNIVERSAL ENVIRO ASSOCIATES LLP,

  
(T Krishna)  
Technical Manager

Authorized Signatory



Copy To: The Regional Officer, APPCB, Nellore




Prepared By:  
Universal Enviro Associates, Hyderabad LLP  
Accredited by NABL (TC-15961)



Order No. APPCB/VJA/NLR/182/HO/CFO/2016-, Date: 14.12.2021

Compliance against CTO Conditions		
S No.	Condition	Compliance
SCHEDULE-A		
1.	Any up-set condition in any industrial plant/ activity of the industry, which result in, increased effluent/ emission discharge and / or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge/emission below the limits.	Complying.
2.	The industry shall carryout analysis of waste water discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.	Complying. Environment Monitoring Reports conducted by MoEF&CC approved third party are attached as Annexure-I, II, III & IV.
3.	All the rules & Regulations notified by Ministry of Law and Justice, Government of India regarding Public liability Insurance Act, 1991 shall be followed as applicable.	Complying. PLI Copy is attached as Annexure-V. (Policy Number: 4007/388642207/00/000 Policy Effective from 26/03/2025 to 25/03/2026)
4.	Notwithstanding anything contained in this consent order the Board hereby reserves the right and powers to review/ revoke any and /or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.	Noted
5.	The industry shall ensure that there shall not be any change in the process technology, source & composition of raw materials and scope of working without prior approval from the Board.	Noted

S No.	Condition	Compliance
6.	The applicant shall submit Environment Statement in Form V before 30 <sup>th</sup> September every year as per Rule no.14 of E (P) Rules 1986 & amendments thereof.	Complying. Environment Statement for FY2023-24 in Form-V has been submitted to APPCB.
7.	The applicant should make applications through Online for renewal of Consent (Under Water and Air Acts) and Authorization under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board.	Noted. Complying
8.	The industry shall immediately submit the revised application for consent to this Board in the event of any change in the raw material use, process employed, quantity of trade effluents & Quantity of emissions. Any change in the management shall be informed to the Board. The person authorize shall not let out the premises /lend/sell/transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.	Noted. Complying
9.	Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules 1982 to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act 1981.	Noted.

S No.	Condition	Compliance
10.	The industry shall be liable to pay Environmental Compensation / Other Environmental Taxes, if any environmental damage caused to the surroundings, as fixed by the Collector & District Magistrate or any other component authority as per the Rules in vogue.	Noted.
11.	The industry may explore the possibility of tapping the solar energy for their energy requirements.	Noted for Compliance.
12.	The industry should educate the workers and nearby public of possible accidents and remedial measures.	Complying. Regular trainings are being given to workers. All the measures have been taken to avoid any mishap which may lead to harm outside the plant premises (Off site)
SCHEDULE-B		
1.	Concrete / asphalt internal roads shall be repaired/ laid within 3 months.	Complied. All internal roads were made concrete/ asphalt and being maintained. 


S No.	Condition	Compliance
2.	100 % fly ash utilization shall be achieved by March 2022.	<p>Complying.</p> <p>SEIL Energy India Limited Project-2 has attained 100% fly ash utilization since November 2019. SEIL is making all out efforts to sustain 100% utilization of fly ash and achieved the same. MoUs are signed with brick manufacturers, traders, NHAI Contractors and cement plants for ash utilization.</p> <p>Dedicated Fly Ash Management Cell has been formed to have focused efforts and approach towards fly ash utilization.</p>

Water Pollution:


3.	<p>The industry shall comply with the following effluent standards based on the disposal points permitted:</p> <table border="1"> <thead> <tr> <th>Outlet No.</th><th>Parameter</th><th>Limiting Standards</th></tr> </thead> <tbody> <tr> <td rowspan="12">1 to 3</td><td>pH</td><td>6.5 to 8.5</td></tr> <tr> <td>Suspended Solids</td><td>100.0 mg/L</td></tr> <tr> <td>Oil &amp; Grease</td><td>20.0 mg/L</td></tr> <tr> <td>Temperature</td><td>Shall not exceeded 5 °C above the receiving water temperature</td></tr> <tr> <td>Biochemical Oxygen Demand (3 days at 27 °C)</td><td>100 mg/L</td></tr> <tr> <td>Chemical Oxygen Demand (COD)</td><td>250 mg/L</td></tr> <tr> <td>Arsenic</td><td>0.01 mg/L</td></tr> <tr> <td>Mercury</td><td>2.0 mg/L</td></tr> <tr> <td>Lead</td><td>2.0 mg/L</td></tr> <tr> <td>Cadmium</td><td>2.0 mg/L</td></tr> <tr> <td>Hexavalent Chromium</td><td>1.0 mg/L</td></tr> <tr> <td>Bio essay test</td><td>90% survival fish after 95 hours in 100 % effluent</td></tr> <tr> <td rowspan="4">4 &amp; 5</td><td>pH</td><td>5.5 to 9.0</td></tr> <tr> <td>Suspended Solids</td><td>200.0 mg/L</td></tr> <tr> <td>Oil &amp; Grease</td><td>10.0 mg/L</td></tr> <tr> <td>Biochemical Oxygen Demand (3 days at 27 °C)</td><td>100 mg/L</td></tr> </tbody> </table>	Outlet No.	Parameter	Limiting Standards	1 to 3	pH	6.5 to 8.5	Suspended Solids	100.0 mg/L	Oil & Grease	20.0 mg/L	Temperature	Shall not exceeded 5 °C above the receiving water temperature	Biochemical Oxygen Demand (3 days at 27 °C)	100 mg/L	Chemical Oxygen Demand (COD)	250 mg/L	Arsenic	0.01 mg/L	Mercury	2.0 mg/L	Lead	2.0 mg/L	Cadmium	2.0 mg/L	Hexavalent Chromium	1.0 mg/L	Bio essay test	90% survival fish after 95 hours in 100 % effluent	4 & 5	pH	5.5 to 9.0	Suspended Solids	200.0 mg/L	Oil & Grease	10.0 mg/L	Biochemical Oxygen Demand (3 days at 27 °C)	100 mg/L	<p>Complying.</p> <p>ETP Outlet &amp; Marine Outfall, STP treated water analysis reports performed by MoEF&amp;CC approved third Party consultant are attached as Annexure-I.</p>
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4.	<p>The source of water is sea. The following is the permitted water consumption:</p> <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Purpose</th><th>Quantity in m<sup>3</sup>/day</th></tr> </thead> <tbody> <tr> <td>1</td><td>For Cooling Tower make up (Saline water)</td><td>273728.0</td></tr> <tr> <td rowspan="6">2.</td><td>Non-cooling water – RO First pass</td><td></td></tr> <tr> <td>i) Clarifier</td><td>27714.0</td></tr> <tr> <td>ii) Misc. services</td><td>6300.0</td></tr> <tr> <td>RO Second pass</td><td></td></tr> <tr> <td>i) DM Plant</td><td>1590.0</td></tr> <tr> <td>ii) Domestic (Drinking Water)</td><td>75.0</td></tr> <tr> <td colspan="2">Total</td><td>3,09,407.0</td></tr> </tbody> </table>	Sl. No.	Purpose	Quantity in m <sup>3</sup> /day	1	For Cooling Tower make up (Saline water)	273728.0	2.	Non-cooling water – RO First pass		i) Clarifier	27714.0	ii) Misc. services	6300.0	RO Second pass		i) DM Plant	1590.0	ii) Domestic (Drinking Water)	75.0	Total		3,09,407.0	<p>As per the MoEF&amp;CC Notification dated 28<sup>th</sup> June 2018 under Serial No. 5B, the said water consumption limit is not applicable for sea water based Thermal Power Plants.</p> <p>However, the Sea Water withdrawal is well below the prescribed limits, i.e. 1,61,158 KLD during October 2024 to March 2025.</p>
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Total		3,09,407.0																						
5.	<p>The industry shall maintain separate digital water meters in the intake point of sea water (i.e. at sea coast) with totalizer facility unit wise to assess daily water consumption quantity instead of cumulative water consumptions.</p>	<p>Complying.</p> <p>Separate digital water meters with totalizer facility are provided for Cooling Tower make-up and Desalination system.</p> <p>Monthly totalizer readings are being captured jointly along with Port Conservator, Govt. of India in a separate log book.</p>																						
6.	<p>The industry shall maintain flow meter preferably Electro Magnetic Flow meters with totalizers for water and effluent quantity measurements for different streams of effluents and different categories of water usage stipulated in this order.</p>	<p>Complying.</p> <p>SEIL has provided separate flow meters with totalizers for quantity measurement:</p> <ul style="list-style-type: none"> <li>✚ Sea Water Intake</li> <li>✚ ETP Outlet</li> <li>✚ Marine Out fall</li> <li>✚ High Rate Solid Contact Clarifier (HRSCC) Outlet</li> <li>✚ Cooling Tower Makeup</li> <li>✚ Cooling Tower Blowdown</li> <li>✚ ETP Inlet</li> <li>✚ SPDS (Stock Pile Dust Suppression system)</li> <li>✚ DFDS (Dry Fog Dust Suppression system)</li> </ul>																						


Order No. APPCB/VJA/NLR/182/HO/CFO/2016-, Date: 14.12.2021

S No.	Condition	Compliance												
7.	The industry shall maintain leachate collection tank to collect the leachate from garland drain of ash pond.	<p>Complying.</p> <p>The Ash Pond is provided with garland drains all around to collect leachates, if any. Separate Leachate collection tank connected to all the garland drains of Ash Pond.</p> 												
8.	The industry shall maintain provision to collect the excess water from the ash pond into sea to control overflow of saline water from ash pond and to prevent contamination of irrigation tanks.	<p>Complying.</p> <p>SEIL has ensured adequate provision at ash pond having an overflow lagoon connected to decantation well of both lagoons and the water is recirculated back to ash handling system for reuse.</p>												
<b>Air Pollution:</b>														
9.	<p>The emissions shall not contain constituents in excess of the prescribed limits mentioned below:</p> <table border="1"> <thead> <tr> <th>Chimney No</th><th>Parameter</th><th>Emission standards</th></tr> </thead> <tbody> <tr> <td rowspan="4">1&amp;2</td><td>Particular Matter</td><td>50 mg/Nm<sup>3</sup></td></tr> <tr> <td>Sulphur Dioxide</td><td>*200 mg/Nm<sup>3</sup></td></tr> <tr> <td>Oxides of Nitrogen</td><td>450 mg/Nm<sup>3</sup></td></tr> <tr> <td>Mercury (Hg)</td><td>*0.03 mg/Nm<sup>3</sup></td></tr> </tbody> </table> <p>*The industry shall meet the SO<sub>2</sub> emission standard of 200 mg/Nm<sup>3</sup> by 31.12.2024, as per MoEF&amp;CC, GoI notification GSR No. 243 (E), dt.31.03.2021</p>	Chimney No	Parameter	Emission standards	1&2	Particular Matter	50 mg/Nm <sup>3</sup>	Sulphur Dioxide	*200 mg/Nm <sup>3</sup>	Oxides of Nitrogen	450 mg/Nm <sup>3</sup>	Mercury (Hg)	*0.03 mg/Nm <sup>3</sup>	<p>SEIL is complying with the Emission norms of Particulate Matter, NO<sub>x</sub> and mercury. Stack Emission Monitoring Reports performed by MoEF&amp;CC approved third Party consultant are attached as Annexure-III.</p> <p>SO<sub>2</sub>: SEIL is committed to commission Flue Gas Desulfurization System (FGD) to meet the SO<sub>x</sub> limits as per the latest Notifications/Directions issued as per times lines mentioned in latest notification.</p>
Chimney No	Parameter	Emission standards												
1&2	Particular Matter	50 mg/Nm <sup>3</sup>												
	Sulphur Dioxide	*200 mg/Nm <sup>3</sup>												
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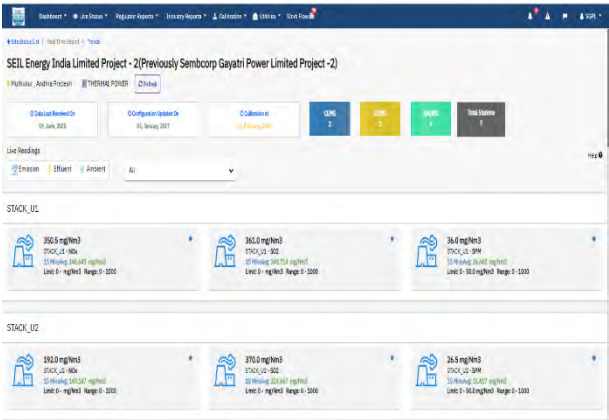
S No.	Condition	Compliance
10.	<p>The industry shall comply with ambient air quality standards of PM<sub>10</sub> (Particulate Matter size less than 10µm)- 100 µg/m<sup>3</sup>; PM<sub>2.5</sub> (Particulate Matter size less than 2.5 µm)- 60 µg/m<sup>3</sup>; SO<sub>2</sub>- 80 µg/m<sup>3</sup>; NO<sub>x</sub> - 80 µg/m<sup>3</sup>, outside the factory premises at the periphery of the industry.</p> <p>Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No. B-29016/20/90/PCI-I, dated 18.11.2009.</p> <p>Noise Levels:</p> <p style="padding-left: 40px;">Day time (6 AM to 10 PM)- 75 dB (A)</p> <p style="padding-left: 40px;">Night time (10 PM to 6 AM) - 70 dB (A)</p>	<p>Complying.</p> <p>SEIL is complying with Ambient Air Quality parameters as prescribed in NAAQMS Standards.</p> <p>Ambient Air Quality Monitoring reports and Noise Monitoring reports conducted by MoEF&amp;CC approved third party consultant are attached as Annexure-III.</p>
11.	<p>The industry shall comply with emission limits for DG sets of capacity up to 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 under the Environment (Protection) Amendment Rules, 2003 and G.S.R.448(E), dated 12.07.2004 under the Environment (Protection) Second Amendment Rules, 2004. In case of DG sets of capacity more than 800 KW shall comply with emission limits as per the Notification G.S.R.489 (E), dated 09.07.2002 at serial no.96, under the Environment (Protection) Act, 1986.</p>	<p>Complying.</p> <p>SEIL is complying with the emission norms.</p> <p>DG stack Emissions is being monitored by MoEF&amp;CC approved third party consultant every quarter and reports attached as Annexure-VI.</p>

S No.	Condition	Compliance
12.	The industry shall maintain wind barriers/ wind breaking walls to the coal yards as temporary arrangement to control fugitive dust emissions on immediate surroundings.	<p>SEIL has provided wind barriers all around coal yard with 3-tier thick and tall Conocarpus trees. SEIL has transplanted adequate matured plants around coal yard as per directions given in Task force committee meeting.</p>   

S No.	Condition	Compliance
		<p>In addition, SEIL has installed adequate water sprinklers with water hydrant system in coal yard to mitigate fugitive emission.</p> 
13.	<p>The industry shall regularly operate water sprinklers provided to control stock yard to mitigate fugitive dust on the surroundings from coal handling area.</p>	<p>Complying.</p> <p>SEIL has installed adequate water sprinklers (<b>around 300 No's</b>) in coal yard to mitigate fugitive emission. Water consumption on monthly basis is being submitted to APPCB.</p> 

S No.	Condition	Compliance
14.	The industry shall provide & maintain necessary air pollution control systems at coal transfer points in coal conveyer system from port boundary to industry premises within 3 months.	Complying. Entire coal transportation from port boundary to industry premises is through closed pipe conveyors. All the coal transfer points (11 <b>No's</b> ), and one coal crusher are provided with bag filter Dry Fog Dust Suppression (DFDS) System.
15.	The industry shall upgrade the air pollution control systems at coal crusher within 3 months.	Complying. Dry fog Dust suppression (DFDS) systems installed at coal crusher.  DFDS System
16.	The industry shall provide separate energy meters along with totalizer facility for each ESP.	Complying. SEIL has provided separate energy meters to monitor ESP Power Consumption.
17.	The industry shall provide FGD system to meet the SO <sub>2</sub> emission standard of 200 mg/Nm <sup>3</sup> by 31.12.2024, as per MoEF&CC, GoI notification GSR No. 243 (E), dt.31.03.2021.	SEIL is committed to commission Flue Gas Desulfurization System (FGD) to meet the SO <sub>x</sub> limits as per the latest Notifications/Directions issued.


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<u>General:</u>														
18.	<p>The industry shall maintain the following records and the same shall be made available to the inspecting officers of the Board:</p> <p>a. Daily production details (ER-1 Central Excise Returns).</p> <p>b. Quantity of Effluents generated, treated, recycled/ reused and disposed.</p> <p>c. Log Books for pollution control systems.</p> <p>d. Characteristics of effluents and emissions.</p> <p>e. Hazardous/Non-Hazardous solid waste generated and disposed.</p> <p>f. Inspection book.</p> <p>g. Manifest copies of hazardous.</p>	<p>Complying.</p> <p>All such applicable records are being regularly maintained.</p>												
19.	<p>The industry shall dispose solid waste (Non-Haz) as follows</p> <table><tr><th>S. No.</th><th>Name of the Solid Waste</th><th>Quantity</th><th>Disposal</th></tr><tr><td>1</td><td>Fly Ash</td><td>1.50 Million Tons/ Annum</td><td>To Cement / brick units</td></tr><tr><td>2</td><td>Bottom Ash</td><td>0.40 Million Tons/ Annum</td><td>To cement, brick manufacturing units. Unutilized bottom ash to ash pond in slurry mode</td></tr></table>	S. No.	Name of the Solid Waste	Quantity	Disposal	1	Fly Ash	1.50 Million Tons/ Annum	To Cement / brick units	2	Bottom Ash	0.40 Million Tons/ Annum	To cement, brick manufacturing units. Unutilized bottom ash to ash pond in slurry mode	<p>Complying.</p> <p>SEIL Energy India Limited Project-2 has attained 100% fly ash utilization since November 2019.</p> <p>Wet Bottom ash is transported to ash pond in the form of slurry.</p> <p>SEIL is making all out efforts to sustain 100% utilization of fly ash and achieved the same. MoUs are signed with brick manufacturers, traders, NHAI Contractors and cement plants for ash utilization.</p> <p>Dedicated Fly Ash Management Cell has been formed to have focused efforts and approach towards 100% fly ash utilization.</p>
S. No.	Name of the Solid Waste	Quantity	Disposal											
1	Fly Ash	1.50 Million Tons/ Annum	To Cement / brick units											
2	Bottom Ash	0.40 Million Tons/ Annum	To cement, brick manufacturing units. Unutilized bottom ash to ash pond in slurry mode											

S No.	Condition	Compliance
20.	The industry shall operate CAAQM stations for monitoring SPM, SO <sub>2</sub> , and NO <sub>x</sub> with recording facility and maintain connectivity to PCB server.	<p>Complying.</p> <p>The Ambient Air Quality of the plant area and surroundings is being continuously monitored by using 3 <b>No's of Continuous Air Quality Monitoring CAAQMS Stations</b>. The data is being uploaded to PCB server on real-time basis.</p> 
21.	The industry shall install & maintain online effluent and stack monitoring systems for specified parameters as per CPCB directions dated 05.02.2014 & 02.03.2015 and maintain connectivity to APPCB/CPCB websites.	<p>Complying.</p> <p>SEIL has provided Online Stack Emission Monitoring system &amp; Effluent Quality Monitoring system and same is connected with the APPCB/CPCB website.</p> 

S No.	Condition	Compliance
22.	The industry shall carryout regular calibration for the on-line stack monitoring systems and CAAQM stations with tamper proof mechanism.	Complying. Regular calibration of the CAAQMS stations along with OEM and third party is being done. Also, the CEMS system is provided with online Remote Calibration facility.
23.	The industry shall dispose 100% of fly ash generated as per the Fly ash Notification.	Complying. SEIL Energy India Limited Project-2 has attained 100% fly ash utilization since November 2019. SEIL is making all out efforts to sustain 100% utilization of fly ash and achieved the same. MoUs are signed with brick manufacturers, traders, NHAI Contractors and cement plants for ash utilization. Dedicated Fly Ash Management Cell has been formed to have focused efforts and approach towards 100% fly ash utilization.

24.	<p>The industry shall develop &amp; maintain thick green belt in an area of 315 acres all along the periphery of the industry and ash pond area.</p>	<p>Complying.</p> <p>An area of 355 acres green belt/green cover development completed adopting scientific methods like establishment of mist chamber, drip &amp; sprinkler system, vermicompost production and application of bio pesticides. Peripheral plantation along inside of the compound wall has been taken up with 3 tier plantation.</p> 
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S No.	Condition	Compliance
25.	The industry shall submit a copy of policy of Public Liability Insurance (PLI) duly indicating the amount contributed towards Environmental Relief Fund (ERF) to the RO once in six months.	Complying.  The copy of PLI is being submitted to APPCB Regional office on regular basis. (Policy Number: 4007/388642207/00/000 Policy Effective from 26/03/2025 to 25/03/2026)  PLI Policy attached as Annexure-V.
26.	The industry shall comply with Board directions issued from time to time.	Noted.
27.	The industry shall comply with standards and directions issued by CPCB/MoEF&CC as and when notifications are issued.	Noted.
28.	The industry shall submit compliance report on the conditions mentioned in the consent order, safety audit reports, Fire NOC, Onsite/Offsite emergency plans (modification if any) every 6 months i.e. on 1 <sup>st</sup> of January and July of every year to the Regional Office/Zonal Office.	Complying.  SEIL Energy India Limited Project-2 has submitted the six-monthly CFO compliance report to APPCB vide letter No. SEIL P2/APPCB/BZA/2024/007 dated 24-12-2024.

S No.	Condition	Compliance
<u>Special Conditions:</u>		
1.	The industry shall maintain a copy of the NOC issued by the Andhra Pradesh State Disaster Response and Fire Service Dept., (APSDRFSD) at concerned Regional Office, APPCB.	Complied. Fire NOC attached as Annexure-VIII.
2.	The industry shall prepare a safety report and carry out an independent safety audit report of the respective industrial activities including chemical storages / isolated storages by an expert not associated with such industrial activity as required under Rule 10 of MSIHC, Rules, 1989 and get it approval by the Factories Dept., and submit the compliance along with copy of the safety report, safety audit certificate at concerned Regional Office, APPCB.	Complied. Safety Audit report attached as Annexure-IX.
3.	The industry shall extend training to the working personnel for the prevention of accidents and necessary antidotes to ensure safety, as per MISHC Rules, 1989.	Complying. Safety training is being given to the working personnel.
4.	The industry shall carry out calibration of safety equipment and leak detection systems at regular intervals and shall certify the same with the Factories Department. That certified copy shall be submitted to the APPCB, Regional Office.	Not Applicable.
5.	The industry shall install fluorescent Wind Vane at the highest point in the industry premises.	Complied. 

S No.	Condition	Compliance
6.	The industry shall submit Risk analysis and risk assessment covering worst scenario clearly describing impact within the industry premises and outside the industry premises and emergency response system.	Noted and being complied.
7.	The industry shall submit the copy of the safety audit report and On-site / Off-site Emergency Plans as applicable after being certified by the Factories Department to the APPCB, Regional Office from time to time, if the storage quantity of hazardous chemicals is equal to or, in excess of the threshold quantities specified in schedule 2 & 3 of MISHC Rules, 1989.	Complying. Onsite Emergency Management Plan is in place to meet any eventuality.
SCHEDULE-C		
1.	The authorized person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.	Complying.
2.	The authorization shall be produced for inspection at the request of an officer authorized by the state Pollution Control Board.	Noted for Compliance.
3.	The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.	Noted.
4.	Any authorized change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorization.	Noted.

S No.	Condition	Compliance
5.	The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site-specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.	Complying. Onsite Emergency Management Plan is in place to meet any eventuality.  Periodic mock drills are being conducted.
6.	The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposed of Hazardous Waste and Penalty".	Noted for Compliance.
7.	It is duty of the authorised person to take prior permission of the pollution Control Board to close down the facility.	Noted.
8.	The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.	Complying.  All the Hazardous Wastes generated are being disposed to authorized vendors through APEMC.
9.	An application for the renewal of an authorisation shall be made as laid down under these Rules.	Noted for Compliance.
10	Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.	Noted for Compliance.

S No.	Condition	Compliance
11.	Annual returns shall be filed by June 30 <sup>th</sup> for the period ensuring 31 <sup>st</sup> March of the year.	Complying. SEIL Energy India Limited Project-2 has submitted the Hazardous Waste Annual returns in Form-4 to APPCB vide SEIL P2/APPCB/BZA/2025/003 dated 10-06-2025.
12.	The industry shall not store hazardous waste for more than 90 days as per the Hazardous Wastes (Management & Transboundary Movement) Rules, 2016.	Complying. Disposal of Hazardous wastes being done through APEMC Authorized Waste Receivers as per HWM rules.
13.	The industry shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till its disposal to the manufacturers / dealers on buyback basis.	Complying. SEIL Energy India Limited Project-2 is storing the Used / Waste Oil and Used Lead Acid Batteries under a secured Hazardous Waste Storage shed and being disposed through APEMC Authorized Receivers. 

S No.	Condition	Compliance
14.	The industry shall maintain 7 copy manifest system for transportation of waste generated and a copy shall be submitted to concern Regional Office of APPCB. The driver who transports Hazardous Waste should be well acquainted about the procedure to be followed in case of an emergency during transit. The transporter should carry a Transport Emergency (TREM) Card.	<p>Complying.</p> <p>Hazardous wastes disposal is being done through APEMC online portal to authorized waste Receivers by following Manifest system as per HWM rules, 2016.</p> <p>Hazardous Waste Manifests are being submitted to RO, APPCB.</p> <p>TREM card is being issued to transporters during transportation.</p>
15.	The industry shall maintain proper records for Hazardous and Other Wastes stated in Authorisation in Form-3 i.e., quantity of Incinerable waste, land disposal waste, recyclable waste etc., and file annual returns in Form- 4 as per Rule 20(2) of the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.	<p>Complying.</p> <p>SEIL Energy India Limited Project-2 is maintaining Hazardous waste records in Form-3.</p> <p>SEIL Energy India Limited Project-2 has submitted the Hazardous Waste Annual returns in Form- 4 to APPCB vide SEIL P2/APPCB/BZA/2025/003 dated 10-06-2025.</p>



# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ANNEXURE-I

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: ETP OUTLET (Treated Effluent)**

**Date of Monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARD	RESULTS
1.	pH	IS:3025(Part-11)1983	--	5.5-9.0	7.3
2.	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	2100	376
3.	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	200	65
4.	Chemical Oxygen Demand	IS:3025(Part-58)-1986	mg/l	250	38
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025(Part-44)-1993	mg/l	100	30
6.	Oil & Grease	IS:3025(Part-39)-1991	mg/l	10	<1.0

Note: IS- Indian Standard

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: ETP OUTLET (Treated Effluent)**

**Date of Monitoring: 18.02.2025**

**Sample Collected By: Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARD	RESULTS
1.	pH	IS:3025(Part-11)1983	--	5.5-9.0	7.4
2.	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	2100	283
3.	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	200	61
4.	Chemical Oxygen Demand	IS:3025(Part-58)-1986	mg/l	250	35
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025(Part-44)-1993	mg/l	100	33
6.	Oil & Grease	IS:3025(Part-39)-1991	mg/l	10	<1.0

Note: IS- Indian Standard

K.S. Jay  
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Praveesh W.  
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## TEST REPORT

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**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Marine Outfall Water**

**Date of Sampling: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0001**

## TEST RESULT

S. NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1	pH	IS:3025(Part-11)1983	--	6.5-8.5	6.8
2	Temperature Intake	--	°C	Shall not exceed 5°C above the Receiving temperature	24.4
3	Temperature Out Fall	--	°C		26.8
4	Electric Conductivity	IS: 3025:1964	µs/cm	--	24210
5	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	--	17,759
6	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	100	54
7	Chemical Oxygen Demand	IS:3025(Part-58)-2006	mg/l	250	89
8	Biochemical Oxygen Demand (3 days at 27°C)	IS:3025(Part-44)-1993	mg/l	100	51
9	Oil & Grease	IS:3025(Part-39)-1991	mg/l	10	<1.0
10	Total Hardness as CaCO <sub>3</sub>	IS:3025(Part-21)-2012	mg/l	--	4438
11	Total Alkalinity as CaCO <sub>3</sub>	IS:3025(Part-23)-2012	mg/l	--	669
12	P- Alkalinity as CaCO <sub>3</sub>	IS:3025(Part-13)-1964	mg/l	--	Nil
13	Turbidity	IS:3025(Part-10)-2012	NTU	--	5.1
14	Calcium as Ca	IS:3025(Part-40)-2012	mg/l	--	1,176
15	Magnesium as Mg	IS:3025(Part-46)-2012	mg/l	--	253
16	Sodium as Na	IS:3025(Part-45)1993	mg/l	--	568

K.S.Lg  
Verified by



*Bhuresh W.*  
Authorized by  
Managing Director

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S. No	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
17	Potassium as K	IS:3025(Part-45)-1993	mg/l	--	278
18	Chloride as Cl	IS:3025(Part-32)-2012	mg/l	--	7,242
19	Sulphates as SO <sub>4</sub>	IS:3025(Part-24)-2012	mg/l	--	765
20	Nitrates as NO <sub>3</sub>	IS:3025(Part-34)-2012	mg/l	--	43.6
21	Carbonates as CO <sub>3</sub>	IS:3025(Part-51)-2017	mg/l	--	Nil
22	Bio Carbonates as HCO <sub>3</sub>	IS:3025(Part-51)-2017	mg/l	--	466
23	Iron as Fe	IS:3025(Part-53)-2012	mg/l	--	5.0
24	Fluoride as F	IS:3025(Part-60)-2012	mg/l	--	1.9
25	Copper as Cu	IS:3025(Part-42)-2012	mg/l	--	0.80
26	Manganese as Mn	IS:3025(Part-59)-2012	mg/l	--	0.56
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS:3025(Part-43)-2012	mg/l	--	<0.005
28	Cadmium as Cd	IS:3025(Part-41)-2012	mg/l	2.0	<0.005
29	Mercury as Hg	IS:3025(Part-48)-2012	mg/l	0.01	<0.001
30	Selenium as Se	IS:3025(Part-56)-2012	mg/l	--	<0.005
31	Arsenic as As	IS:3025(Part-37)-2012	mg/l	0.2	<0.01
32	Cyanide as CN	IS:3025(Part-27)-2012	mg/l	--	<0.01
33	Lead as Pb	IS:3025(Part-47)-2012	mg/l	2.0	<0.01
34	Zinc as Zn	IS:3025(Part-49)-2012	mg/l	--	0.51
35	Hexavalent Chromium as Cr <sup>+6</sup>	IS:3025(Part-38)-1964	mg/l	1.0	<0.001
36	Boron as B	IS:3025(Part-57)-2012	mg/l	--	0.002
37	Silica as SiO <sub>2</sub>	IS:3025(Part-35)-2019	mg/l	--	38.4

Note: IS- Indian Standard

K.S. Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Marine Outfall Water (Fish Bio-Assay Test)**

**Date of Sampling: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

## TEST RESULT

TEST SPECIES	SOURCE OF ORGANISM	LENGTH & WEIGHT (For Fish)	REMARKS
Zebra Fish	Through vendors	1. Length 4.5 cm 2. Weight 3.7 gm	1. Fish were not fed <u>Yes</u> 2. Temperature range in aquarium 26°C

## REFERENCE TEST DATA

START DATE: 14.11.2024

END DATE: 20.11.2024

### COMMENTS:

The test species were undergone toxicity for about 96 Hrs.  
RESULT: 97% survival of fish was noticed

**Testing:** As per M. L. Jackson & FAO –Food and Agriculture Organization

K.S. Jay  
Verified by



Praveesh W.  
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Managing Director

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Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Marine Outfall Water**

**Date of Sampling: 18.02.2025**

**Sample Collected By: S .Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0001**

## TEST RESULT

S. NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1	pH	IS:3025(Part-11)1983	--	6.5-8.5	7.5
2	Temperature Intake	--	°C	Shall not exceed 5°C above the Receiving temperature	25.3
3	Temperature Out Fall	--	°C		27.6
4	Electric Conductivity	IS: 3025:1964	µs/cm	--	24356
5	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	--	17,769
6	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	100	51
7	Chemical Oxygen Demand	IS:3025(Part-58)-2006	mg/l	250	85
8	Biochemical Oxygen Demand (3 days at 27°C)	IS:3025(Part-44)-1993	mg/l	100	49
9	Oil & Grease	IS:3025(Part-39)-1991	mg/l	10	<1.0
10	Total Hardness as CaCO <sub>3</sub>	IS:3025(Part-21)-2012	mg/l	--	4446
11	Total Alkalinity as CaCO <sub>3</sub>	IS:3025(Part-23)-2012	mg/l	--	665
12	P- Alkalinity as CaCO <sub>3</sub>	IS:3025(Part-13)-1964	mg/l	--	Nil
13	Turbidity	IS:3025(Part-10)-2012	NTU	--	5.5
14	Calcium as Ca	IS:3025(Part-40)-2012	mg/l	--	1,183
15	Magnesium as Mg	IS:3025(Part-46)-2012	mg/l	--	255
16	Sodium as Na	IS:3025(Part-45)1993	mg/l	--	564

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

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S. No	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
17	Potassium as K	IS:3025(Part-45)-1993	mg/l	--	282
18	Chloride as Cl	IS:3025(Part-32)-2012	mg/l	--	7,246
19	Sulphates as SO <sub>4</sub>	IS:3025(Part-24)-2012	mg/l	--	758
20	Nitrates as NO <sub>3</sub>	IS:3025(Part-34)-2012	mg/l	--	41.4
21	Carbonates as CO <sub>3</sub>	IS:3025(Part-51)-2017	mg/l	--	Nil
22	Bio Carbonates as HCO <sub>3</sub>	IS:3025(Part-51)-2017	mg/l	--	458
23	Iron as Fe	IS:3025(Part-53)-2012	mg/l	--	4.8
24	Fluoride as F	IS:3025(Part-60)-2012	mg/l	--	1.7
25	Copper as Cu	IS:3025(Part-42)-2012	mg/l	--	0.76
26	Manganese as Mn	IS:3025(Part-59)-2012	mg/l	--	0.62
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS:3025(Part-43)-2012	mg/l	--	<0.005
28	Cadmium as Cd	IS:3025(Part-41)-2012	mg/l	2.0	<0.005
29	Mercury as Hg	IS:3025(Part-48)-2012	mg/l	0.01	<0.001
30	Selenium as Se	IS:3025(Part-56)-2012	mg/l	--	<0.005
31	Arsenic as As	IS:3025(Part-37)-2012	mg/l	0.2	<0.01
32	Cyanide as CN	IS:3025(Part-27)-2012	mg/l	--	<0.01
33	Lead as Pb	IS:3025(Part-47)-2012	mg/l	2.0	<0.01
34	Zinc as Zn	IS:3025(Part-49)-2012	mg/l	--	0.51
35	Hexavalent Chromium as Cr <sup>+6</sup>	IS:3025(Part-38)-1964	mg/l	1.0	<0.001
36	Boron as B	IS:3025(Part-57)-2012	mg/l	--	0.003
37	Silica as SiO <sub>2</sub>	IS:3025(Part-35)-2019	mg/l	--	36.7

Note: IS- Indian Standard

K.S.Lal  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Marine Outfall Water (Fish Bio-Assay Test)**

**Date of Sampling: 18.02.2025**

**Sample Collected By: Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

## TEST RESULT

TEST SPECIES	SOURCE OF ORGANISM	LENGTH & WEIGHT (For Fish)	REMARKS
Zebra Fish	Through vendors	1. Length 4.5 cm 2. Weight 3.8 gm	1. Fish were not fed <u>Yes</u> 2. Temperature range in aquarium 27°C

## REFERENCE TEST DATA

START DATE: 19.02.2025

END DATE: 25.02.2025

### COMMENTS:

The test species were undergone toxicity for about 96 Hrs.  
RESULT: 97% survival of fish was noticed

**Testing:** As per M. L. Jackson & FAO –Food and Agriculture Organization

K.S.Lg  
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## TEST REPORT

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(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram(V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: STP OUTLET**

**Date of Monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARD	RESULTS
1.	pH	IS:3025(Part-11)1983	--	5.5-9.0	7.2
2.	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	<2100	185
3.	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	<200	57
4.	Chemical Oxygen Demand	IS:3025(Part-58)-1986	mg/l	<250	64
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025(Part-44)-1993	mg/l	<100	24
6.	Oil & Grease	IS:3025(Part-39)-1991	mg/l	<10	<1.0

**Note: IS-Indian Standard**

K.S.Laj  
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**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: STP OUTLET**

**Date of Monitoring: 18.02.2025**

**Sample Collected By: S. Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARD	RESULTS
1.	pH	IS:3025(Part-11)1983	--	5.5-9.0	7.2
2.	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	<2100	189
3.	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	<200	54
4.	Chemical Oxygen Demand	IS:3025(Part-58)-1986	mg/l	<250	69
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025(Part-44)-1993	mg/l	<100	28
6.	Oil & Grease	IS:3025(Part-39)-1991	mg/l	<10	<1.0

**Note: IS-Indian Standard**

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ANNEXURE-II

### ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group: Atmospheric Pollution**

**Product: Stack Emission Monitoring- NOVEMBER 2024**

**Location: Unit#1 (Stack Attached to 660 MW Boiler)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0001**

### TEST RESULT

1. Time of Sampling ---- : 10:20 Hrs. to 11:15 Hrs.
2. Time Duration : 00:55 Hrs.
3. Ambient Temperature (°C) : 33.8
4. Flue gas Temperature (°C) : 146
5. Velocity of the flue gas (m/sec) : 24.71
6. C/s area of the duct (m<sup>2</sup>) : 44.17
7. Stack Diameter (m) : 7.5
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 3929186.52

S. NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter (PM)	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	< 50	37.4
2.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	643
3.	Oxides of Nitrogen (NOx)	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	350	214
4.	Carbon Monoxide (CO)	NSPS Test Method-10	ppm	-	1.1
5.	Mercury as Hg	State of California Air Resources Board, Method10A	mg/Nm <sup>3</sup>	0.03	< 0.01

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : Sree Scientific Equipment  
Model / SI No : Sem-150/220206  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group: Atmospheric Pollution**

**Product: Stack Emission Monitoring- NOVEMBER 2024**

**Location: Unit#2 (Stack Attached to 660 MW Boiler)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

## TEST RESULT

1. Time of Sampling ---- : 11:25 Hrs. to 12:25 Hrs.
2. Time Duration : 01:00 Hrs.
3. Ambient Temperature (°C) : 34.2
4. Flue gas Temperature (°C) : 145
5. Velocity of the flue gas (m/sec) : 24.82
6. C/s area of the duct (m<sup>3</sup>) : 44.17
7. Stack Diameter (m) : 7.5
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 3946677.84

S. NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter (PM)	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	< 50	36.6
2.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	985
3.	Oxides of Nitrogen (NO <sub>x</sub> )	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	350	268
4.	Carbon Monoxide (CO)	NSPS Test Method-10	ppm	-	1.2
5.	Mercury as Hg	State of California Air Resources Board, Method10A	mg/Nm <sup>3</sup>	0.03	<0.01

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : Sree Scientific Equipment  
Model / SI No : Sem-150/220206  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group: Atmospheric Pollution**

**Product: Stack Emission Monitoring- FEBRUARY 2025**

**Location: Unit#1** (Stack Attached to 660 MW Boiler)

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0001**

## TEST RESULT

- |                             |                       |                            |
|-----------------------------|-----------------------|----------------------------|
| 1. Time of Sampling         | ----                  | : 10:15 Hrs. to 11:15 Hrs. |
| 2. Time Duration            |                       | : 01:00 Hrs.               |
| 3. Ambient Temperature      | (°C)                  | : 34.1                     |
| 4. Flue gas Temperature     | (°C)                  | : 149                      |
| 5. Velocity of the flue gas | (m/sec)               | : 24.64                    |
| 6. C/s area of the duct     | (m <sup>3</sup> )     | : 44.17                    |
| 7. Stack Diameter           | (m)                   | : 7.5                      |
| 8. Flue gas Flow Rate       | (Nm <sup>3</sup> /hr) | : 3940317.36               |

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter (PM)	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	< 50	32.9
2.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	756
3.	Oxides of Nitrogen (NOx)	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	350	246
4.	Carbon Monoxide (CO)	NSPS Test Method-10	ppm	-	1.2
5.	Mercury as Hg	State of California Air Resources Board, Method10A	mg/Nm <sup>3</sup>	0.03	< 0.01

### Instrument Details:

Instrument	: Stack Monitoring Kit
Make	: Sree Scientific Equipment
Model / SI No	: Sem-150/220206
Calibration Due	: 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group: Atmospheric Pollution**

**Product: Stack Emission Monitoring- FEBRUARY 2025**

**Location: Unit#2** (Stack Attached to 660 MW Boiler)

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

## TEST RESULT

- |                             |                       |                            |
|-----------------------------|-----------------------|----------------------------|
| 1. Time of Sampling         | ----                  | : 11:25 Hrs. to 12:15 Hrs. |
| 2. Time Duration            |                       | : 00:55 Hrs.               |
| 3. Ambient Temperature      | (°C)                  | : 34.7                     |
| 4. Flue gas Temperature     | (°C)                  | : 151                      |
| 5. Velocity of the flue gas | (m/sec)               | : 24.68                    |
| 6. C/s area of the duct     | (m <sup>3</sup> )     | : 44.17                    |
| 7. Stack Diameter           | (m)                   | : 7.5                      |
| 8. Flue gas Flow Rate       | (Nm <sup>3</sup> /hr) | : 3956218.56               |

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter (PM)	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	< 50	27.3
2.	Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	842
3.	Oxides of Nitrogen (NO <sub>x</sub> )	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	350	237
4.	Carbon Monoxide (CO)	NSPS Test Method-10	ppm	-	1.3
5.	Mercury as Hg	State of California Air Resources Board, Method10A	mg/Nm <sup>3</sup>	0.03	<0.01

### Instrument Details:

Instrument	: Stack Monitoring Kit
Make	: Sree Scientific Equipment
Model / SI No	: Sem-150/220206
Calibration Due	: 28.02.2025

K.S.Lg  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ANNEXURE-III

### ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – OCTOBER 2024

**Location-1:** Fire Station (Plant Site)

**Sample Registration Date:** 26.10.2024

**Issue Date:** 01.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/10-24/0001

**Sample collected person details:** S. Ganesh

## TEST RESULTS

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
03.10.2024	45.1	25.2	15.3	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
04.10.2024	39.7	27.6	11.6	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.10.2024	43.5	26.4	13.4	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
11.10.2024	49.4	22.3	16.1	8.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.10.2024	35.9	25.7	15.7	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
18.10.2024	47.3	26.1	17.5	9.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.10.2024	44.6	27.5	18.4	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
25.10.2024	39.2	28.1	12.9	9.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	35.9	22.3	11.6	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	49.4	28.1	18.4	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	43.1	26.1	15.1	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	49.1	22.5	11.9	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	20

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – OCTOBER 2024

**Location-2:** Sivaramapuram village

**Sample Registration Date:** 26.10.2024

**Issue Date:** 01.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/10-24/0002

**Sample collected person details:** S. Ganesh

## TEST RESULTS

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
03.10.2024	46.1	21.5	11.5	8.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
04.10.2024	42.5	24.6	12.5	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.10.2024	36.9	23.7	16.3	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
11.10.2024	39.7	26.2	14.2	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.10.2024	47.1	23.4	15.8	7.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
18.10.2024	49.8	25.9	13.6	9.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.10.2024	43.6	24.8	16.9	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
25.10.2024	35.5	24.4	12.4	7.0	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	35.5	21.5	11.5	7.0	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	49.8	26.2	16.9	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	42.6	24.3	14.2	8.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	49.6	26.1	16.7	9.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220831  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQM-60/220518  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – OCTOBER 2024

**Location-3:** Chandrasekharapuram Village

**Sample Registration Date:** 26.10.2024

**Issue Date:** 01.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/10-24/0003

**Sample collected person details:** S. Ganesh

## TEST RESULTS

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
03.10.2024	41.3	23.6	13.5	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
04.10.2024	40.5	22.3	10.9	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.10.2024	44.9	25.9	12.2	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
11.10.2024	45.7	24.4	13.3	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.10.2024	43.8	21.3	15.6	8.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
18.10.2024	42.5	26.1	14.9	9.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.10.2024	35.5	25.6	11.7	8.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
25.10.2024	42.1	20.8	16.3	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	35.5	20.8	10.9	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	45.7	26.1	16.3	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	41.9	23.8	13.6	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	45.3	26.4	16.1	9.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – OCTOBER 2024

**Location-4:** Varakavipudi Village

**Sample Registration Date:** 26.10.2024

**Issue Date:** 01.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/10-24/0004

**Sample collected person details:** S. Ganesh

## TEST RESULTS

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
03.10.2024	43.7	22.3	17.8	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
04.10.2024	46.5	23.4	11.1	12.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.10.2024	37.4	20.8	13.4	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
11.10.2024	45.5	24.9	12.9	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.10.2024	44.1	23.5	14.2	8.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
18.10.2024	46.2	22.7	13.3	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.10.2024	42.8	24.9	13.5	9.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
25.10.2024	38.6	21.1	12.8	7.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	37.4	20.8	11.1	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	46.5	24.9	17.8	12.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	43.1	22.9	13.6	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	46.3	24.5	17.2	12.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## SUMMARY OF AMBIENT AIR QUALITY –OCTOBER 2024

Pollutants	Description	Unit	Fire Station (Plant)-1	Sivaramapuram Village-2	Chandra sekharapuram Village-3	Varakavipudi Village-4
PM <sub>10</sub>	Minimum	µg/m <sup>3</sup>	35.9	35.5	35.5	37.4
	Maximum		49.4	49.8	45.7	46.5
	Average		43.1	42.6	41.9	43.1
	98 Percentile		49.1	49.6	45.3	46.3
PM <sub>2.5</sub>	Minimum		22.3	21.5	20.8	20.8
	Maximum		28.1	26.2	26.1	24.9
	Average		26.1	24.3	23.8	22.9
	98 Percentile		22.5	26.1	26.4	24.5
SO <sub>2</sub>	Minimum		11.6	11.5	10.9	11.1
	Maximum		18.4	16.9	16.3	17.8
	Average		15.1	14.2	13.6	13.6
	98 Percentile		11.9	16.7	16.1	17.2
NO <sub>2</sub>	Minimum		7.9	7.0	7.1	7.1
	Maximum		9.9	9.8	9.9	12.6
	Average		8.7	8.3	8.5	8.7
	98 Percentile		7.5	9.6	9.7	12.1

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – NOVEMBER 2024

**Location-1:** Fire Station (Plant Site)

**Sample Registration Date:** 30.11.2024

**Issue Date:** 06.12.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0001

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
01.11.2024	35.1	25.6	16.5	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.11.2024	41.6	28.4	13.9	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.11.2024	38.2	22.9	11.3	8.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.11.2024	32.9	26.2	10.6	9.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.11.2024	42.8	29.3	14.1	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
15.11.2024	34.3	24.8	15.8	8.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.11.2024	40.7	20.1	12.4	9.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
22.11.2024	39.1	23.7	10.2	8.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.11.2024	43.4	27.8	14.7	8.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
29.11.2024	37.5	29.1	15.9	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	32.9	20.1	10.2	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	43.4	29.3	16.5	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	38.6	25.8	13.5	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	43.3	29.3	16.4	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	20

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – NOVEMBER 2024

**Location-2:** Sivaramapuram village

**Sample Registration Date:** 30.11.2024

**Issue Date:** 06.12.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
01.11.2024	41.9	24.5	17.9	9.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.11.2024	48.3	21.9	13.3	8.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.11.2024	45.1	25.5	16.7	7.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.11.2024	39.7	20.8	10.5	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.11.2024	42.2	19.6	14.8	6.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
15.11.2024	27.6	23.4	16.2	9.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.11.2024	35.8	22.2	12.6	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
22.11.2024	38.5	19.2	15.6	6.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.11.2024	37.4	24.9	11.4	9.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
29.11.2024	31.9	25.1	17.2	8.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>27.6</b>	<b>19.2</b>	<b>10.5</b>	<b>6.5</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>48.3</b>	<b>25.5</b>	<b>17.9</b>	<b>9.6</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>38.8</b>	<b>22.7</b>	<b>14.6</b>	<b>8.2</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>47.7</b>	<b>25.4</b>	<b>17.8</b>	<b>9.5</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220831

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQM-60/220518

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – NOVEMBER 2024

**Location-3:** Chandrasekharapuram Village

**Sample Registration Date:** 30.11.2024

**Issue Date:** 06.12.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0003

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
01.11.2024	41.5	19.8	14.7	8.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.11.2024	39.7	25.9	13.2	8.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.11.2024	43.2	23.5	10.3	9.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.11.2024	47.3	21.4	15.1	7.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.11.2024	37.8	24.7	15.8	9.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
15.11.2024	47.9	22.2	11.6	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.11.2024	42.4	24.6	13.5	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
22.11.2024	35.6	25.1	12.9	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.11.2024	45.1	20.5	15.4	7.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
29.11.2024	33.8	23.4	10.8	8.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>33.8</b>	<b>19.8</b>	<b>10.3</b>	<b>7.3</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>47.9</b>	<b>25.9</b>	<b>15.8</b>	<b>9.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>41.4</b>	<b>23.1</b>	<b>13.3</b>	<b>8.6</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>47.8</b>	<b>25.8</b>	<b>15.7</b>	<b>9.7</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220830

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQ510 MFC / 220723

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – NOVEMBER 2024

**Location-4:** Varakavipudi Village

**Sample Registration Date:** 30.11.2024

**Issue Date:** 06.12.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0004

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
01.11.2024	42.3	20.8	15.8	8.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.11.2024	37.6	25.4	11.2	9.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.11.2024	52.3	23.2	13.6	8.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.11.2024	44.9	21.9	15.5	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.11.2024	51.7	24.1	10.2	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
15.11.2024	45.1	19.7	9.7	8.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.11.2024	49.7	22.6	14.3	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
22.11.2024	44.2	25.3	6.9	9.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.11.2024	39.8	20.5	7.4	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
29.11.2024	51.4	26.1	12.1	8.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	37.6	19.7	6.9	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	52.3	26.1	15.8	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	45.9	23.0	11.7	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	52.2	26.0	15.7	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## SUMMARY OF AMBIENT AIR QUALITY –NOVEMBER 2024

Pollutants	Description	Unit	Fire Station (Plant)-1	Sivaramapuram Village-2	Chandra sekharapuram Village-3	Varakavipudi Village-4
PM <sub>10</sub>	Minimum	µg/m <sup>3</sup>	32.9	27.6	33.8	37.6
	Maximum		43.4	48.3	47.9	52.3
	Average		38.6	38.8	41.4	45.9
	98 Percentile		43.3	47.7	47.8	52.2
PM <sub>2.5</sub>	Minimum		20.1	19.2	19.8	19.7
	Maximum		29.3	25.5	25.9	26.1
	Average		25.8	22.7	23.1	23.0
	98 Percentile		29.3	25.4	25.8	26.0
SO <sub>2</sub>	Minimum		10.2	10.5	10.3	6.9
	Maximum		16.5	17.9	15.8	15.8
	Average		13.5	14.6	13.3	11.7
	98 Percentile		16.4	17.8	15.7	15.7
NO <sub>x</sub>	Minimum		7.1	6.5	7.3	7.1
	Maximum		9.9	9.6	9.8	9.8
	Average		8.7	8.2	8.6	8.7
	98 Percentile		9.9	9.5	9.7	9.8

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – DECEMBER 2024

**Location-1:** Fire Station (Plant Site)

**Sample Registration Date:** 01.01.2025

**Issue Date:** 05.01.2025

**Lab Ref:** SEPL/ES/SEILEILP/12-24/0001

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
05.12.2024	33.6	23.1	13.4	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
06.12.2024	39.8	24.6	9.9	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
12.12.2024	42.3	21.7	15.6	7.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.12.2024	38.1	28.8	11.2	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
19.12.2024	40.7	25.1	17.1	8.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.12.2024	42.8	22.1	16.3	9.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
26.12.2024	35.6	23.6	14.7	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.12.2024	41.2	20.2	12.8	9.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	33.6	20.2	9.9	8.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	42.8	28.8	17.1	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	39.2	23.6	13.5	9.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	42.7	28.2	16.9	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	20

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – DECEMBER 2024

**Location-2:** Sivaramapuram village

**Sample Registration Date:** 01.01.2025

**Issue Date:** 05.01.2025

**Lab Ref:** SEPL/ES/SEILEILP/12-24/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
05.12.2024	43.5	21.3	15.2	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
06.12.2024	28.2	23.6	16.1	7.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
12.12.2024	41.8	20.1	18.5	6.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.12.2024	40.6	22.7	11.4	5.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
19.12.2024	46.1	24.8	16.7	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.12.2024	29.2	20.1	15.7	8.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
26.12.2024	39.4	23.6	9.8	9.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.12.2024	47.9	24.8	17.5	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	28.2	20.1	9.8	5.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	47.9	24.8	18.5	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	39.5	22.6	15.1	7.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	47.6	24.8	18.3	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220831

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQM-60/220518

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – DECEMBER 2024

**Location-3:** Chandrasekharapuram Village

**Sample Registration Date:** 01.01.2025

**Issue Date:** 05.01.2025

**Lab Ref:** SEPL/ES/SEILEILP/12-24/0003

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
05.12.2024	45.6	26.5	13.2	9.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
06.12.2024	37.2	23.8	16.4	7.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
12.12.2024	34.3	21.4	12.2	8.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.12.2024	48.1	23.8	16.1	8.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
19.12.2024	39.7	25.5	9.9	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.12.2024	45.2	21.6	12.1	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
26.12.2024	46.3	22.1	14.3	6.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.12.2024	38.1	20.3	10.9	8.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	34.3	20.3	9.9	6.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	48.1	26.5	16.4	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	41.8	23.1	13.2	8.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	47.8	26.3	16.3	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220830

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQ510 MFC / 220723

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – DECEMBER 2024

**Location-4:** Varakavipudi Village

**Sample Registration Date:** 01.01.2025

**Issue Date:** 05.01.2025

**Lab Ref:** SEPL/ES/SEILEILP/12-24/0004

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
05.12.2024	51.9	21.4	13.6	7.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
06.12.2024	36.5	24.7	10.9	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
12.12.2024	49.8	20.9	8.4	10.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.12.2024	45.2	24.2	16.2	8.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
19.12.2024	38.2	25.4	9.8	9.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.12.2024	47.3	20.3	14.6	8.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
26.12.2024	44.2	26.2	12.7	6.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.12.2024	43.8	21.9	7.5	10.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	36.5	20.3	7.5	6.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	51.9	26.2	16.2	10.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	44.6	23.1	11.7	8.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	51.6	26.0	15.9	10.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220830

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

### Instruments Detail:

Instrument : Respirable Dust sampler

Model/SI NO : AAQ510 MFC / 220723

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

Form No : F-7.8-02

Issue No & Date 01& 20.06.2019

Amend. No & Dt.: 00 & 00

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## SUMMARY OF AMBIENT AIR QUALITY – DECEMBER 2024

Pollutants	Description	Unit	Fire Station (Plant)-1	Sivaramapuram Village-2	Chandra sekharapuram Village-3	Varakavipudi Village-4
PM <sub>10</sub>	Minimum	µg/m <sup>3</sup>	33.6	28.2	34.3	36.5
	Maximum		42.8	47.9	48.1	51.9
	Average		39.3	39.6	41.8	44.6
	98 Percentile		42.7	47.6	47.8	51.6
PM <sub>2.5</sub>	Minimum		20.2	20.1	20.3	20.3
	Maximum		28.8	24.8	26.5	26.2
	Average		23.7	22.6	23.1	23.1
	98 Percentile		28.3	24.8	26.4	26.1
SO <sub>2</sub>	Minimum		9.9	9.8	9.9	7.5
	Maximum		17.1	18.5	16.4	16.2
	Average		13.5	15.1	13.1	11.7
	98 Percentile		17.0	18.4	16.4	16.0
NO <sub>x</sub>	Minimum		7.9	5.9	6.5	6.9
	Maximum		10.1	10.1	10.1	10.5
	Average		9.2	7.9	8.4	8.9
	98 Percentile		10.1	10.0	10.0	10.5

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – JANUARY 2025

**Location-1:** Fire Station (Plant Site)

**Sample Registration Date:** 02.02.2025

**Issue Date:** 08.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/01-25/0001

**Sample collected person details:** S. Ganesh

## TESTRESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
02.01.2025	31.7	19.7	10.6	13.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
03.01.2025	33.8	29.7	11.4	12.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.01.2025	36.2	20.8	9.8	10.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.01.2025	43.2	23.1	15.3	14.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
16.01.2025	40.9	24.4	12.2	11.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.01.2025	41.1	28.5	15.4	14.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.01.2025	44.6	27.2	10.9	13.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.01.2025	35.5	20.9	17.2	12.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
30.01.2025	43.8	19.5	16.5	11.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
31.01.2025	40.1	21.6	14.4	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>31.7</b>	<b>19.5</b>	<b>9.8</b>	<b>9.9</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>44.6</b>	<b>29.7</b>	<b>17.2</b>	<b>14.3</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>39.1</b>	<b>23.5</b>	<b>13.4</b>	<b>12.4</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>44.5</b>	<b>29.5</b>	<b>17.1</b>	<b>14.3</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	20

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due: 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – JANUARY 2025

**Location-2:** Sivaramapuram village

**Sample Registration Date:** 02.02.2025

**Issue Date:** 08.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/01-25/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
02.01.2025	45.3	20.3	15.4	14.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
03.01.2025	47.6	23.6	13.4	11.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.01.2025	45.1	25.5	10.9	10.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.01.2025	46.9	24.1	11.6	11.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
16.01.2025	30.6	26.2	17.7	12.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.01.2025	45.5	19.9	14.4	13.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.01.2025	42.2	20.8	15.5	14.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.01.2025	44.4	21.4	16.3	10.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
30.01.2025	28.1	22.2	12.4	12.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
31.01.2025	29.3	25.8	18.2	13.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>28.1</b>	<b>19.9</b>	<b>10.9</b>	<b>10.6</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>47.6</b>	<b>26.2</b>	<b>18.2</b>	<b>14.9</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>40.5</b>	<b>23.0</b>	<b>14.6</b>	<b>12.6</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>47.5</b>	<b>26.1</b>	<b>18.1</b>	<b>14.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220831

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQM-60/220518

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – JANUARY 2025

**Location-3:** Chandrasekharapuram Village

**Sample Registration Date:** 02.02.2025

**Issue Date:** 08.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/01-25/0003

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
02.01.2025	43.2	19.1	10.5	10.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
03.01.2025	35.9	23.6	11.3	11.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.01.2025	47.5	22.4	15.2	13.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.01.2025	36.1	20.9	13.6	14.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
16.01.2025	38.4	19.7	10.9	13.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.01.2025	45.9	24.2	14.2	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.01.2025	40.3	21.5	13.7	11.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.01.2025	46.2	23.9	16.8	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
30.01.2025	44.7	22.2	16.4	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
31.01.2025	32.5	20.7	11.1	12.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>32.5</b>	<b>19.1</b>	<b>10.5</b>	<b>9.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>47.5</b>	<b>24.2</b>	<b>16.8</b>	<b>14.9</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>41.1</b>	<b>21.8</b>	<b>13.4</b>	<b>12.1</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>47.3</b>	<b>24.1</b>	<b>16.7</b>	<b>14.7</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

### ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram(V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – JANUARY 2025

**Location-4:** Varakavipudi Village

**Sample Registration Date:** 02.02.2025

**Issue Date:** 08.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/01-25/0004

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
02.01.2025	37.9	20.3	15.8	13.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
03.01.2025	46.3	24.1	13.4	9.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.01.2025	42.5	25.4	16.2	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
10.01.2025	39.7	22.2	11.6	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
16.01.2025	50.6	19.9	10.1	11.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
17.01.2025	45.8	26.5	9.8	12.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.01.2025	49.2	23.7	8.4	13.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
24.01.2025	43.1	21.6	7.1	10.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
30.01.2025	38.8	20.8	8.9	14.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
31.01.2025	42.1	19.2	10.5	12.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>37.9</b>	<b>19.2</b>	<b>7.1</b>	<b>9.5</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>50.6</b>	<b>26.5</b>	<b>16.2</b>	<b>14.7</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>43.6</b>	<b>22.4</b>	<b>11.2</b>	<b>11.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>50.3</b>	<b>26.3</b>	<b>16.1</b>	<b>14.6</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## SUMMARY OF AMBIENT AIR QUALITY – JANUARY 2025

Pollutants	Description	Unit	Fire Station (Plant)-1	Sivaramapuram Village-2	Chandra sekharapuram Village-3	Varakavipudi Village-4
PM <sub>10</sub>	Minimum	µg/m <sup>3</sup>	31.7	28.1	32.5	37.9
	Maximum		44.6	47.6	47.5	50.6
	Average		39.1	40.5	41.1	43.6
	98 Percentile		44.5	47.5	47.3	50.3
PM <sub>2.5</sub>	Minimum		19.5	19.9	19.1	19.2
	Maximum		29.7	26.2	24.2	26.5
	Average		23.5	23.0	21.8	22.4
	98 Percentile		29.5	26.1	24.1	26.3
SO <sub>2</sub>	Minimum		9.8	10.9	10.5	7.1
	Maximum		17.2	18.2	16.8	16.2
	Average		13.4	14.6	13.4	11.2
	98 Percentile		17.1	18.1	16.7	16.1
NO <sub>2</sub>	Minimum		9.9	10.6	9.8	9.5
	Maximum		14.3	14.9	14.9	14.7
	Average		12.4	12.6	12.1	11.8
	98 Percentile		14.3	14.8	14.7	14.6

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

Web : [www.spectraenviro.com](http://www.spectraenviro.com) | E-mail: [sepl.sjn@gmail.com](mailto:sepl.sjn@gmail.com) | [info@spectraenviro.com](mailto:info@spectraenviro.com)

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – FEBRUARY 2025

**Location-1:** Fire Station (Plant Site)

**Sample Registration Date:** 02.03.2025

**Issue Date:** 08.03.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0001

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.02.2025	33.6	21.1	11.4	10.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.02.2025	31.8	28.6	18.4	11.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.02.2025	34.7	21.4	9.9	12.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.02.2025	32.3	20.5	13.5	14.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.02.2025	42.5	21.9	15.6	14.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.02.2025	44.1	24.3	16.8	13.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.02.2025	44.5	29.5	17.2	10.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.02.2025	43.8	19.9	12.7	12.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>31.8</b>	<b>19.9</b>	<b>9.9</b>	<b>10.1</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>44.5</b>	<b>29.5</b>	<b>18.4</b>	<b>14.9</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>38.4</b>	<b>23.4</b>	<b>14.4</b>	<b>12.5</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>44.4</b>	<b>29.4</b>	<b>18.2</b>	<b>14.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	20

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due: 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – FEBRUARY 2025

**Location-2:** Sivaramapuram village

**Sample Registration Date:** 02.03.2025

**Issue Date:** 08.03.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.02.2025	31.5	21.5	11.3	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.02.2025	45.2	25.1	17.9	14.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.02.2025	46.5	26.1	13.4	12.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.02.2025	44.8	21.9	12.8	11.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.02.2025	33.4	19.5	16.5	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.02.2025	44.7	26.2	15.1	14.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.02.2025	40.8	22.4	10.5	12.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.02.2025	42.2	23.8	14.2	15.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	31.5	19.5	10.5	11.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	46.5	26.2	17.9	15.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	41.1	23.3	14.0	13.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	46.3	26.2	17.7	15.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220831  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQM-60/220518  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – FEBRUARY 2025

**Location-3:** Chandrasekharapuram Village

**Sample Registration Date:** 02.03.2025

**Issue Date:** 08.03.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0003

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.02.2025	35.8	20.2	12.8	11.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.02.2025	33.2	21.9	11.9	14.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.02.2025	44.6	24.6	16.6	12.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.02.2025	35.9	23.3	10.1	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.02.2025	43.1	19.4	13.7	10.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.02.2025	46.9	23.1	15.2	12.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.02.2025	45.5	20.6	14.5	11.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.02.2025	42.4	21.1	12.2	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>33.2</b>	<b>19.4</b>	<b>10.1</b>	<b>9.9</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>46.9</b>	<b>24.6</b>	<b>16.6</b>	<b>14.5</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>40.9</b>	<b>21.8</b>	<b>13.4</b>	<b>12.2</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>46.7</b>	<b>24.4</b>	<b>16.4</b>	<b>14.4</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – FEBRUARY 2025

**Location-4:** Varakavipudi Village

**Sample Registration Date:** 02.03.2025

**Issue Date:** 08.03.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0004

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.02.2025	34.2	21.6	7.4	11.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.02.2025	42.8	25.5	11.7	10.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.02.2025	47.1	24.8	13.8	13.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.02.2025	38.3	19.3	12.5	11.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.02.2025	50.4	20.1	9.8	14.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.02.2025	44.3	24.8	13.2	13.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.02.2025	45.7	21.6	16.6	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.02.2025	32.5	24.9	9.4	12.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	32.5	19.3	7.4	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	50.4	25.5	16.6	14.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	41.9	22.8	11.8	12.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	49.9	25.4	16.2	14.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## SUMMARY OF AMBIENT AIR QUALITY – FEBRUARY 2025

Pollutants	Description	Unit	Fire Station (Plant)-1	Sivaramapuram Village-2	Chandra sekharapuram Village-3	Varakavipudi Village-4
PM <sub>10</sub>	Minimum	µg/m <sup>3</sup>	31.8	31.5	33.2	32.5
	Maximum		44.5	46.5	46.9	50.4
	Average		38.4	41.1	40.9	41.9
	98 Percentile		44.4	46.3	46.7	49.9
PM <sub>2.5</sub>	Minimum		19.9	19.5	19.4	19.3
	Maximum		29.5	26.2	24.6	25.5
	Average		23.4	23.3	21.8	22.8
	98 Percentile		29.4	26.2	24.4	25.4
SO <sub>2</sub>	Minimum		9.9	10.5	10.1	7.4
	Maximum		18.4	17.9	16.6	16.6
	Average		14.4	14.0	13.4	11.8
	98 Percentile		18.2	17.7	16.4	16.2
NO <sub>2</sub>	Minimum		10.1	11.1	9.9	9.9
	Maximum		14.9	15.2	14.5	14.3
	Average		12.5	13.5	12.2	12.1
	98 Percentile		14.8	15.2	14.4	14.2

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – MARCH 2025

**Location-1:** Fire Station (Plant Site)

**Sample Registration Date:** 31.03.2025

**Issue Date:** 06.04.2025

**Lab Ref:** SEPL/ES/SEILEILP/03-25/0001

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.03.2025	35.2	24.2	9.5	11.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.03.2025	33.9	30.1	13.6	13.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.03.2025	32.6	20.5	12.7	10.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.03.2025	46.4	23.6	11.1	12.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.03.2025	41.2	23.7	10.5	9.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.03.2025	39.8	21.1	14.3	14.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.03.2025	41.4	19.5	16.8	16.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.03.2025	43.3	20.6	20.2	14.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>32.6</b>	<b>19.5</b>	<b>9.5</b>	<b>9.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>46.4</b>	<b>30.1</b>	<b>20.2</b>	<b>16.2</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>39.2</b>	<b>22.9</b>	<b>13.6</b>	<b>12.9</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>46.0</b>	<b>29.3</b>	<b>19.7</b>	<b>16.0</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	20

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due: 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – MARCH 2025

**Location-2:** Sivaramapuram village

**Sample Registration Date:** 31.03.2025

**Issue Date:** 06.04.2025

**Lab Ref:** SEPL/ES/SEILEILP/03-25/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.03.2025	30.9	24.3	10.6	10.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.03.2025	48.2	21.4	11.1	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.03.2025	42.3	23.2	13.4	11.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.03.2025	46.8	20.5	12.4	12.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.03.2025	31.2	19.9	13.1	14.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.03.2025	40.4	24.2	9.9	13.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.03.2025	41.8	29.4	13.0	11.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.03.2025	43.5	21.7	12.8	16.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Min</b>	<b>30.9</b>	<b>19.9</b>	<b>9.9</b>	<b>10.8</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Max</b>	<b>48.2</b>	<b>29.4</b>	<b>13.4</b>	<b>16.3</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>Avg.</b>	<b>40.6</b>	<b>23.1</b>	<b>12.0</b>	<b>13.1</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
<b>98 Percentile</b>	<b>48.0</b>	<b>28.7</b>	<b>13.4</b>	<b>16.1</b>	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220831

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2026

### Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQM-60/220518

Make : SSE (Shree Scientific Equipment)

Calibration Due : 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – MARCH 2025

**Location-3:** Chandrasekharapuram Village

**Sample Registration Date:** 31.03.2025

**Issue Date:** 06.04.2025

**Lab Ref:** SEPL/ES/SEILEILP/03-25/0003

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.03.2025	31.4	19.8	15.5	10.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.03.2025	38.7	23.6	13.6	13.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.03.2025	33.6	20.9	9.8	9.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.03.2025	35.8	21.7	13.6	9.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.03.2025	42.6	27.5	11.1	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.03.2025	40.2	22.4	18.2	11.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.03.2025	34.9	21.7	12.8	12.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.03.2025	47.4	20.6	10.9	14.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	31.4	19.8	9.8	9.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	47.4	27.5	18.2	14.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	38.1	22.3	13.2	11.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	46.7	27.0	17.8	14.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Details:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline:** Chemical

**Group:** Atmospheric Pollution

**Product:** Ambient Air Quality Monitoring – MARCH 2025

**Location-4:** Varakavipudi Village

**Sample Registration Date:** 31.03.2025

**Issue Date:** 06.04.2025

**Lab Ref:** SEPL/ES/SEILEILP/03-25/0004

**Sample collected person details:** S. Ganesh

## TEST RESULT

Date Of Sampling	$\mu\text{g}/\text{m}^3$				$\text{mg}/\text{m}^3$	$\mu\text{g}/\text{m}^3$				$\text{ng}/\text{m}^3$		
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	CO	Pb	O <sub>3</sub>	NH <sub>3</sub>	C <sub>6</sub> H <sub>6</sub>	BaP	As	Ni
06.03.2025	39.7	24.9	18.4	12.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
07.03.2025	43.7	21.2	9.9	15.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
13.03.2025	38.2	19.8	13.4	14.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
14.03.2025	39.7	25.7	12.8	13.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
20.03.2025	34.8	19.9	11.1	12.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
21.03.2025	46.9	21.7	14.1	11.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
27.03.2025	44.2	23.1	13.6	9.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
28.03.2025	38.7	28.7	16.2	16.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	34.8	19.8	9.9	9.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	46.9	28.7	18.4	16.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	40.7	23.1	13.7	13.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	46.5	28.3	18.1	16.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
NAAQ Standards	100	60	80	80	2.0	1.0	100	400	5.0	1.0	6.0	2.0

### Instruments Details:

Instrument : Fine Particulate sampler  
Model/SI NO : AAQ510 / 220830  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

### Instruments Detail:

Instrument : Respirable Dust sampler  
Model/SI NO : AAQ510 MFC / 220723  
Make : SSE (Shree Scientific Equipment)  
Calibration Due : 28.02.2026

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## SUMMARY OF AMBIENT AIR QUALITY – MARCH 2025

Pollutants	Description	Unit	Fire Station (Plant)-1	Sivaramapuram Village-2	Chandra sekharapuram Village-3	Varakavipudi Village-4
PM <sub>10</sub>	Minimum	µg/m <sup>3</sup>	32.6	30.9	31.4	34.8
	Maximum		46.4	48.2	47.4	46.9
	Average		39.2	40.6	38.1	40.7
	98 Percentile		46.0	48.0	46.7	46.5
PM <sub>2.5</sub>	Minimum		19.5	19.9	19.8	19.8
	Maximum		30.1	29.4	27.5	28.7
	Average		22.9	23.1	22.3	23.1
	98 Percentile		29.3	28.7	27.0	28.3
SO <sub>2</sub>	Minimum		9.5	9.9	9.8	9.9
	Maximum		20.2	13.4	18.2	18.4
	Average		13.6	12.0	13.2	13.7
	98 Percentile		19.7	13.4	17.8	18.1
NO <sub>2</sub>	Minimum		9.8	10.8	9.5	9.4
	Maximum		16.2	16.3	14.4	16.5
	Average		12.9	13.1	11.9	13.3
	98 Percentile		16.0	16.1	14.3	16.3

K.S.Laj  
Verified by



Praveesh W.  
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Managing Director

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.)- 524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Sampling Location-1:** Main Gate

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0001

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	13.11.2024	00:00	40.4
2		01:00	37.7
3		02:00	33.6
4		03:00	30.5
5		04:00	36.1
6		05:00	41.9
7		06:00	56.6
8		07:00	43.0
9		08:00	33.4
10		09:00	49.2
11		10:00	46.7
12		11:00	53.8
13		12:00	54.5
14		13:00	54.1
15		14:00	48.4
16		15:00	50.9
17		16:00	46.4
18		17:00	59.3
19		18:00	46.6
20		19:00	60.5
21		20:00	40.2
22		21:00	46.7
23		22:00	41.2
24		23:00	33.8

**CPCB Standard:** Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No : 11180097640

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Sampling Location-2:** BTG Area

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0002

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	13.11.2024	00:00	36.4
2		01:00	36.8
3		02:00	33.1
4		03:00	33.9
5		04:00	34.5
6		05:00	32.7
7		06:00	40.4
8		07:00	53.6
9		08:00	44.2
10		09:00	50.8
11		10:00	51.1
12		11:00	49.3
13		12:00	51.5
14		13:00	49.3
15		14:00	53.4
16		15:00	44.2
17		16:00	45.5
18		17:00	57.9
19		18:00	45.3
20		19:00	47.4
21		20:00	48.3
22		21:00	43.6
23		22:00	42.1
24		23:00	38.3

**CPCB Standard:** Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Standard/SC-05

Serial No : 200525272

Calibration Due : 28.02.2025

K.S.Lg  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Sampling Location-3:** Coal Handling Plant

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0003

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	13.11.2024	00:00	34.6
2		01:00	35.9
3		02:00	44.1
4		03:00	36.9
5		04:00	33.5
6		05:00	31.4
7		06:00	46.8
8		07:00	54.5
9		08:00	43.8
10		09:00	41.6
11		10:00	44.7
12		11:00	55.1
13		12:00	51.9
14		13:00	45.6
15		14:00	51.4
16		15:00	55.1
17		16:00	48.2
18		17:00	45.3
19		18:00	48.3
20		19:00	44.7
21		20:00	41.3
22		21:00	49.0
23		22:00	53.2
24		23:00	46.7

**CPCB Standard:** Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Lutron /SL-34001

Serial No : Q6352440

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Sampling Location-4:** Varakavipudi Village

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0004

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	13.11.2024	00:00	25.7
2		01:00	33.2
3		02:00	36.1
4		03:00	31.4
5		04:00	27.6
6		05:00	31.5
7		06:00	39.6
8		07:00	34.3
9		08:00	41.7
10		09:00	46.2
11		10:00	39.1
12		11:00	43.4
13		12:00	46.7
14		13:00	43.8
15		14:00	50.6
16		15:00	47.5
17		16:00	44.6
18		17:00	42.2
19		18:00	43.5
20		19:00	40.2
21		20:00	36.0
22		21:00	31.3
23		22:00	40.8
24		23:00	38.3

### CPCB Standards (Residential Area)

Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No : 11180097641

Calibration Due : 28.02.2025

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Sampling Location-5:** Sivaramapuram Village

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0005

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	13.11.2024	00:00	32.7
2		01:00	33.3
3		02:00	30.5
4		03:00	31.9
5		04:00	29.5
6		05:00	30.6
7		06:00	46.2
8		07:00	44.9
9		08:00	37.1
10		09:00	35.5
11		10:00	43.2
12		11:00	44.4
13		12:00	42.9
14		13:00	36.1
15		14:00	35.2
16		15:00	44.8
17		16:00	42.9
18		17:00	48.1
19		18:00	46.2
20		19:00	40.9
21		20:00	38.5
22		21:00	34.4
23		22:00	31.2
24		23:00	27.7

**CPCB Standards (Residential Area)**

**Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)**

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No. : 11180097642

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Sampling Location-6:** Chandrasekharapuram Village

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0006

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	13.11.2024	00:00	30.2
2		01:00	29.5
3		02:00	29.3
4		03:00	32.6
5		04:00	28.5
6		05:00	32.9
7		06:00	36.6
8		07:00	42.0
9		08:00	45.2
10		09:00	43.5
11		10:00	50.0
12		11:00	49.4
13		12:00	47.2
14		13:00	43.9
15		14:00	39.1
16		15:00	31.4
17		16:00	46.2
18		17:00	42.5
19		18:00	48.3
20		19:00	44.0
21		20:00	39.1
22		21:00	45.3
23		22:00	34.7
24		23:00	29.1

### CPCB Standards (Residential Area)

Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No. : 11180097643

Calibration Due : 28.02.2025

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- NOVEMBER 2024

**Date of Sampling:** 13-11-2024

**Sample Registration Date:** 14.11.2024

**Issue Date:** 20.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0007

## TEST RESULT

Particulars	Main Gate dB (A)	BTG Area dB (A)	Coal Handling Plant dB (A)	Varakavipudi Village dB (A)	Sivaramapuram Village dB (A)	Chandra sekharapuram Village dB (A)
	Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)			Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)		
Minimum	30.5	32.7	31.4	25.7	27.7	28.5
Maximum	60.5	57.9	55.1	50.6	48.1	50.0
Average	45.2	44.3	45.1	39.2	37.8	39.2

K.S. Jay  
Verified by



Praveesh W.  
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**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.)-524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Sampling Location-1:** Main Gate

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0001

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	18.02.2025	00:00	43.8
2		01:00	34.2
3		02:00	31.7
4		03:00	28.9
5		04:00	41.3
6		05:00	45.7
7		06:00	54.9
8		07:00	41.5
9		08:00	34.1
10		09:00	42.8
11		10:00	49.6
12		11:00	55.5
13		12:00	51.1
14		13:00	57.2
15		14:00	50.8
16		15:00	47.6
17		16:00	42.7
18		17:00	53.6
19		18:00	47.1
20		19:00	42.8
21		20:00	43.9
22		21:00	42.6
23		22:00	43.7
24		23:00	35.5

**CPCB Standard:** Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Metravi /SL-3010

Serial No : 11180097640

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Sampling Location-2:** BTG Area

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0002

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	18.02.2025	00:00	34.2
2		01:00	38.7
3		02:00	31.9
4		03:00	35.6
5		04:00	37.2
6		05:00	35.9
7		06:00	42.2
8		07:00	57.5
9		08:00	41.7
10		09:00	53.8
11		10:00	50.4
12		11:00	45.9
13		12:00	53.2
14		13:00	53.1
15		14:00	59.4
16		15:00	48.5
17		16:00	57.6
18		17:00	59.2
19		18:00	46.8
20		19:00	45.5
21		20:00	52.8
22		21:00	47.6
23		22:00	45.9
24		23:00	42.7

**CPCB Standard:** Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Standard/ SC-05

Serial No : 200525272

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





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(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Sampling Location-3:** Coal Handling Plant

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0003

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	18.02.2025	00:00	37.6
2		01:00	31.2
3		02:00	41.7
4		03:00	34.8
5		04:00	36.9
6		05:00	35.5
7		06:00	49.2
8		07:00	57.6
9		08:00	41.9
10		09:00	45.5
11		10:00	46.3
12		11:00	59.8
13		12:00	52.9
14		13:00	49.7
15		14:00	55.5
16		15:00	53.7
17		16:00	52.7
18		17:00	47.1
19		18:00	44.2
20		19:00	46.9
21		20:00	45.7
22		21:00	52.8
23		22:00	55.4
24		23:00	49.6

**CPCB Standard:** Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)

**Instrument Details:** Sound Level Meter

Make/Model : Lutron /SL-34001

Serial No : Q6352440

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Sampling Location-4:** Varakavipudi Village

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0004

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	18.02.2025	00:00	29.4
2		01:00	35.7
3		02:00	39.1
4		03:00	35.7
5		04:00	25.6
6		05:00	30.4
7		06:00	32.1
8		07:00	37.5
9		08:00	43.8
10		09:00	42.2
11		10:00	40.9
12		11:00	47.8
13		12:00	44.3
14		13:00	49.5
15		14:00	55.2
16		15:00	50.7
17		16:00	49.6
18		17:00	45.1
19		18:00	47.6
20		19:00	42.8
21		20:00	35.5
22		21:00	33.0
23		22:00	40.2
24		23:00	35.7

**CPCB Standards (Residential Area)**

**Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)**

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No : 11180097641

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

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**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Sampling Location-5: Sivaramapuram Village**

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0005

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	18.02.2025	00:00	35.4
2		01:00	31.7
3		02:00	39.2
4		03:00	33.6
5		04:00	32.1
6		05:00	25.7
7		06:00	40.6
8		07:00	41.0
9		08:00	35.7
10		09:00	38.5
11		10:00	45.9
12		11:00	42.7
13		12:00	45.6
14		13:00	39.1
15		14:00	38.6
16		15:00	44.2
17		16:00	43.7
18		17:00	46.1
19		18:00	45.4
20		19:00	42.3
21		20:00	34.4
22		21:00	31.5
23		22:00	34.6
24		23:00	30.8

**CPCB Standards (Residential Area)**

**Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)**

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No : 11180097642

Calibration Due : 28.02.2025

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

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Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Sampling Location-6:** Chandrasekharapuram Village

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0006

## TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1	18.02.2025	00:00	32.8
2		01:00	31.9
3		02:00	25.7
4		03:00	35.4
5		04:00	24.9
6		05:00	35.8
7		06:00	31.4
8		07:00	45.5
9		08:00	47.8
10		09:00	42.9
11		10:00	53.6
12		11:00	52.4
13		12:00	45.5
14		13:00	41.3
15		14:00	44.6
16		15:00	33.9
17		16:00	49.7
18		17:00	46.2
19		18:00	41.0
20		19:00	47.5
21		20:00	35.9
22		21:00	44.7
23		22:00	31.9
24		23:00	25.4

**CPCB Standards (Residential Area)**

**Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)**

**Instrument Details:** Sound Level Meter

Make/Model : Metravi/SL-3010

Serial No : 11180097643

Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

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(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Group:** Atmospheric Pollution

**Product:** Noise Monitoring (24 Hrs.)- FEBRUARY 2025

**Date of Sampling:** 18-02-2025

**Sample Registration Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0007

## TEST RESULT

Particulars	Main Gate dB (A)	BTG Area dB (A)	Coal Handling Plant dB (A)	Varakavipudi Village dB (A)	Sivaramapuram Village dB (A)	Chandra sekharapuram Village dB (A)
	Day Time: (6 AM-10 PM) < 75 dB (A), Night Time: (10 PM-6 AM) < 70 dB (A)			Day Time: (6 AM-10 PM) < 55 dB (A), Night Time: (10 PM-6 AM) < 45 dB (A)		
Minimum	28.9	31.9	31.2	25.6	25.7	24.9
Maximum	57.2	59.4	59.8	55.2	46.1	53.6
Average	45.1	46.6	46.8	41.0	38.4	39.5

K.S. Jay  
Verified by



Praveesh W.  
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Managing Director

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## TEST REPORT

ANNEXURE-IV

ISSUED TO:

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(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Ground Water**

**Location-1: Ground Water – Ananthavaram Village (GW-1)**

**Location-2: Ground Water – Varakavipudi Village (GW-2)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0001**

**Sample Collected By: Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	7.6	7.9
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	1.0	1.0
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	Agreeable	Agreeable
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	1.00	1.00
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	1,568	1,382
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	674	565
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	196	203
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	151	163
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	178	135
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	43.6	42.7
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	23.7	23.0
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	0.11	0.16
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	0.03	0.05
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	167	166

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-1	GW-2
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	36	51
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	178	186
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	74.3	82.1
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	37.4	31.2
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.20	0.17
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.69	0.64
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.03	0.02
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	0.02	0.03
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.02	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	4.0	3.9
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Ground Water**

**Location-3: Ground Water – Mittapalem Village (GW-3)**

**Location-4: Ground Water – Chandrasekharapuram Village (GW-4)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

**Sample Collected By: Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-3	GW-4
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.4	7.7
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	1.0	1.0
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,337	1,521
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	575	546
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	165	171
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	179	165
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	57.2	48.6
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	15.3	17.2
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1	<0.1
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	0.22	0.24
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	143	176

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-3	GW-4
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	34	35
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	188	163
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	79.6	88.9
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	32.7	31.1
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.02	0.01
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.72	0.75
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.02	0.03
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	0.01	0.02
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.05	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	3.7	4.1
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2x660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.) -524344.	
<b>Discipline: Chemical</b>  <b>Group: Water</b> <b>Product: Ground Water</b> <b>Location-5: Ground Water – Katepalli Village (GW-5)</b> <b>Location-6: Ground Water – Sivaramapuram Village (GW-6)</b> <b>Date of Monitoring: 13.11.2024</b>	<b>Sample Registration Date: 14.11.2024</b> <b>Analysis Starting Date: 14.11.2024</b> <b>Analysis Completed Date: 20.11.2024</b> <b>Issue Date: 20.11.2024</b> <b>Lab Ref: SEPL/ES/SEILELP/11-24/0003</b> <b>Sample Collected By: Ganesh</b>

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-5	GW-6
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.1	7.3
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.1	0.2
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,336	1,411
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	385	428
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	162	175
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	163	156
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	45.1	51.2
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	23.5	21.9
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	0.13	0.11
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	0.02	0.03
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	189	155

K.S. Jay  
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Praveesh W.  
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Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-5	GW-6
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	36	41
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	171	176
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	52.1	61.2
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	32.4	33.3
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.02	0.01
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.60	0.63
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.01	0.02
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	0.01	0.03
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.05	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	4.1	4.0
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2x660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.) -524344.	
<b>Discipline: Chemical</b>  <b>Group: Water</b> <b>Product: Surface Water</b> <b>Location-1: Surface Water – Varakavipudi Village (SW-1)</b> <b>Location-2: Surface Water -Katepalli Village (SW-2)</b> <b>Date of Monitoring: 13.11.2024</b>	<b>Sample Registration Date: 14.11.2024</b> <b>Analysis Starting Date: 14.11.2024</b> <b>Analysis Completed Date: 20.11.2024</b> <b>Issue Date: 20.11.2024</b> <b>Lab Ref: SEPL/ES/SEILEILP/11-24/0004</b> <b>Sample Collected By: Ganesh</b>

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	SW-1	SW-2
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.1	7.5
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.3	0.4
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,276	1272
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	471	424
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	151	173
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	187	164
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	36.2	33.9
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	23.4	23.2
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	0.1	0.1
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.001	<0.001
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	164	185

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	SW-1	SW-2
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	47	43
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	166	151
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	60.1	51.6
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	33.8	34.3
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.01	0.02
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.61	0.65
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.01	0.02
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<5.0	<5.0
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.05	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	4.8	4.4
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
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Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Ground Water**

**Location-1: Ground Water – Ananthavaram Village (GW-1)**

**Location-2: Ground Water – Varakavipudi Village (GW-2)**

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0001**

**Sample Collected By: S. Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	7.4	7.7
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	1.0	1.0
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	Agreeable	Agreeable
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	1.00	1.00
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	1,646	1,404
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	571	669
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	185	207
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	179	186
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	165	144
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	45.2	40.5
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	26.4	25.1
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	0.15	0.17
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	0.05	0.03
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	170	159

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-1	GW-2
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	32	55
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	181	178
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	71.1	85.5
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	35.8	33.9
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.21	0.19
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.65	0.61
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.02	0.01
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	0.03	0.02
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.02	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	4.0	4.1
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
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**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Ground Water**

**Location-3: Ground Water – Mittapalem Village (GW-3)**

**Location-4: Ground Water – Chandrasekharapuram Village (GW-4)**

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

**Sample Collected By: S. Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-3	GW-4
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.1	7.2
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	1.0	1.0
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,462	1,685
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	471	484
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	159	175
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	195	178
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	44.8	43.2
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	13.5	15.6
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1	<0.1
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	0.24	0.28
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	171	174

K.S. Jay  
Verified by



Praveesh W.  
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Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-3	GW-4
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	31	30
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	165	141
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	67.2	76.7
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	31.5	34.3
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.01	0.02
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.74	0.71
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.02	0.03
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	0.02	0.01
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.05	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	3.4	4.0
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Jay  
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**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2x660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.) -524344.	
<b>Discipline: Chemical</b>  <b>Group: Water</b> <b>Product: Ground Water</b> <b>Location-5: Ground Water – Katepalli Village (GW-5)</b> <b>Location-6: Ground Water – Sivaramapuram Village (GW-6)</b> <b>Date of Monitoring: 18.02.2025</b>	<b>Sample Registration Date: 19.02.2025</b> <b>Analysis Starting Date: 19.02.2025</b> <b>Analysis Completed Date: 25.02.2025</b> <b>Issue Date: 25.02.2025</b> <b>Lab Ref: SEPL/ES/SEILEILP/02-25/0003</b> <b>Sample Collected By: S. Ganesh</b>

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-5	GW-6
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.5	7.2
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.1	0.1
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,442	1,369
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	389	471
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	180	159
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	146	182
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	41.2	45.6
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	22.3	16.7
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	0.15	0.14
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	0.03	0.02
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	173	148

K.S. Jay  
Verified by



Praveesh W.  
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Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	GW-5	GW-6
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	39	45
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	158	182
18	Sulphate as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	43.5	52.6
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	33.2	35.1
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.01	0.02
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.71	0.76
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.02	0.01
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	0.03	0.02
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.05	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	4.2	4.0
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Jay  
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Praveesh W.  
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Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2x660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.) -524344.	
<b>Discipline: Chemical</b>  <b>Group: Water</b> <b>Product: Surface Water</b> <b>Location-1: Surface Water – Varakavipudi Village (SW-1)</b> <b>Location-2: Surface Water – Katepalli Village (SW-2)</b> <b>Date of Monitoring: 18.02.2025</b>	<b>Sample Registration Date: 19.02.2025</b> <b>Analysis Starting Date: 19.02.2025</b> <b>Analysis Completed Date: 25.02.2025</b> <b>Issue Date: 25.02.2025</b> <b>Lab Ref: SEPL/ES/SEILEILP/02-25/0004</b> <b>Sample Collected By: S. Ganesh</b>

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	SW-1	SW-2
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.3	7.7
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Taste	IS-3025(P-8)	--	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	IS-3025(P-5)	--	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.1	0.2
6	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,379	1462
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	379	361
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	175	185
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	146	168
10	P- Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	--	--	Nil	Nil
11	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	35.5	31.8
12	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	20.6	21.1
13	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	0.1	0.1
14	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.001	<0.001
15	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	151	178

K.S. Jay  
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**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	SW-1	SW-2
16	Potassium as K	IS3025(P-45)1993	mg/l	--	--	45	41
17	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	181	165
18	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	61.2	57.4
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	32.5	31.6
20	Anionic Detergents as MBAS	Annex K of IS 13428	mg/l	<0.2	<1.0	<0.1	<0.1
21	Mineral Oil	IS 3025(Pt-39)	mg/l	<0.5	No Relaxation	<0.5	<0.5
22	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.01	0.02
23	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.70	0.69
24	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	0.02	0.01
25	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
27	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
28	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
29	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
30	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
31	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
32	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
33	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<5.0	<5.0
34	Hexavalent Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.05	<0.05
35	Silica as SiO <sub>2</sub>	IS3025(P-35)1988	mg/l	--	--	4.5	4.1
36	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
37	E-Coli	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
38	Total Coliforms	ISO 9308-1	Per/ 100 ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Drinking Water**

**Date of Monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0001**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
<b>Organoleptic &amp; Physical Parameters</b>						
1	pH	IS3025(P-11)2021	--	6.5-8.5	No relaxation	7.7
2	Color	IS3025(P-04)2021	Hazen	5.0 Max	15 Max	1.1
3	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	153
4	Turbidity	IS3025(P-10)1984	NTU	1.0 Max	5.0 Max	<0.1
5	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500 Max	2000 Max.	82
<b>General Parameters Concerning Substances Undesirable in Excessive Amounts</b>						
6	Aluminum as Al	IS3025(P-55)2003	mg/l	0.03 Max	0.2 Max.	< 0.01
7	Ammonia as N	IS3025(P-34)1988	mg/l	0.5 Max	No relaxation	< 0.1
8	Boron as B	IS3025(P-57)2021	mg/l	0.5 Max	1.0 Max	< 0.01
9	Barium as Ba	APHA-3120B	mg/l	0.7 Max	No relaxation	< 0.01
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75 Max	200 Max	3.2
11	Chloramines	IS: 3025(Part-26)	mg/l	4.0 Max	No relaxation	< 0.08
12	Chlorides as Cl	IS3025(P-32)1988	mg/l	250 Max	1000 Max	30
13	Copper as Cu	IS3025(P-42)1992	mg/l	0.05 Max	1.5 Max	<0.01
14	Fluoride as F	IS3025(P-60)2008	mg/l	1.0 Max	1.5 Max	<0.1
15	Residual Free Chlorine	IS3025(P-26)1986	mg/l	0.2 Max	1.0 Max	< 0.1
16	Iron as Fe	IS3025(P-53)2003	mg/l	0.3 Max	No relaxation	< 0.01
17	Magnesium as Mg	IS3025(P-40)1991	mg/l	30 Max	100 Max	0.2

K.S. Jay  
Verified by



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Managing Director

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
18	Manganese as Mn	IS3025(P-59)2006	mg/l	0.1 Max	0.3 Max	<0.01
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45 Max	No relaxation	6.1
20	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	0.001 Max	0.002 Max	< 0.001
21	Selenium as Se	IS3025(P-56)2003	mg/l	0.01 Max	No relaxation	< 0.01
22	Silver as Ag	APHA-3120B	mg/l	0.1 Max	No relaxation	< 0.01
23	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200 Max	400 Max	5.0
24	Sulphide as H <sub>2</sub> S	IS-3025(Pt-29)	mg/l	0.05 Max	No relaxation	< 0.05
25	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200 Max	600 Max	42
26	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200 Max	600 Max	49
27	Zinc as Zn	IS3025(P-49)1994	mg/l	5.0 Max	15 Max	0.08

## Parameters Concerning Toxic Substances

28	Cadmium as Cd	IS3025(P-41)1992	mg/l	0.003 Max	No relaxation	0.002
29	Lead as Pb	IS3025(P-47)1994	mg/l	0.01 Max	No relaxation	< 0.01
30	Mercury as Hg	IS3025(P-48)1994	mg/l	0.001 Max	No relaxation	< 0.001
31	Nickel as Ni	IS3025(P-54)	mg/l	0.02 Max	No relaxation	< 0.01
32	Arsenic as As	IS3025(P-37)1988	mg/l	0.01 Max	No relaxation	< 0.01
33	Chromium as Cr	IS3025(P-52)2003	mg/l	0.05 Max	No relaxation	< 0.05

IS- Indian Standard, APHA- American Public Health Association

Detection limit: 0.00001 mg/l for Pesticides, PCB's, PAH & 0.0001 mg/l for Trihalomethanes, to be applicable only when water is chlorinated

K.S. Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Cell: 80199 55222, 111 | BRANCHES: VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2x660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.) -524344.	
<b>Discipline: Chemical</b> <b>Group: Water</b> <b>Product: Drinking Water</b> <b>Date of Monitoring: 13.11.2024</b> <b>Sample Collected By: Ganesh</b>	<b>Sample Registration Date: 14.11.2024</b> <b>Analysis Starting Date: 14.11.2024</b> <b>Analysis Completed Date: 20.11.2024</b> <b>Issue Date: 20.11.2024</b> <b>Lab Ref: SEPL/ES/SEILEILP/11-24/0002</b>

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
<b>Organoleptic &amp; Physical Parameters</b>						
1	Odor	IS-3025(Pt-5)	--	Agreeable	Agreeable	Agreeable
2	Taste	IS-3025(Pt-8)	--	Agreeable	Agreeable	Agreeable
<b>General Parameters Concerning Substances Undesirable in Excessive Amounts</b>						
3	Anionic detergents as MBAS	Annex K of IS 13428	mg/l	0.2 Max	1.0 Max	<0.1
4	Mineral Oil	IS-3025(Pt-39)	mg/l	0.5 Max	No relaxation	<0.01
<b>Parameters Concerning Toxic Substances</b>						
5	Cyanide as CN	IS-3025(Pt-27)	mg/l	0.05 Max	No relaxation	<0.01
6	Molybdenum as Mo	APHA-3120B	mg/l	0.07 Max	No relaxation	<0.01

**Note:** IS-Indian Standard, APHA-American Public Health Association

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Drinking Water**

**Date of Monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0003**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
1	DDT	EPA 508	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a). o,p'-DDT	-	-	-	-	-
	b). p,p'-DDT	-	-	-	-	-
	c). o,p'-DDE	-	-	-	-	-
	d). p,p'-DDE	-	-	-	-	-
	e). o,p'-DDD	-	-	-	-	-
2	BHC (HCH)	EPA 508	mg/l	Not more than 0.0001	Not more than 0.0001	ND
3	Endosulfan	EPA 508	mg/l	Not more than 0.0001	Not more than 0.0001	ND
4	Monocrotophos	EPA 8141A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
5	Ethion	EPA 1657A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
6	Chlorpyrifos	EPA 525A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Phorate	-	-	-	-	-
	b) PhorateSulphoxide	-	-	-	-	-
	c) Phorate Sulphone	-	-	-	-	-
7	2,4-D	EPA 515.1	mg/l	Not more than 0.0001	Not more than 0.0001	ND

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
8	Butachlor	EPA 525.2	mg/l	Not more than 0.0001	Not more than 0.0001	ND
9	Isoproturon	EPA 532	mg/l	Not more than 0.0001	Not more than 0.0001	ND
10	Alachlor	EPA 525.2	mg/l	Not more than 0.0001	Not more than 0.0001	ND
11	Atrazine	EPA 525.208	mg/l	Not more than 0.0001	Not more than 0.0001	ND
12	Methyl Parathion	EPA 8141A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Methyl Parathion	-	-	-	-	-
	b) Methyl Paraoxon	-	-	-	-	-
13	Malathion	EPA 8141A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Malathion	-	-	-	-	-
	b) Malaoxon	-	-	-	-	-
14	Aldrin	EPA 525.2	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Aldrin	-	-	-	-	-
	b) Dieldrin	-	-	-	-	-

Note: ND- Non-Detectable

K.S. Jay  
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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Drinking Water**

**Date of monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0004**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
Microbiology Analysis						
1	Total Bacterial Count at 36° C	ISO 6222	CFU/ml	--	--	28
2	Coli forms	ISO 9308-1	Per/100ml	Absent/100ml	Absent/100ml	Absent
3	Escherichia. coli	ISO 9308-1	Per/100ml	Absent/100ml	Absent/100ml	Absent

**Note:** ISO-International Organization for Standardization

K.S. Jay  
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## TEST REPORT

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**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Drinking Water**

**Date of Monitoring: 18.02.2025**

**Sample Collected By: S. Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0001**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
<b>Organoleptic &amp; Physical Parameters</b>						
1	pH	IS3025(P-11)2021	--	6.5-8.5	No relaxation	7.52
2	Color	IS3025(P-04)2021	Hazen	5.0 Max	15 Max	1.0
3	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	135
4	Turbidity	IS3025(P-10)1984	NTU	1.0 Max	5.0 Max	<0.1
5	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500 Max	2000 Max.	75
<b>General Parameters Concerning Substances Undesirable in Excessive Amounts</b>						
6	Aluminum as Al	IS3025(P-55)2003	mg/l	0.03 Max	0.2 Max.	< 0.01
7	Ammonia as N	IS3025(P-34)1988	mg/l	0.5 Max	No relaxation	< 0.1
8	Boron as B	IS3025(P-57)2021	mg/l	0.5 Max	1.0 Max	< 0.01
9	Barium as Ba	APHA-3120B	mg/l	0.7 Max	No relaxation	< 0.01
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75 Max	200 Max	4.4
11	Chloramines	IS: 3025(Part-26)	mg/l	4.0 Max	No relaxation	< 0.08
12	Chlorides as Cl	IS3025(P-32)1988	mg/l	250 Max	1000 Max	34
13	Copper as Cu	IS3025(P-42)1992	mg/l	0.05 Max	1.5 Max	<0.01
14	Fluoride as F	IS3025(P-60)2008	mg/l	1.0 Max	1.5 Max	<0.1
15	Residual Free Chlorine	IS3025(P-26)1986	mg/l	0.2 Max	1.0 Max	< 0.1
16	Iron as Fe	IS3025(P-53)2003	mg/l	0.3 Max	No relaxation	< 0.01
17	Magnesium as Mg	IS3025(P-40)1991	mg/l	30 Max	100 Max	0.4

K.S. Jay  
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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
18	Manganese as Mn	IS3025(P-59)2006	mg/l	0.1 Max	0.3 Max	<0.01
19	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45 Max	No relaxation	6.5
20	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	0.001 Max	0.002 Max	< 0.001
21	Selenium as Se	IS3025(P-56)2003	mg/l	0.01 Max	No relaxation	< 0.01
22	Silver as Ag	APHA-3120B	mg/l	0.1 Max	No relaxation	< 0.01
23	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200 Max	400 Max	5.5
24	Sulphide as H <sub>2</sub> S	IS-3025(Pt-29)	mg/l	0.05 Max	No relaxation	< 0.05
25	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200 Max	600 Max	46
26	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200 Max	600 Max	61
27	Zinc as Zn	IS3025(P-49)1994	mg/l	5.0 Max	15 Max	0.05

## Parameters Concerning Toxic Substances

28	Cadmium as Cd	IS3025(P-41)1992	mg/l	0.003 Max	No relaxation	0.001
29	Lead as Pb	IS3025(P-47)1994	mg/l	0.01 Max	No relaxation	< 0.01
30	Mercury as Hg	IS3025(P-48)1994	mg/l	0.001 Max	No relaxation	< 0.001
31	Nickel as Ni	IS3025(P-54)	mg/l	0.02 Max	No relaxation	< 0.01
32	Arsenic as As	IS3025(P-37)1988	mg/l	0.01 Max	No relaxation	< 0.01
33	Chromium as Cr	IS3025(P-52)2003	mg/l	0.05 Max	No relaxation	< 0.05

IS- Indian Standard, APHA- American Public Health Association

Detection limit: 0.00001 mg/l for Pesticides, PCB's, PAH & 0.0001 mg/l for Trihalomethanes, to be applicable only when water is chlorinated

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## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2x660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.) -524344.	
<b>Discipline: Chemical</b> <b>Group: Water</b> <b>Product: Drinking Water</b> <b>Date of Monitoring: 18.02.2025</b> <b>Sample Collected By: Ganesh</b>	<b>Sample Registration Date: 19.02.2025</b> <b>Analysis Starting Date: 19.02.2025</b> <b>Analysis Completed Date: 25.02.2025</b> <b>Issue Date: 25.02.2025</b> <b>Lab Ref: SEPL/ES/SEILEILP/02-25/0002</b>

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
<b>Organoleptic &amp; Physical Parameters</b>						
1	Odor	IS-3025(Pt-5)	--	Agreeable	Agreeable	Agreeable
2	Taste	IS-3025(Pt-8)	--	Agreeable	Agreeable	Agreeable
<b>General Parameters Concerning Substances Undesirable in Excessive Amounts</b>						
3	Anionic detergents as MBAS	Annex K of IS 13428	mg/l	0.2 Max	1.0 Max	<0.1
4	Mineral Oil	IS-3025(Pt-39)	mg/l	0.5 Max	No relaxation	<0.01
<b>Parameters Concerning Toxic Substances</b>						
5	Cyanide as CN	IS-3025(Pt-27)	mg/l	0.05 Max	No relaxation	<0.01
6	Molybdenum as Mo	APHA-3120B	mg/l	0.07 Max	No relaxation	<0.01

**Note:** IS- Indian Standard, APHA- American Public Health Association

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SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Drinking Water**

**Date of Monitoring: 18.02.2025**

**Sample Collected By: Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0003**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
1	DDT	EPA 508	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a). o,p'-DDT	-	-	-	-	-
	b). p,p'-DDT	-	-	-	-	-
	c). o,p'-DDE	-	-	-	-	-
	d). p,p'-DDE	-	-	-	-	-
	e). o,p'-DDD	-	-	-	-	-
2	BHC (HCH)	EPA 508	mg/l	Not more than 0.0001	Not more than 0.0001	ND
3	Endosulfan	EPA 508	mg/l	Not more than 0.0001	Not more than 0.0001	ND
4	Monocrotophos	EPA 8141A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
5	Ethion	EPA 1657A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
6	Chlorpyrifos	EPA 525A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Phorate	-	-	-	-	-
	b) PhorateSulphoxide	-	-	-	-	-
	c) Phorate Sulphone	-	-	-	-	-
7	2,4-D	EPA 515.1	mg/l	Not more than 0.0001	Not more than 0.0001	ND

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
8	Butachlor	EPA 525.2	mg/l	Not more than 0.0001	Not more than 0.0001	ND
9	Isoproturon	EPA 532	mg/l	Not more than 0.0001	Not more than 0.0001	ND
10	Alachlor	EPA 525.2	mg/l	Not more than 0.0001	Not more than 0.0001	ND
11	Atrazine	EPA 525.208	mg/l	Not more than 0.0001	Not more than 0.0001	ND
12	Methyl Parathion	EPA 8141A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Methyl Parathion	-	-	-	-	-
	b) Methyl Paraoxon	-	-	-	-	-
13	Malathion	EPA 8141A	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Malathion	-	-	-	-	-
	b) Malaoxon	-	-	-	-	-
14	Aldrin	EPA 525.2	mg/l	Not more than 0.0001	Not more than 0.0001	ND
	a) Aldrin	-	-	-	-	-
	b) Dieldrin	-	-	-	-	-

Note: ND- Non-Detectable

K.S. Jay  
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## TEST REPORT

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SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Drinking Water**

**Date of monitoring: 18.02.2025**

**Sample Collected By: Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0004**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	ACCEPTABLE LIMITS AS PER IS: 10500:2012	PERMISSIBLE LIMITS AS PER IS 10500:2012	RESULTS
Microbiology Analysis						
1	Total Bacterial Count at 36° C	ISO 6222	CFU/ml	--	--	26
2	Coli forms	ISO 9308-1	Per/100ml	Absent/100ml	Absent/100ml	Absent
3	Escherichia. coli	ISO 9308-1	Per/100ml	Absent/100ml	Absent/100ml	Absent

**Note:** ISO-International Organization for Standardization

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: **Heavy Metal Analysis of Coal- NOVEMBER 2024**

Sample Location: Coal Feeder#1

Date of Monitoring: 13.11.2024

Sample Collected By: Ganesh

Sample Registration Date: 14.11.2024

Analysis Starting Date: 14.11.2024

Analysis Completed Date: 20.11.2024

Issue Date: 20.11.2024

Lab Ref: SEPL/ES/SEILEILP/11-24/0001

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.59
2	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	ppm	0.2	<0.02
3	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	1.32
4	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.66

**Note: USEPA-** United States Environmental Protection Agency

K.S.Laj  
Verified by



*P. Suresh W.*  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: **Heavy Metal Analysis of Coal- FEBRUARY 2025**

Sample Location: Coal Feeder#2

Date of Monitoring: 18.02.2025

Sample Collected By: S. Ganesh

Sample Registration Date: 19.02.2025

Analysis Starting Date: 19.02.2025

Analysis Completed Date: 25.02.2025

Issue Date: 25.02.2025

Lab Ref: SEPL/ES/SEILEILP/02-25/0001

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.55
2	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	ppm	0.2	<0.02
3	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	1.36
4	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.61

**Note: USEPA-** United States Environmental Protection Agency

K.S. Jay  
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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Heavy Metal Analysis of Fly Ash- NOVEMBER 2024**

**Date of Monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0001**

## TEST RESULT

S. No	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	Ppm	5.0	0.49
2	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	Ppm	0.2	<0.05
3	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	Ppm	5.0	0.58
4	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	Ppm	5.0	0.73

**Note: USEPA-** United States Environmental Protection Agency

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## TEST REPORT

ISSUED TO:

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(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Heavy Metal Analysis of Bottom Ash- NOVEMBER 2024**

**Date of Monitoring: 13.11.2024**

**Sample Collected By: Ganesh**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.72
2.	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	ppm	0.2	<0.02
3.	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.51
4.	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.69

**Note: USEPA-** United States Environmental Protection Agency

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Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Heavy Metal Analysis of Fly Ash- FEBRUARY 2025**

**Date of Monitoring: 18.02.2025**

**Sample Collected By: S. Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0001**

## TEST RESULT

S. No	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	Ppm	5.0	0.44
2	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	Ppm	0.2	<0.05
3	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	Ppm	5.0	0.52
4	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	Ppm	5.0	0.71

**Note: USEPA-** United States Environmental Protection Agency

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## TEST REPORT

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Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Heavy Metal Analysis of Bottom Ash- FEBRUARY 2025**

**Date of Monitoring: 18.02.2025**

**Sample Collected By: S. Ganesh**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

## TEST RESULT

S. NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.71
2.	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	ppm	0.2	<0.02
3.	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.56
4.	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	ppm	5.0	0.99

**Note: USEPA-** United States Environmental Protection Agency

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## TEST REPORT

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(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Water**

**Location-1: Piezo Well No-1- Water – North East Side (PW-1)**

**Location-2: Piezo Well No-2-Water– South East Side (PW-2)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0001**

**Sample Collected By: Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-1	PW-2
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.6	7.4
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.1	1.0
3	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.2	0.3
4	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,212	1,178
5	Temperature	--	°C	--	--	32.9	31.9
6	Total Suspended Solids	IS3025(P-17)1984	mg/l	--	--	36	42
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	362	298
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	174	164
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	132	168
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	49.3	36.8
11	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	26.3	22.3
12	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1	<0.1
13	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.1	<0.1
14	Calcium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	168	175
15	Magnesium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	89	96
16	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	163	131
17	Potassium as K	IS3025(P-45)1993	mg/l	--	--	24	21
18	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	171	152

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-1	PW-2
19	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	59.5	76.4
20	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	28.4	35.8
21	Chemical Oxygen Demand	IS3025(P-58)2006	mg/l	--	--	<5.0	<5.0
22	Biochemical Oxygen Demand (3 days at 27°C)	IS3025(P-44)1993	mg/l	--	--	<3.0	<3.0
23	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.02	0.03
24	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.62	0.76
25	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	<0.01	<0.01
26	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
28	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
29	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
30	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
31	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
32	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
33	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
34	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<0.01	<0.01
35	Total Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.01	<0.01
36	Aluminium as Al	IS3025(P-55)2003	mg/l	0.5	1.0	<0.01	<0.01
37	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
38	Dissolved Oxygen	IS3025(P-38)1989	mg/l	--	--	4.7	4.3
39	Oil & Grease	IS3025(P-39)2021	mg/l	--	--	<1.0	<1.0
40	Phosphates as PO <sub>4</sub>	IS3025(P-31)1998	mg/l	--	--	<0.01	<0.01
41	Percent Sodium	IS3025(P-45)1993	%	--	--	19.6	24.8
42	E-Coli	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent	Absent
43	Total Coliforms	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent	Absent
44	Fecal Coliforms	IS-1622-1981	MPN/100ml	--	--	Absent	Absent

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Water**

**Location-3: Piezo Well No-3- Water –South West Side (PW-3)**

**Location-4: Piezo Well No-4-Water– North West Side (PW-4)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0002**

**Sample Collected By: Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-3	PW-4
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.5	7.6
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.1
3	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.2	0.3
4	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,382	1,335
5	Temperature	--	°C	--	--	39.9	24.8
6	Total Suspended Solids	IS3025(P-17)1984	mg/l	--	--	54	46
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	232	176
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	156	189
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	169	155
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	58	71
11	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	21	28
12	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1	<0.1
13	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.1	<0.1
14	Calcium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	154	149
15	Magnesium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	126	120
16	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	136	148
17	Potassium as K	IS3025(P-45)1993	mg/l	--	--	27	66
18	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	134	119

K.S. Jay  
Verified by



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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-3	PW-4
19	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	41.4	46.5
20	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	34.3	32.9
21	Chemical Oxygen Demand	IS3025(P-58)2006	mg/l	--	--	<5.0	<5.0
22	Biochemical Oxygen Demand (3 days at 27°C)	IS3025(P-44)1993	mg/l	--	--	<3.0	<3.0
23	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.11	0.19
24	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.69	0.73
25	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	<0.01	<0.01
26	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
28	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
29	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
30	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
31	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
32	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
33	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
34	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<0.01	<0.01
35	Total Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.01	<0.01
36	Aluminium as Al	IS3025(P-55)2003	mg/l	0.5	1.0	<0.01	<0.01
37	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
38	Dissolved Oxygen	IS3025(P-38)1989	mg/l	--	--	4.7	4.1
39	Oil & Grease	IS3025(P-39)2021	mg/l	--	--	<1.0	<1.0
40	Phosphates as PO <sub>4</sub>	IS3025(P-31)1998	mg/l	--	--	<0.01	<0.01
41	Percent Sodium	IS3025(P-45)1993	%	--	--	34.1	31.8
42	E-Coli	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent	Absent
43	Total Coliforms	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent	Absent
44	Fecal Coliforms	IS-1622-1981	MPN/100ml	--	--	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/S. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product Water**

**Location-5: Piezo Well No-5- Water –Near CAAQMS (PW-5)**

**Date of Monitoring: 13.11.2024**

**Sample Registration Date: 14.11.2024**

**Analysis Starting Date: 14.11.2024**

**Analysis Completed Date: 20.11.2024**

**Issue Date: 20.11.2024**

**Lab Ref: SEPL/ES/SEILEILP/11-24/0003**

**Sample Collected By: Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS
				ACCEPTABLE	PERMISSIBLE	PW-5
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.1
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0
3	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.2
4	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,469
5	Temperature	--	°C	--	--	32.4
6	Total Suspended Solids	IS3025(P-17)1984	mg/l	--	--	61
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	379
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	165
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	136
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	54
11	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	23
12	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1
13	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.1
14	Calcium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	157
15	Magnesium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	112
16	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	152
17	Potassium as K	IS3025(P-45)1993	mg/l	--	--	83
18	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	194

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS
				ACCEPTABLE	PERMISSIBLE	
19	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	44.4
20	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	31.3
21	Chemical Oxygen Demand	IS3025(P-58)2006	mg/l	--	--	<5.0
22	Biochemical Oxygen Demand (3 days at 27°C)	IS3025(P-44)1993	mg/l	--	--	<3.0
23	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.12
24	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.47
25	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	<0.01
26	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001
28	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001
29	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001
30	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01
31	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01
32	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01
33	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01
34	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<0.01
35	Total Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.01
36	Aluminium as Al	IS3025(P-55)2003	mg/l	0.5	1.0	<0.01
37	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01
38	Dissolved Oxygen	IS3025(P-38)1989	mg/l	--	--	5.2
39	Oil & Grease	IS3025(P-39)2021	mg/l	--	--	<1.0
40	Phosphates as PO <sub>4</sub>	IS3025(P-31)1998	mg/l	--	--	<0.01
41	Percent Sodium	IS3025(P-45)1993	%	--	--	26.8
42	E-Coli	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent
43	Total Coliforms	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent
44	Fecal Coliforms	IS-1622-1981	MPN/100ml	--	--	Absent

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Water**

**Location-1: Piezo Well No-1- Water – North East Side (PW-1)**

**Location-2: Piezo Well No-2- Water– South East Side (PW-2)**

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0001**

**Sample Collected By: S. Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-1	PW-2
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.1	7.5
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.1
3	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.1	0.2
4	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,295	1,126
5	Temperature	--	°C	--	--	37.4	35.2
6	Total Suspended Solids	IS3025(P-17)1984	mg/l	--	--	31	46
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	358	385
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	172	161
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	146	178
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	42.5	31.2
11	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	24.2	21.8
12	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1	<0.1
13	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.1	<0.1
14	Calcium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	175	162
15	Magnesium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	81	92
16	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	174	139
17	Potassium as K	IS3025(P-45)1993	mg/l	--	--	29	25
18	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	165	156

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-1	PW-2
19	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	61.7	72.6
20	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	25.5	31.4
21	Chemical Oxygen Demand	IS3025(P-58)2006	mg/l	--	--	<5.0	<5.0
22	Biochemical Oxygen Demand (3 days at 27°C)	IS3025(P-44)1993	mg/l	--	--	<3.0	<3.0
23	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.03	0.01
24	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.59	0.68
25	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	<0.01	<0.01
26	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
28	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
29	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
30	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
31	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
32	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
33	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
34	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<0.01	<0.01
35	Total Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.01	<0.01
36	Aluminium as Al	IS3025(P-55)2003	mg/l	0.5	1.0	<0.01	<0.01
37	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
38	Dissolved Oxygen	IS3025(P-38)1989	mg/l	--	--	5.1	4.5
39	Oil & Grease	IS3025(P-39)2021	mg/l	--	--	<1.0	<1.0
40	Phosphates as PO <sub>4</sub>	IS3025(P-31)1998	mg/l	--	--	<0.01	<0.01
41	Percent Sodium	IS3025(P-45)1993	%	--	--	17.2	21.2
42	E-Coli	ISO 9308-1	Per/ 100ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
43	Total Coliforms	ISO 9308-1	Per/ 100ml	Absent/ 100 ml	Absent/ 100 ml	Absent	Absent
44	Fecal Coliforms	IS-1622-1981	MPN/ 100ml	--	--	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product: Water**

**Location-3: Piezo Well No-3- Water – South West Side (PW-3)**

**Location-4: Piezo Well No-4- Water– North West Side (PW-4)**

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0002**

**Sample Collected By: S. Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-3	PW-4
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.2	7.3
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0	1.0
3	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.1	0.2
4	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,374	1,358
5	Temperature	--	°C	--	--	35.2	27.4
6	Total Suspended Solids	IS3025(P-17)1984	mg/l	--	--	51	42
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	238	171
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	145	152
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	161	149
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	54	46
11	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	23	27
12	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1	<0.1
13	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.1	<0.1
14	Calcium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	151	153
15	Magnesium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	125	111
16	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	125	131
17	Potassium as K	IS3025(P-45)1993	mg/l	--	--	24	69
18	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	142	125

K.S. Jay  
Verified by



Praveesh W.  
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Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS	
				ACCEPTABLE	PERMISSIBLE	PW-3	PW-4
19	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	45.6	49.1
20	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	34.1	30.5
21	Chemical Oxygen Demand	IS3025(P-58)2006	mg/l	--	--	<5.0	<5.0
22	Biochemical Oxygen Demand (3 days at 27°C)	IS3025(P-44)1993	mg/l	--	--	<3.0	<3.0
23	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.04	0.12
24	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.62	0.84
25	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	<0.01	<0.01
26	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1	<0.1
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001	<0.001
28	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001	<0.001
29	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001	<0.001
30	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01	<0.01
31	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01	<0.01
32	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01	<0.01
33	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01	<0.01
34	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<0.01	<0.01
35	Total Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.01	<0.01
36	Aluminium as Al	IS3025(P-55)2003	mg/l	0.5	1.0	<0.01	<0.01
37	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01	<0.01
38	Dissolved Oxygen	IS3025(P-38)1989	mg/l	--	--	5.0	4.5
39	Oil & Grease	IS3025(P-39)2021	mg/l	--	--	<1.0	<1.0
40	Phosphates as PO <sub>4</sub>	IS3025(P-31)1998	mg/l	--	--	<0.01	<0.01
41	Percent Sodium	IS3025(P-45)1993	%	--	--	31.5	33.2
42	E-Coli	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent	Absent
43	Total Coliforms	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent	Absent
44	Fecal Coliforms	IS-1622-1981	MPN/100ml	--	--	Absent	Absent

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

LABORATORY : Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

**Discipline: Chemical**

**Group: Water**

**Product Water**

**Location-5: Piezo Well No-5- Water – Near CAAQMS (PW-5)**

**Date of Monitoring: 18.02.2025**

**Sample Registration Date: 19.02.2025**

**Analysis Starting Date: 19.02.2025**

**Analysis Completed Date: 25.02.2025**

**Issue Date: 25.02.2025**

**Lab Ref: SEPL/ES/SEILEILP/02-25/0003**

**Sample Collected By: S. Ganesh**

## TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS
				ACCEPTABLE	PERMISSIBLE	PW-5
1	pH	IS3025(P-11)2021	--	6.5- 8.5	No Relaxation	7.5
2	Color	IS3025(P-04)2021	Hazen	1.0	5.0	1.0
3	Turbidity	IS3025(P-10)1984	NTU	1.0	5.0	0.3
4	Electric Conductivity	IS3025(P-14)2013	µs/cm	--	--	1,456
5	Temperature	--	°C	--	--	33.2
6	Total Suspended Solids	IS3025(P-17)1984	mg/l	--	--	65
7	Total Dissolved Solids	IS3025(P-16)1984	mg/l	500	2000	285
8	Total Hardness as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	172
9	Total Alkalinity as CaCO <sub>3</sub>	IS3025(P-23)1986	mg/l	200	600	146
10	Calcium as Ca	IS3025(P-40)1991	mg/l	75	200	51
11	Magnesium as Mg	IS3025(P-40)1991	mg/l	30	100	20
12	Free Residual Chlorine	IS3025(P-26)1986	mg/l	0.2	No Relaxation	<0.1
13	Boron as B	IS3025(P-57)2021	mg/l	0.5	1.0	<0.1
14	Calcium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	163
15	Magnesium Hardness as CaCO <sub>3</sub>	IS3025(P-40)1991	mg/l	--	--	115
16	Sodium as Na	IS3025(P-45)1993	mg/l	--	--	146
17	Potassium as K	IS3025(P-45)1993	mg/l	--	--	81
18	Chloride as Cl	IS3025(P-32)1988	mg/l	250	1000	188

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS AS PER IS:10500		RESULTS
				ACCEPTABLE	PERMISSIBLE	
19	Sulphates as SO <sub>4</sub>	IS3025(P-24)1986	mg/l	200	400	47.9
20	Nitrates as NO <sub>3</sub>	IS3025(P-34)1988	mg/l	45	No Relaxation	35.5
21	Chemical Oxygen Demand	IS3025(P-58)2006	mg/l	--	--	<5.0
22	Biochemical Oxygen Demand (3 days at 27°C)	IS3025(P-44)1993	mg/l	--	--	<3.0
23	Iron as Fe	IS3025(P-53)2003	mg/l	<0.3	No Relaxation	0.62
24	Fluoride as F	IS3025(P-60)2008	mg/l	<1.0	<1.5	0.35
25	Copper as Cu	IS3025(P-42)1992	mg/l	<0.05	<1.5	<0.01
26	Manganese as Mn	IS3025(P-59)2006	mg/l	<0.1	<0.3	<0.1
27	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS3025(P-43)1992	mg/l	<0.001	<0.002	<0.001
28	Cadmium as Cd	IS3025(P-41)1992	mg/l	<0.003	No Relaxation	<0.001
29	Mercury as Hg	IS3025(P-48)1994	mg/l	<0.001	No Relaxation	<0.001
30	Selenium as Se	IS3025(P-56)2003	mg/l	<0.01	No Relaxation	<0.01
31	Total Arsenic as As	IS3025(P-37)1988	mg/l	<0.01	<0.20	<0.01
32	Cyanide as CN	IS3025(P-27)1986	mg/l	<0.05	No Relaxation	<0.01
33	Lead as Pb	IS3025(P-47)1994	mg/l	<0.01	No Relaxation	<0.01
34	Zinc as Zn	IS3025(P-49)1994	mg/l	<5.0	<15	<0.01
35	Total Chromium as Cr <sup>+6</sup>	IS3025(P-52)2003	mg/l	<0.05	<1.0	<0.01
36	Aluminium as Al	IS3025(P-55)2003	mg/l	0.5	1.0	<0.01
37	Pesticides	As per STP	mg/l	--	No Relaxation	<0.01
38	Dissolved Oxygen	IS3025(P-38)1989	mg/l	--	--	5.1
39	Oil & Grease	IS3025(P-39)2021	mg/l	--	--	<1.0
40	Phosphates as PO <sub>4</sub>	IS3025(P-31)1998	mg/l	--	--	<0.01
41	Percent Sodium	IS3025(P-45)1993	%	--	--	21.3
42	E-Coli	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent
43	Total Coliforms	ISO 9308-1	Per/100ml	Absent/100 ml	Absent/100 ml	Absent
44	Fecal Coliforms	IS-1622-1981	MPN/100ml	--	--	Absent

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Wastewater

Sample Location: **Ash Pond Effluent Water**

Date of Monitoring: **14.11.2024**

Sample Collected By: S. Ganesh

Sample Registration Date: **15.11.2024**

Analysis Starting Date: **15.11.2024**

Analysis Completed Date: **21.11.2024**

Issue Date: **21.11.2024**

Lab Ref: **SEPL/ES/SEILEILP/11-24/0001**

## TEST RESULT

S.NO	TEST PARAMETERS	UNIT	TEST METHOD	STANDARD	RESULT
1.	pH	---	IS:3025(Part-11)1983	6.5-8.5	7.5
2.	Color	Hazen	IS-3025(Part-4)2021	Colorless	Colorless
3.	Odor	---	IS-3025(Part-5)	Agreeable	Agreeable
4.	Total Suspended Solids	mg/l	IS:3025(Part-11)1983	100	69
5.	Chemical Oxygen Demand (COD)	mg/l	IS:3025(Part-58)-2006	250	57
6.	Biochemical Oxygen Demand (BOD) (3 days at 27 °C)	mg/l	IS:3025(Part-44)-1993	100	46
7.	Oil & Grease	mg/l	IS:3025(Part-39)-1991	10	<1.0
8.	Total Arsenic as As	mg/l	IS:3025(Part-37)-1988	0.2	<0.01
9.	Mercury as Hg	mg/l	IS:3025(Part-48)-1994	0.01	<0.001
10.	Lead as Pb	mg/l	IS:3025(Part-47)-1994	2.0	<0.01
11.	Cadmium as Cd	mg/l	IS:3025(Part-41)-1992	2.0	<0.001
12.	Hexavalent Chromium as Cr <sup>6+</sup>	mg/l	IS:3025(Part-52)-2003	1.0	<0.001

IS-Indian Standard

K.S. Jay  
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## TEST REPORT

### ISSUED TO:

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Waste water

Sample Location: **Ash Pond Effluent Water**

Date of Monitoring: 18.02.2025

Sample Collected By: Ganesh

Sample Registration Date: 19.02.2025

Analysis Starting Date: 19.02.2025

Analysis Completed Date: 25.02.2025

Issue Date: 25.02.2025

Lab Ref: SEPL/ES/SEILEILP/02-25/0001

## TEST RESULT

S.NO	TEST PARAMETERS	UNIT	TEST METHOD	STANDARD	RESULT
1.	pH	---	IS:3025(Part-11)1983	6.5-8.5	7.3
2.	Color	Hazen	IS-3025(Part-4)2021	Colorless	Colorless
3.	Odor	---	IS-3025(Part-5)	Agreeable	Agreeable
4.	Total Suspended Solids	mg/l	IS:3025(Part-11)1983	100	76
5.	Chemical Oxygen Demand (COD)	mg/l	IS:3025(Part-58)-2006	250	51
6.	Biochemical Oxygen Demand (BOD) (3 days at 27 °C)	mg/l	IS:3025(Part-44)-1993	100	32
7.	Oil & Grease	mg/l	IS:3025(Part-39)-1991	10	<1.0
8.	Total Arsenic as As	mg/l	IS:3025(Part-37)-1988	0.2	<0.01
9.	Mercury as Hg	mg/l	IS:3025(Part-48)-1994	0.01	<0.001
10.	Lead as Pb	mg/l	IS:3025(Part-47)-1994	2.0	<0.01
11.	Cadmium as Cd	mg/l	IS:3025(Part-41)-1992	2.0	<0.001
12.	Hexavalent Chromium as Cr <sup>6+</sup>	mg/l	IS:3025(Part-52)-2003	1.0	<0.001

IS-Indian Standard

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## TEST REPORT

ISSUED TO: <b>M/s. SEIL ENERGY INDIA LIMITED PROJECT-2</b> (2X660 MW Coal Based Thermal Power Plant), Near Ananthavaram (V), Thotapalli Gudur (M), SPSR Nellore (Dist.)- 524344.	
<b>Discipline:</b> Chemical	<b>Date Of Sampling:</b> 14.11.2024
<b>Group:</b> Water	<b>Sample Registration Date:</b> 15.11.2024
<b>Product:</b> Water	<b>Analysis Starting Date:</b> 15.11.2024
<b>Location:</b> Boiler Feed Water	<b>Issue Date:</b> 21.11.2024
<b>Qty:</b> 1 Ltrs	<b>Lab Ref:</b> SEPL/ES/SEILEILP/11-24/0001
<b>Packing:</b> Plastic Container	<b>Sample collected person details:</b> S. Ganesh

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Total Suspended Solids	IS3025(P-17)1984	mg/l	100	5.5
2.	Oil & Grease	IS3025(P-39)2021	mg/l	10	< 1.0
3.	Copper (Total)	IS3025(P-42)1992	mg/l	1.0	0.47
4.	Ferrous as Fe <sup>+</sup>	IS3025(P-53)2003	mg/l	1.0	0.52
5.	Free Available Chlorine	IS3025(P-26)1986	mg/l	0.5	< 0.1

K.S. Jay  
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## TEST REPORT

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(2X660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.)- 524344.

**Discipline:** Chemical

**Group:** Water

**Product:** Water

**Location:** Cooling Tower Blow Down

**Qty:** 1 Ltrs

**Packing:** Plastic Container

**Date Of Sampling:** 14.11.2024

**Sample Registration Date:** 15.11.2024

**Analysis Starting Date:** 15.11.2024

**Issue Date:** 21.11.2024

**Lab Ref:** SEPL/ES/SEILEILP/11-24/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARD	RESULTS
1.	Zinc	IS3025(P-49)1994	mg/l	1.0	0.66
2.	Chromium (Total)	IS3025(P-52)2003	mg/l	0.2	BDL
3.	Phosphate	IS3025(P-31)1998	mg/l	5.0	3.7
4.	Free Available Chlorine	IS3025(P-26)1986	mg/l	0.5	0.1

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(2X660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.)-524344.

**Discipline:** Chemical

**Group:** Water

**Product:** Water

**Location:** Boiler Feed Water

**Qty:** 1 Ltrs

**Packing:** Plastic Container

**Date Of Sampling:** 18.02.2025

**Sample Registration Date:** 19.02.2025

**Analysis Starting Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0001

**Sample collected person details:** S. Ganesh

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Total Suspended Solids	IS3025(P-17)1984	mg/l	100	5.9
2.	Oil & Grease	IS3025(P-39)2021	mg/l	10	< 1.0
3.	Copper (Total)	IS3025(P-42)1992	mg/l	1.0	0.59
4.	Ferrous as Fe <sup>+</sup>	IS3025(P-53)2003	mg/l	1.0	0.61
5.	Free Available Chlorine	IS3025(P-26)1986	mg/l	0.5	0.2

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SPSR Nellore (Dist.)-524344.

**Discipline:** Chemical

**Group:** Water

**Product:** Water

**Location:** Cooling Tower Blow Down

**Qty:** 1 Ltrs

**Packing:** Plastic Container

**Date Of Sampling:** 18.02.2025

**Sample Registration Date:** 19.02.2025

**Analysis Starting Date:** 19.02.2025

**Issue Date:** 25.02.2025

**Lab Ref:** SEPL/ES/SEILEILP/02-25/0002

**Sample collected person details:** S. Ganesh

## TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Zinc	IS3025(P-49)1994	mg/l	1.0	0.68
2.	Chromium (Total)	IS3025(P-52)2003	mg/l	0.2	BDL
3.	Phosphate	IS3025(P-31)1998	mg/l	5.0	4.3
4.	Free Available Chlorine	IS3025(P-26)1986	mg/l	0.5	0.4

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PUBLIC LIABILITY INSURANCE  
(UNDER PUBLIC LIABILITY INSURANCE ACT 1991)

**ANNEXURE-V**

**PREAMBLE**

ICICI Lombard General Insurance Company Limited ("the Company"), having received a Proposal and the premium from the proposer named in the Schedule referred to herein below, and the said Proposal and Declaration together with any statement, report or other document leading to the issue of this Policy and referred to therein having been accepted and agreed to by the Company and the Proposer as the basis of this contract do, by this Policy agree, in consideration of and subject to the due receipt of the subsequent premiums, as set out in the Schedule with all its Parts, and further, subject to the terms and conditions contained in this

Policy, as set out in the Schedule with all its Parts that on proof to the satisfaction of the Company of the compensation having become payable as set out in Part I of the Schedule to the title of the said person or persons claiming payment or upon the happening of an event upon which one or more benefits become payable under this Policy, the Sum Insured/ appropriate benefit will be paid by the Company.

PART I OF SCHEDULE		POLICY No : 4007/388642207/00/000	
1	Name of the insured	SEIL ENERGY INDIA LIMITED	
2	Mailing Address of the insured	SEIL ENERGY INDIA LIMITED -P1, PYNAMPURAM, NELATURU VILLAGE, MUTHUKURU, SEIL ENERGY INDIA LIMITED -P2 INDIA ANDHRA PRADESH NELLORE PIN - 524344	
3	Trade or Business of the insured	Thermal power plant	
4	Address of Premises insured	SEIL Energy India Limited -P1, Pynampuram, Nelaturu village, Muthukuru, Nellore -424344,  SEIL Energy India Limited -P2, Ananthavaram village, Thotapalli gudur mandal, varakavipudi panchayath, Nellore-524344	
5	Paid Up Capital	39,62,24,50,000	
6	Policy period	26/03/2025	25/03/2026
		From : 00 : 00	To : 23 : 59
7	Turnover	110,70,70,00,000	
8	Limit of Indemnity	1 : 2	
	Aggregate One Year (AOY)	5,00,00,00,000	
	Any One Accident (AOA)	2,50,00,00,000	
9	Compulsory Excess	0/- [each and every claim]	

10	Total Premium ERF Contribution GST Total Payable	28,00,000 28,00,000 504,000 6,104,000
11	Co-insurance details	ICICI LOMBARD GENERAL INSURANCE COMPANY LTD. : 40 [ Leader ]  SBI GENERAL INSURANCE COMPANY LIMITED : 20%  IFFCO TOKIO GENERAL INSURANCE COMPANY LIMITED : 15%  GO DIGIT GENERAL INSURANCE CO LTD : 15%  CHOLAMANDALAM MS GENERAL INSURANCE COMPANY LTD. : 10%
12	Special conditions	NA
13	Intermediary Details	Intermediary Code : NA Intermediary Name: Direct
14	GSTIN Reg. No ILGIC GSTIN Address	36AAACI7904G1ZO  Second Floor, Shop No. 1-7, 18-20, Lumbili Jewel Mall, Road No.02, Banjara Hills, Hyderabad

The stamp duty of Rs. 0.50/- (Fifty Paise Only ) paid in cash or by demand draft or by pay order,vide Receipt/Challan No.CSD10520244764 dated. 01<sup>st</sup> February 2025.

Signed for and on behalf of ICICI Lombard General Insurance Company Limited, at Mumbai on this date APRIL 11, 2025.

*Gaurav Arora*

Authorised Signatory

GSTIN Reg No: 36AAACI7904G1ZO

ILGIC GSTIN Address: D. No : 6-3-352 / 1, Second and Third Floor, Osman Plaza, Road No 1, Hyderabad, Telangana 500034

Description of services: General Insurance Business

HSN/SAC : 9971

Policy shall stand cancelled ab initio in the event of non-realization of the premium.

"Note- In case of renewal of the policy, policy benefit and terms & conditions of policy including premium may be subject to change."

## PART II OF SCHEDULE

### 1. Definitions

For the purpose of this policy, the following terms shall have the meaning as set forth hereunder:

- i. "Act" unless otherwise specifically mentioned shall mean the Public Liability Insurance Act 1991 as amended from time to time.
- ii. "Accident" means an accident involving a fortuitous, sudden or unintentional occurrence while handling any hazardous substance resulting in continuous, intermittent or repeated exposure to death of, or injury to any person or damage to any property but does not include an accident by reason only of war or radioactivity.
- iii. "Handling" in relation to any hazardous substance means the manufacture, processing, treatment, package, storage, transportation by vehicle, use, collection, destruction, conversion, offering for sale, transfer or the like of such hazardous substance.
- iv. "Hazardous Substance" and group means any substance or preparation which is defined as hazardous substance under the Public Liability Insurance Act, 1991 and the Rules framed there under
- v. "Owner" or "Insured" means a person who owns, or has control over handling of any hazardous substance at the time of accident and includes:
  - a. in the case of a firm, any of its partners
  - b. in the case of an association, any of its members, and
  - c. in the case of a company, any of its directors, managers, secretaries or other officers who is directly in charge of, and is responsible to the company for the conduct of the business of the company
- vi. "Turnover" shall mean
  - a. In case of Manufacturing Units - Entire annual gross sales turnover including all levies and taxes of manufacturing units handling hazardous substance as defined in the Public Liability Insurance Act, 1991.

For the purpose of this insurance, the term “Units” shall mean all operations being carried out in the manufacturing complex in one location.

- b. In case of Godowns/ Warehouse Owners – Total annual rental receipts of premises handling hazardous substance as defined in the Public Liability Insurance Act, 1991.
- c. In case of Transport Operators – Total annual freight receipts
- d. In all other cases – Total annual gross receipts

## **2. Scope of Cover**

The Company hereby agrees, subject to the terms, conditions and exclusions herein contained or endorsed or otherwise expressed herein, to indemnify the Insured or Owner as defined above for the purpose of this policy against the statutory liability arising out of Accidents occurring during the currency of the Policy due to handling of hazardous substances as provided for in the Act as defined above, and the Rules framed there under.

## **3. Exclusions**

The Company shall not be liable:

- i. For any willful or intentional non-compliance of any statutory requirements; ii. In respect of fines, penalties, punitive and /or exemplary damages;
- iii. Under any law or legislation except in so far as provided for in Section 8 (1) & 8 (2) of the Act;
- iv. In respect of damage to property owned, leased or hired or under hire purchase or on loan to the Insured or otherwise in the Insured Owner's control, care or custody;
- v. For any liability directly or indirectly occasioned by, happening through or in consequence of war, invasion, act of foreign enemy, hostilities (whether war be declared or not) civil war, rebellion, revolution, insurrection or military or usurped power;
- vi. For any liability directly or indirectly caused by or contributed to by:
  - a. Ionizing radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel.
  - b. The radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
- vii. For matter outside the scope of Public Liability Insurance Act, 1991. viii. In respect of losses/liability arising outside India.

## **4. Basis of Assessment of Claims**

- i. The basis of assessment of claim shall be the award given by the appropriate authority under the Act.
- ii. Claim Procedures:

The procedure for lodging the claim shall be as under:

- a. On the occurrence of any Accident, whether or not the Insured receives any notice of an alleged claim / complaint, the Insured shall duly inform the Company in the manner prescribed in the 'Incident Reporting Form', detailing the Accident.

- b. The Insured shall, upon receipt of any notice of an alleged claim / complaint from appropriate authority, forthwith furnish the same to the Company in the manner detailed in the 'Claim Application Form'. The insured shall also furnish the copies of such documents, as prescribed by the rules, which are submitted and forwarded by the appropriate authority and/or any proposed responses, if any, by the Insured to the appropriate authorities.
- c. Upon the affixing of any legal liability upon the Insured in terms of an award of the appropriate authority, the Insured shall forthwith submit a duly filled 'Claim Settlement Form', detailing the liability accrued and the Defence Costs, if any together with any other information that the Company may require or as specified in the 'Claim Settlement Form'.
- d. The Insured shall also at all times at his own expense produce, procure and give to the Company all such further particulars, plans, specifications, books, vouchers, invoices, duplicates or copies thereof, documents, investigation reports (internal/external), proofs, evidence and information with respect to the claim (verified by statutory declaration, if so required) and the origin and cause of the loss and the circumstances under which the loss or damage occurred, and any matter touching the liability or the amount of the liability of the Company as may be reasonably required by or on behalf of the Company together with a declaration on oath or in other legal form of the truth of the claim and of any matters connected therewith.
- e. Subject to applicable law, rule, regulation or notification in this behalf, the Company hereby reserves the right as provided hereafter:

No claim in respect of loss equal to or exceeding twenty thousand rupees in value on the policy shall be admitted for payment or settled by the Company unless the Company has been given a report on the occurrence of the loss and extent of the loss, from a person who holds a license to act as a Surveyor or loss assessor, under the Insurance Act, 1938, and appointed by the company for the purpose.

Provided that nothing hereinabove shall be deemed to take away or abridge the right of the Company to pay or to settle any claim at any amount different from the amount assessed by the Surveyor or loss assessor.

- f. The Insured shall furnish the forms duly completed together with:
  - i. all material documents, as specified therein or as requested by the Company or otherwise;
  - ii. particulars of all other insurances, if any

No claim under this policy shall be payable unless the terms of this condition have been complied with

## **5. Limitation Period**

In no case whatsoever shall the Company be liable for any claim for relief made after the expiry of 5 years from the date of occurrence of the Accident.

## **6. Policy Related Terms And Conditions**

1. No admission, offer, promise or payment shall be made or given by or on behalf of the Insured under this policy without the written consent of the Company.
2. The Insured shall keep a record of their Turnover. The Company shall at all times have full rights to call for and examine such records.
3. In case the Company pays any amount to the claimant due to any statutory provision, such amount shall be recoverable from the Insured, if such amount need not have been paid but for the said statutory provision

### PART III OF THE SCHEDULE

#### Standard Terms and Conditions

##### 1. Incontestability and Duty of Disclosure

The policy shall be null and void and no benefit shall be payable in the event of untrue or incorrect statements, misrepresentation, incorrect description or non-disclosure in any material particular in the proposal form, personal statement, declaration and connected documents, or any material information having been withheld, or a claim being fraudulent or any fraudulent means or devices being used by the Insured or any one acting on his behalf to obtain any benefit under this policy

##### 2. Reasonable Care

The Insured shall take all reasonable steps to safeguard the interests of the Insured against accidental loss, or damage that may give rise to the claim

##### 3. Observance of terms and conditions

The due observance and fulfillment of the terms, conditions and endorsement of this policy in so far as they relate to anything to be done or complied with by the Insured, shall be a condition precedent to any liability of the Company to make any payment under this policy

##### 4. Material change

The Insured shall immediately notify the Company by fax and in writing of any material change in the risk and cause at his own expense such additional precautions to be taken as circumstances may require to ensure safe operation of the Insured items or trade or business practices thereby containing the circumstances that may give rise to the claim and the Company may, adjust the scope of cover and / or premium, if necessary, accordingly

##### 5. Records to be maintained

The Insured shall keep an accurate record containing all relevant particulars and shall allow the Company to inspect such record. The Insured shall within one month after the expiry of each period of insurance furnish such information as the Company may require

##### 6. No constructive Notice

Any of the circumstances in relation to these conditions coming to the knowledge of any official of the Company shall not be the notice to or be held to bind or prejudicially affect the Company notwithstanding subsequent acceptance of any premium

##### 7. Notice of charge etc

The Company shall not be bound to notice or be affected by any notice of any trust, charge, lien, assignment or other dealing with or relating to this policy but the receipt of the Insured or his legal personal representative shall in all cases be an effectual discharge to the company

##### 8. Special Provisions

Any special provisions subject to which this policy has been entered into and endorsed in the policy or in any separate instrument shall be deemed to be part of this policy and shall have effect accordingly

#### 9. Overriding effect of Part II of the Schedule

The terms and conditions contained herein and in Part II of the Schedule shall be deemed to form part of the policy and shall be read as if they are specifically incorporated herein; however, in case of any inconsistency of any term and condition with the scope of cover contained in Part II of the Schedule, then the term(s) and condition(s) contained herein shall be read mutatis mutandis with the scope of cover/terms and conditions contained in Part II of the Schedule and shall be deemed to be modified accordingly or superseded in case of inconsistency being irreconcilable

#### 10. Electronic Transactions

The Insured agrees to adhere to and comply with all such terms and conditions as the Company may prescribe from time to time, and hereby agrees and confirms that all transactions effected by or through facilities for conducting remote transactions including the Internet, World Wide Web, electronic data interchange, call centers, teleservice operations (whether voice, video, data or combination thereof) or by means of electronic, computer, automated machines network or through other means of telecommunication, established by or on behalf of the Company, for and in respect of the policy or its terms, or the Company's other products and services, shall constitute legally binding and valid transactions when done in adherence to and in compliance with the Company's terms and conditions for such facilities, as may be prescribed from time to time. The Insured agrees that the Company may exchange, share or part with any information to or with other ICICI Group Companies or any other person in connection with the Policy, as may be determined by the Company and shall not hold the Company liable for such use/application

#### 11. Duties of the Insured on occurrence of loss

On the occurrence of any loss, within the scope of cover under the policy the Insured shall:

- I. Forthwith file/submit a Claim Form in accordance with Claim Procedure Clause as provided in Part II of the Schedule.
- II. Allow the Surveyor or any agent of the Company to inspect the lost/damaged properties/premises/goods or any other material items, as per the Right to Inspect Clause as provided in this Part.
- III. Assist and not hinder or prevent the Company or any of its agents in pursuance of their duties under Rights of the Company On Happening Of Loss Or Damage Clause as provided in this Part.
- IV. Not abandon the insured property/item/premises, nor take any steps to rectify/remedy the damage before the same has been approved by the Company or any of its agents or the Surveyor.

If the Insured does not comply with the provisions of this Clause or other obligations cast upon the Insured under this policy, in terms of the other clauses referred to herein or in terms of the other clauses in any of the policy documents, all benefits under the policy shall be forfeited, at the option of the Company

#### 12. Rights of the Company on happening of loss or damage

On the happening of loss or damage, or circumstances that have given rise to a claim under this policy, the Company may:

1. enter and/or take possession of the insured property, where the loss or damage has happened
2. take possession of or require to be delivered to it any property of the Insured in the building or on the premises at the time of the loss or damage
3. keep possession of any such property and examine, sort, arrange, remove or other wise deal with the same; and,
4. sell any such property or dispose of the same for account of whom it may concern.

The powers conferred by this condition shall be exercisable by the Company at any time until notice in writing is given by the Insured that he makes no claim under the policy, or if any claim is made, until such claim is finally determined or withdrawn. The Company shall not by any act done in the exercise or purported exercise of its powers hereunder incur any liability to the Insured or diminish its rights to rely upon any of the conditions of this policy in answer to any claim.

If the insured or any person on his behalf shall not comply with the requirement of the Company, or shall hinder or obstruct the Company in the exercise of the powers hereunder, all benefits under the policy shall be forfeited at the option of the Company

#### 13. Right to inspect

If required by the Company, an agent/representative of the Company including a loss assessor or a Surveyor appointed in that behalf shall in case of any loss or any circumstances that have given rise to the claim to the Insured be permitted at all reasonable times to examine into the circumstances of such loss. The Insured shall on being required so to do by the Company produce all books of accounts, receipts, documents relating to or containing entries relating to the loss or such circumstance in his possession and furnish copies of or extracts from such of them as may be required by the Company so far as they relate to such claims or will in any way assist the Company to ascertain in the correctness thereof or the liability of the Company under the policy

#### 14. Position after a claim

The Insured shall not be entitled to abandon any insured item/property whether the Company has taken possession of the same or not. As from the day of receipt of the claim amount by the Insured as determined by the Company to be fit and proper, the Sum Insured for the remainder of the period of Insurance shall stand reduced by the amount of the compensation

#### 15. Subrogation

In the event of payment under this policy, the Company shall be subrogated to all the Insured's rights or recovery thereof against any person or organisation, and the Insured shall execute and deliver instruments and papers necessary to secure such rights.

The Insured and any claimant under this policy shall at the expense of the Company do and concur in doing and permit to be done, all such acts and things as may be necessary or required by the Company, before or after Insured's indemnification, in enforcing or endorsing any rights or remedies, or of obtaining relief or indemnity, to which the Company shall be or would become entitled or subrogated

If at the time of the happening of any loss or damage covered by this policy, there shall be existing any other insurance of any nature whatsoever covering the same, whether effected by the Insured or not, then the Company shall not be liable to pay or contribute more than its ratable proportion of any loss or damage

#### 17. Fraudulent claims

If any claim is in any respect fraudulent, or if any false statement, or declaration is made or used in support thereof, or if any fraudulent means or devices are used by the Insured or anyone acting on his behalf to obtain any benefit under this policy, or if a claim is made and rejected and no court action or suit is commenced within twelve months after such rejection or, in case of arbitration taking place as provided therein, within twelve (12) calendar months after the Arbitrator or Arbitrators have made their award, all benefits under this policy shall be forfeited

#### 18. Cancellation/termination

The insured can cancel the policy at any time during the term, by informing the company.

The company can cancel the policy only on the grounds of established fraud, by giving minimum notice of 7 days to the policyholder.

The company shall –

i) refund proportion premium for unexpired policy period, if the term of the policy is upto one year and there is no claim(s) made during the policy period. ii) refund premium for the unexpired policy period, in respect of policy with the term more than one year and the risk coverage for such policy years has not commenced.

#### 19. Cause of Action/ Currency for payments

No Claims shall be payable under this policy unless the cause of action arises in India, unless otherwise specifically provided in Part II of the Schedule to this policy. All claims shall be payable in India in Indian Rupees only

#### 20. Policy Disputes

Any dispute concerning the interpretation of the terms, conditions, limitations and/or exclusions contained herein is understood and agreed to by both the Insured and the Company to be subject to Indian Law. Each party agrees to submit to the exclusive jurisdiction of the High Court of India and to comply with all requirements necessary to give such Court the jurisdiction. All matters arising hereunder shall be determined in accordance with the law and practice of such Court

#### 21. Renewal notice

Every renewal premium (which shall be paid and accepted in respect of this policy) shall be so paid and accepted upon the distinct understanding that no alteration has taken place in the facts contained in the proposal or declaration herein before mentioned and that nothing is known to the Insured that may result to enhance the risk of the company under the guarantee hereby given. No renewal receipt shall be valid unless it is on the printed form of the Company and signed by an authorized official of the Company

Any notice, direction or instruction given under this policy shall be in writing and delivered by hand, speed/registered post or courier to

In case of the Insured, at the address specified in Part 1 of the Schedule.

In case of the Company:

ICICI Lombard General Insurance Company Limited  
Corporate Office: ICICI LOMBARD HOUSE, 414 VEER SAVARKAR MARG, PRABHADEVI, MUMBAI 400025.

Notice and instructions will be deemed served 7 days after posting or immediately upon receipt in the case of hand delivery, facsimile or e-mail

#### 23. Customer Service

If at any time the Insured requires any clarification or assistance, the Insured may contact the offices of the Company at the address specified, during normal business hours

If at any time the Insured requires any clarification or assistance, the Insured may contact the offices of the Company at the address specified, during normal business hours

#### 24. Claim Clause/Settlement of Claim

1) Claim Intimation: Connect with us via: Toll-free no.: 1800 2666, Email ID: [customersupport@icicilombard.com](mailto:customersupport@icicilombard.com), on our website: <https://coclaims.icicilombard.com/claimstracker/CommercialClaims/ccplandingpage.aspx>

Register the claim and submit claim related documents along with claim form. You will receive a claim reference number as your reference point for future correspondence.

2) File an FIR: In case of third-party property damage/bodily injury, fire etc. if applicable as per policy terms and conditions.

3) Surveyor Appointment: Your Claims Manager (CSM) will contact you and appoint a licensed surveyor basis claim eligibility within 24 hours of reporting the claim

4) Documents: submit documents to the assigned CSM/Surveyor.

List of documents which are necessary and relevant to the claim are as below:

1. Claim bill / Claim Form duly filled up
2. Photographs / Video of damaged property/item under claim
3. Document/s in support of admissibility of the claim, for instance, all proceedings filed before the courts, communications exchanged with the insured, invoices, payment proofs, internal /external investigation report of the insured, Insureds counsel opinion on merits and demerits of the case, insured counsel engagement letter etc.
4. FIR / Final Police investigation report wherever applicable
5. For items which are to be repaired or reinstated, repair/ replacement quotation, invoice and payment proofs for each and every item as claimed.
6. For items which are under claim & not to be repaired or reinstated, documents substantiating the quantum & value of the items under claim
7. Offer for retention of salvage, if any
8. KYC / NEFT Details as per AML guidelines
9. Invoice copy / Goods Receipt Note / Monetary Claim on carrier / Damage Certificate
10. Any other document which may be specified by the surveyor post completion of initial survey

5) Assessment Approval: Repair/Replacement details submitted in support of the claim will be assessed and approved by CSM/surveyor

6) Salvage: The amount that is assessed which the damaged asset will fetch in the open market (wherever applicable).

7) Turnaround Time (TAT): Assessment sheet /Survey report will be furnished within 15 days of receipt of claim form and documents. Claim will be decided within 7 days of receipt of the assessment sheet / survey report, as applicable.

#### 25 Grievances

For resolution of any query or grievance, Insured may contact the respective branch office of the Company or may call toll free no.1800-2666 or may approach us at the sub section "Grievance Redressal" on our website

[www.icicilombard.com](http://www.icicilombard.com) (Customer Support section). However, if the resolution provided by us is not satisfactory you may approach Insurance Regulatory and Development Authority of India (IRDAI) through the Bima Bharosa Portal - <https://bimabharosa.irdai.gov.in/> or IRDAI Grievance Call Centre (IGCC) at their toll free no. 1800 4254 732 / 155255.

You may also approach Insurance Ombudsman, subject to vested jurisdiction, for the redressal of grievance. Details of Insurance Ombudsman offices are available at IRDAI website: [www.irdaindia.org](http://www.irdaindia.org), or on the Company's website at [www.icicilombard.com](http://www.icicilombard.com).

The details of Insurance Ombudsman are available below:

S no.	Name of office of insurance Ombudsman	Territorial Area of jurisdiction
1	<b>AHMEDABAD</b> Insurance Ombudsman Office of the Insurance Ombudsman, Jeevan Prakash Building, 6th floor, Tilak Marg, Relief Road, Ahmedabad – 380 001. Tel.: 079 - 25501201/02/05/06 Email: <a href="mailto:bimalokpal.ahmedabad@cioins.co.in">bimalokpal.ahmedabad@cioins.co.in</a>	Gujarat, Dadra & Nagar Haveli, Daman and Diu.
2	<b>BENGALURU</b> Insurance Ombudsman Office of the Insurance Ombudsman, Jeevan Soudha Building,PID No. 57-27-N-19 Ground Floor, 19/19, 24th Main Road, JP Nagar, Ist Phase, Bengaluru – 560 078. Tel.: 080 - 26652048 / 26652049 Email: <a href="mailto:bimalokpal.bengaluru@cioins.co.in">bimalokpal.bengaluru@cioins.co.in</a>	Karnataka
3	<b>BHOPAL</b> Insurance Ombudsman Office of the Insurance Ombudsman, 1st floor,"Jeevan Shikha", 60-B,Hoshangabad Road, Opp. Gayatri Mandir, Bhopal – 462 011. Tel.: 0755 - 2769201 / 2769202 Email: <a href="mailto:bimalokpal.bhopal@cioins.co.in">bimalokpal.bhopal@cioins.co.in</a>	Madhya Pradesh, Chattisgarh.
4	<b>BHUBANESHWAR</b> Insurance Ombudsman Office of the Insurance Ombudsman, 62, Forest park,	Odisha.
	Bhubaneswar – 751 009. Tel.: 0674 - 2596461 /2596455 Email: <a href="mailto:bimalokpal.bhubaneswar@cioins.co.in">bimalokpal.bhubaneswar@cioins.co.in</a>	

5	<p>CHANDIGARH</p> <p>Insurance Ombudsman</p> <p>Office Of The Insurance Ombudsman, Jeevan Deep Building SCO 20-27, Ground Floor Sector- 17 A, Chandigarh – 160 017. Tel.: 0172 - 4646394 / 2706468 Email: bimalokpal.chandigarh@<a href="mailto:bimalokpal.chandigarh@cioins.co.in">cioins.co.in</a></p>	<p>Punjab, Haryana (excluding Gurugram, Faridabad, Sonapat and Bahadurgarh), Himachal Pradesh, Union Territory of Jammu &amp; Kashmir, Ladakh &amp; Chandigarh.</p>
6	<p>CHENNAI</p> <p>Insurance Ombudsman</p> <p>Office of the Insurance Ombudsman, Fatima Akhtar Court, 4th Floor, 453, Anna Salai, Teynampet, CHENNAI – 600 018. Tel.: 044 - 24333668 / 24333678 Email: bimalokpal.chennai@<a href="mailto:bimalokpal.chennai@cioins.co.in">cioins.co.in</a></p>	<p>Tamil Nadu, Pondicherry Town and Karaikal (which are part of Pondicherry).</p>
7	<p>DELHI</p> <p>Insurance Ombudsman</p> <p>Office of the Insurance Ombudsman, 2/2 A, Universal Insurance Building, Asaf Ali Road, New Delhi – 110 002. Tel.: 011 – 23237539 Email: <a href="mailto:bimalokpal.delhi@cioins.co.in">bimalokpal.delhi@ cioins.co.in</a></p>	<p>Delhi &amp; following District of Haryana – Gurugram, Faridabad, Sonapat and Bahadurgarh</p>
8	<p>ERNAKULAM</p> <p>Insurance Ombudsman</p> <p>Office of the Insurance Ombudsman, 2nd Floor, Pulinat Bldg., Opp. Cochin Shipyard, M. G. Road, Ernakulam - 682 015. Tel.: 0484 - 2358759 / 2359338 Fax: 0484 - 2359336 Email: bimalokpal.ernakulam@<a href="mailto:bimalokpal.ernakulam@cioins.co.in">cioins.co.in</a></p>	<p>Kerala, Lakshadweep, Mahe-a part of Puducherry.</p>
9	<p>GUWAHATI</p> <p>Insurance Ombudsman</p> <p>Office of the Insurance Ombudsman, Jeevan Nivesh, 5th Floor,</p>	<p>Assam, Meghalaya, Manipur, Mizoram,</p>

	Nr. Panbazar over bridge, S.S. Road, Guwahati – 781001(ASSAM). Tel.: 0361 - 2632204 / 2602205 Email: bimalokpal.guwahati@ <a href="mailto:bimalokpal.guwahati@cioins.co.in">cioins.co.in</a>	Arunachal Pradesh, Nagaland and Tripura.
10	HYDERABAD Insurance Ombudsman Office of the Insurance Ombudsman, 6-2-46, 1st floor, "Moin Court", Lane Opp. Saleem Function Palace, A. C. Guards, Lakdi-Ka-Pool, Hyderabad - 500 004. Tel.: 040 - 23312122 Email: <a href="mailto:bimalokpal.hyderabad@cioins.co.in">bimalokpal.hyderabad@ cioins.co.in</a>	Andhra Pradesh, Telangana, Yanam and Part of Territory of Puducherry.
11	JAIPUR Insurance Ombudsman Office of the Insurance Ombudsman, Jeevan Nidhi – II Bldg., Gr. Floor, Bhawani Singh Marg, Jaipur - 302 005. Tel.: 0141- 2740363/2740798 Email: <a href="mailto:Bimalokpal.jaipur@ cioins.co.in">Bimalokpal.jaipur@ cioins.co.in</a>	Rajasthan.
12	KOLKATA Insurance Ombudsman Office of the Insurance Ombudsman, Hindustan Bldg. Annexe, 4th Floor, 4, C.R. Avenue, KOLKATA - 700 072. Tel.: 033 - 22124339 / 22124340 Fax : 033 - 22124341 Email: bimalokpal.kolkata@ <a href="mailto:bimalokpal.kolkata@cioins.co.in">cioins.co.in</a>	West Bengal, Sikkim, Andaman & Nicobar Islands.
13	LUCKNOW Insurance Ombudsman Office of the Insurance Ombudsman, 6th Floor, Jeevan Bhawan, Phase-II, Nawal Kishore Road, Hazratganj, Lucknow - 226 001. Tel.: 0522 - 4002082 / 3500613 Email: bimalokpal.lucknow@ <a href="mailto:bimalokpal.lucknow@cioins.co.in">cioins.co.in</a>	Districts of Uttar Pradesh : Laitpur, Jhansi, Mahoba, Hamirpur, Banda, Chitrakoot, Allahabad, Mirzapur, Sonbhabdra, Fatehpur, Pratapgarh, Jaunpur,Varanasi, Gazipur, Jalaun, Kanpur, Lucknow, Unnao, Sitapur, Lakhimpur, Bahraich, Barabanki, Raebareli, Sravasti, Gonda, Faizabad, Amethi, Kaushambi, Balrampur, Basti, Ambedkarnagar, Sultanpur, Maharajgang, Santkabirnagar, Azamgarh, Kushinagar, Gorkhpur, Deoria,

		Mau, Ghazipur, Chandauli, Ballia, Sidharathnagar.
14	<b>MUMBAI</b> Insurance Ombudsman Office of the Insurance Ombudsman, 3rd Floor, Jeevan Seva Annexe, S. V. Road, Santacruz (W), Mumbai - 400 054. Tel.: 022 - 69038800/27/29/31/32/33 Email: <a href="mailto:bimalokpal.mumbai@cioins.co.in">bimalokpal.mumbai@ cioins.co.in</a>	Goa, Mumbai Metropolitan Region Excluding (Navi Mumbai & Thane).
15	<b>NOIDA</b> Insurance Ombudsman Office of the Insurance Ombudsman, Bhagwan Sahai Palace 4th Floor, Main Road, Naya Bans, Sector 15, Distt: Gautam Buddh Nagar, U.P-201301. Tel.: 0120-2514252 / 2514253 Email: <a href="mailto:bimalokpal.noida@ cioins.co.in">bimalokpal.noida@ cioins.co.in</a>	State of Uttaranchal and the following Districts of Uttar Pradesh: Agra, Aligarh, Bagpat, Bareilly, Bijnor, Budaun, Bulandshehar, Etah, Kanooj, Mainpuri, Mathura, Meerut, Moradabad, Muzaffarnagar, Oraiyya, Pilibhit, Etawah, Farrukhabad, Firozbad, Gautambodhanagar, Ghaziabad, Hardoi, Shahjahanpur
16	<b>PATNA</b> Insurance Ombudsman Office of the Insurance Ombudsman, 2nd Floor, Lalit Bhawan, Bailey Road, Patna 800 001. Tel.: 0612-2547068 Email: <a href="mailto:bimalokpal.patna@ cioins.co.in">bimalokpal.patna@ cioins.co.in</a>	Bihar, Jharkhand.
17	<b>PUNE</b> Insurance Ombudsman Office of the Insurance Ombudsman, Jeevan Darshan Bldg., 3rd Floor, C.T.S. No.s. 195 to 198, N.C. Kelkar Road, Narayan Peth, Pune – 411 030. Tel.: 020-24471175 Email: <a href="mailto:bimalokpal.pune@ cioins.co.in">bimalokpal.pune@ cioins.co.in</a>	Maharashtra, Area of Navi Mumbai and Thane (excluding Mumbai Metropolitan Region).

The updated details of Insurance Ombudsman are available on IRDAI website: [www.irdaindia.org](http://www.irdaindia.org), on the website of General Insurance Council: [www.generalinsurancecouncil.org.in](http://www.generalinsurancecouncil.org.in), Insurer's website [www.icicilombard.com](http://www.icicilombard.com) or from any of the Insurer's offices.

#### Arbitration:

The parties to the contract may mutually agree and enter into a separate Arbitration Agreement to settle any and all disputes in relation to this policy. Arbitration shall be conducted under and in accordance with the provisions of the Arbitration and Conciliation Act, 1996. (Applicable to commercial entities only)



ICICI Lombard General Insurance Company Ltd.  
ICICI LOMBARD HOUSE , 414, Veer Savarkar Marg, Near Siddhi Vinayak  
Temple,Prabhadevi,Mumbai - 400 025.  
Attached & forming part of  
Policy no.4007/388642207/00/000  
IRDAN115CP0014V01201920

## ICICI Lombard General Insurance Company Limited

IRDA Reg. No. 115

**Mailing Address:**

601 & 602, 6th Floor, Interface 16,  
New Linking Road, Malad (West)  
**Mumbai - 400 064**

CIN: L67200MH2000PLC129408

**Registered Office Address:**

ICICI Lombard House, 414, Veer Savarkar Marg,  
Near Siddhi Vinayak Temple, Prabhadevi,  
**Mumbai 400 025**

**Toll free no :** 1800 2666

**Alternate no :** 86552 22666 (chargeable)

**E-mail :** [Customersupport@icicilombard.com](mailto:Customersupport@icicilombard.com)

**Website :** [www.icicilombard.com](http://www.icicilombard.com)



# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ANNEXURE-VI

ISSUED TO :

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: **DG STACK EMISSION MONITORING-- NOVEMBER 2024**

Location: **DG SET STACK#1 (1500 KVA)**

Date of Monitoring: **13.11.2024**

Sample Registration Date: 14.11.2024

Analysis Starting Date: **14.11.2024**

Analysis Completed Date: **20.11.2024**

Issue Date: **20.11.2024**

Lab Ref: **SEPL/ES/SEILEILP/11-24/0001**

## TEST RESULT

1. Time of Sampling ---- : 09:40 Hrs. to 10:05 Hrs.
2. Time Duration : 00:25 Hrs.
3. Ambient Temperature (°C) : 34.6
4. Flue gas Temperature (°C) : 142
5. Velocity of the flue gas (m/sec) : 14.9
6. C/s area of the duct (m<sup>2</sup>) : 0.406
7. Stack Diameter (m) : 0.129
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 10777.84

S.NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	75	38.2
2.	Sulphur Dioxide	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	321
3.	Oxides of Nitrogen	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	360	126
4.	Carbon Monoxide	Gas Chromatography	ppm	150	52
5.	Non-Methane Hydro Carbon (NMHC)	Gas Chromatography	mg/Nm <sup>3</sup>	100	44

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : SSE(Sree Scientific Equipment)  
Model / SI No : Sem-150/220206  
Calibration Due : 28.02.2025

K.S.Lg  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





# SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO :

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),

Near Ananthavaram (V), Thotapalli Gudur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: **DG STACK EMISSION MONITORING-- NOVEMBER 2024**

Location: **DG SET STACK#2 (1500 KVA)**

Date of Monitoring: **13.11.2024**

Sample Registration Date: 14.11.2024

Analysis Starting Date: 14.11.2024

Analysis Completed Date: 20.11.2024

Issue Date: 20.11.2024

Lab Ref: SEPL/ES/SEILEILP/11-24/0002

## TEST RESULT

1. Time of Sampling ---- : 10:15 Hrs. to 10:35 Hrs.
2. Time Duration : 00:20 Hrs.
3. Ambient Temperature (°C) : 34.2
4. Flue gas Temperature (°C) : 143
5. Velocity of the flue gas (m/sec) : 14.1
6. C/s area of the duct (m<sup>2</sup>) : 0.406
7. Stack Diameter (m) : 0129
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 10608.56

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	75	39.1
2.	Sulphur Dioxide	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	427
3.	Oxides of Nitrogen	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	360	122
4.	Carbon Monoxide	Gas Chromatography	ppm	150	65
5.	Non-Methane Hydro Carbon (NMHC)	Gas Chromatography	mg/Nm <sup>3</sup>	100	36

### Instrument Details:

Instrument : Stack Monitoring Kit

Make : SSE(Sree Scientific Equipment)

Model / SI No : Sem -150/220509

Calibration Due : 28.02.2025

K.S.Lg  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD





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Accredited by MoEF & Accredited by NABL (TC-13099)

Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

### ISSUED TO :

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**  
(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: **DG STACK EMISSION MONITORIN- NOVEMBER 2024**

Location: **DG SET STACK#3 (1500 KVA)**

Date of Monitoring: **13.11.2024**

Sample Registration Date: 14.11.2024

Analysis Starting Date: 14.11.2024

Analysis Completed Date: 20.11.2024

Issue Date: 20.11.2024

Lab Ref: SEPL/ES/SEILEILP/11-24/0003

## TEST RESULT

1. Time of Sampling ---- : 10:45 Hrs. to 11:10 Hrs.
2. Time Duration : 00:25 Hrs.
3. Ambient Temperature (°C) : 35.4
4. Flue gas Temperature (°C) : 145
5. Velocity of the flue gas (m/sec) : 14.5
6. C/s area of the duct (m<sup>2</sup>) : 0.406
7. Stack Diameter (m) : 0.129
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 10193.2

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	75	40.2
2.	Sulphur Dioxide	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	645
3.	Oxides of Nitrogen	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	360	149
4.	Carbon Monoxide	Gas Chromatography	ppm	150	56
5.	Non-Methane Hydro Carbon (NMHC)	Gas Chromatography	mg/Nm <sup>3</sup>	100	39

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : SSE (Sree Scient Equipment)  
Model / SI No : EI-106/21-F-16  
Calibration Due : 28.02.2025

K.S.Lg  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

ISSUED TO :

**M/s. SEIL ENERGY INDIA LIMITED PROJECT-2**

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: **DG STACK EMISSION MONITORING-- FEBRUARY 2025**

Location: **DG SET STACK#1 (1500 KVA)**

Date of Monitoring: **18.02.2025**

Sample Registration Date: 19.02.2025

Analysis Starting Date: **19.02.2025**

Analysis Completed Date: **25.02.2025**

Issue Date: **25.02.2025**

Lab Ref: **SEPL/ES/SEILEILP/02-25/0001**

## TEST RESULT

1. Time of Sampling ---- : 09:45 Hrs. to 10:10 Hrs.
2. Time Duration : 00:25 Hrs.
3. Ambient Temperature (°C) : 33.9
4. Flue gas Temperature (°C) : 144
5. Velocity of the flue gas (m/sec) : 14.4
6. C/s area of the duct (m<sup>2</sup>) : 0.406
7. Stack Diameter (m) : 0.129
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 10235.36

S.NO.	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	75	43.2
2.	Sulphur Dioxide	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	359
3.	Oxides of Nitrogen	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	360	168
4.	Carbon Monoxide	Gas Chromatography	ppm	150	72
5.	Non-Methane Hydro Carbon (NMHC)	Gas Chromatography	mg/Nm <sup>3</sup>	100	47

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : SSE (Sree Scientific Equipment)  
Model / SI No : Sem-150/220206  
Calibration Due : 28.02.2025

K.S. Jay  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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# SPECTRA ENVIROTECH PVT LTD

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Environmental, Micro Biology, Analytical Testings & RO, ETP, STP's Engineering

## TEST REPORT

### ISSUED TO :

#### M/s. SEIL ENERGY INDIA LIMITED PROJECT-2

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: **DG STACK EMISSION MONITORING-- FEBRUARY 2025**

Location: **DG SET STACK#2 (1500 KVA)**

Date of Monitoring: **18.02.2025**

Sample Registration Date: 19.02.2025

Analysis Starting Date: **19.02.2025**

Analysis Completed Date: **25.02.2025**

Issue Date: **25.02.2025**

Lab Ref: **SEPL/ES/SEILEILP/02-25/0002**

## TEST RESULT

1. Time of Sampling ---- : 10:15 Hrs. to 10:40 Hrs.
2. Time Duration : 00:25 Hrs.
3. Ambient Temperature (°C) : 34.5
4. Flue gas Temperature (°C) : 146
5. Velocity of the flue gas (m/sec) : 14.6
6. C/s area of the duct (m<sup>2</sup>) : 0.406
7. Stack Diameter (m) : 0.129
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 10339.36

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	75	42.4
2.	Sulphur Dioxide	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	442
3.	Oxides of Nitrogen	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	360	144
4.	Carbon Monoxide	Gas Chromatography	ppm	150	73
5.	Non-Methane Hydro Carbon (NMHC)	Gas Chromatography	mg/Nm <sup>3</sup>	100	41

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : SSE (Sree Scientific Equipment)  
Model / SI No : Sem -150/220509  
Calibration Due : 28.02.2025

K.S.Lg  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

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## TEST REPORT

### ISSUED TO :

#### M/s. SEIL ENERGY INDIA LIMITED PROJECT-2

(2x660 MW Coal Based Thermal Power Plant),  
Near Ananthavaram (V), Thotapalli Gudur (M),  
SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: **DG STACK EMISSION MONITORIN- FEBRUARY 2025**

Location: **DG SET STACK#3 (1500 KVA)**

Date of Monitoring: **18.02.2025**

Sample Registration Date: 19.02.2025

Analysis Starting Date: **19.02.2025**

Analysis Completed Date: **25.02.2025**

Issue Date: **25.02.2025**

Lab Ref: **SEPL/ES/SEILEILP/02-25/0003**

## TEST RESULT

1. Time of Sampling ---- : 10:50 Hrs. to 11:10 Hrs.
2. Time Duration : 00:20 Hrs.
3. Ambient Temperature (°C) : 35.2
4. Flue gas Temperature (°C) : 146
5. Velocity of the flue gas (m/sec) : 14.4
6. C/s area of the duct (m<sup>2</sup>) : 0.406
7. Stack Diameter (m) : 0.129
8. Flue gas Flow Rate (Nm<sup>3</sup>/hr) : 10047.04

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	STANDARDS	RESULTS
1.	Particulate Matter	IS 11255 (part-1)1985	mg/Nm <sup>3</sup>	75	44.1
2.	Sulphur Dioxide	IS 11255 (part-2)1985	mg/Nm <sup>3</sup>	-	627
3.	Oxides of Nitrogen	IS 11255 (part-7)1985	mg/Nm <sup>3</sup>	360	168
4.	Carbon Monoxide	Gas Chromatography	ppm	150	71
5.	Non-Methane Hydro Carbon (NMHC)	Gas Chromatography	mg/Nm <sup>3</sup>	100	55

### Instrument Details:

Instrument : Stack Monitoring Kit  
Make : SSE (Sree Scientific Equipment)  
Model / SI No : EI-106/21-F-16  
Calibration Due : 28.02.2025

K.S.Laj  
Verified by



Praveesh W.  
Authorized by  
Managing Director

**LABORATORY :** Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

**Web :** www.spectraenviro.com | **E-mail:** sepl.sjn@gmail.com | info@spectraenviro.com

**Cell:** 80199 55222, 111 | **BRANCHES:** VIJAYAWADA | HYDERABAD



**Government of Andhra Pradesh**  
**A.P. State Disaster Response and Fire Services Department**

**ANNEXURE-VII**

**Periodical Renewal Fire Certificate**

From:  
Director General  
State Disaster Response & Fire Services  
Andhra Pradesh, Vijayawada.

To:  
The General Manager,  
District Industries Center, SPSR Nellore District

**File No: 18565/NLR/MSB/2023, Date:12/07/2023**

**Occupancy NoC RC Number: PNOC.RC.No:1018/RFO/SR/2016,Dt:10-08-2016 of the RFO,SR and**  
**ONOC.RC.No:1018/RFO/SR/2016,Dt:24-07-2017 of the RFO,SR**

Sir,

Sub: Andhra Pradesh State Disaster Response and Fire Services Department - Periodical Fire Certificate to the constructed Multi Storeyed Building of Sembcorp Energy India Ltd [Project-2], represented by Sri Sandeep Kumar Reddy Tikkavarapu, Located at Ananthavaram(V), Varakavipudi (P),T.P Gudur(M),SPSR Nellore District - Regarding.

- Ref:
1. G.O.Ms.NO.71 Home (Prisons-A) Department, Dated.01-04-2010 & G.O.Ms.NO.90 Home(Prison & Fire Services), Dt 13-08-2021 Á G.O.No 120 Home (Prisons & Fire), Dt 25-10-2021
  2. This Office Delegation of Powers Rc.No.3350/Audit/NOC/2012, Dated.02-05-2023.
  3. This Office NOC for Occupancy Rc No. PNOC.RC.No:1018/RFO/SR/2016,Dt:10-08-2016 of the RFO,SR and ONOC.RC.No:1018/RFO/SR/2016,Dt:24-07-2017 of the RFO,SR, Dt.10/08/2016
  4. Renewal NOC For Occupancy PNOC.RC.No:1018/RFO/SR/2016,Dt:10-08-2016 of the RFO,SR and ONOC.RC.No:1018/RFO/SR/2016,Dt:24-07-2017 of the RFO,SR, Dt.24/07/2020
  5. Online Application for Renewal NOC of Sri Sandeep Kumar Reddy Tikkavarapu, Located at Ananthavaram(V), Varakavipudi (P),T.P Gudur(M),SPSR Nellore District - Inspection report called for Regarding.
  6. Online Inspection Report submitted by Officers of this Department on 10-07-2023.

<< 0 >>

The Management of Sembcorp Energy India Ltd [Project-2], represented by Sri Sandeep Kumar Reddy Tikkavarapu, Located at Ananthavaram(V), Varakavipudi (P),T.P Gudur(M),SPSR Nellore District has requested to issue Periodical Fire Certificate duly remitting the Fire Precautionary fee for Rs.687750/- vide challan No. 71064040852023 & 71063807422023 & 71604042582023, Dated 03/05/2023 at SBI, Through CFMS Challana.

Control Room

,GIS Control Room

,Turbine & Generator Building

,Service Building

,Canteen Building

,8. Generator Transformer, Coal Yard,Coal Conveyor 1A/B (JNT1-JNT2) & (JNT2-JNT3)

## ,Boilers-2 No.s

## ,Coal Mill

1. This certificate is being issued as per G.O.Ms.No:90,Home(Prisons & Fire),Dt:13-08-2021 & GO.No:120,Home(Prisons & Fire),Dt-25-10-2021
2. The No Objection Certificate for Occupancy was issued vide reference cited (3) and the Management has also obtained Periodical Renewal Fire Certificate for vide reference 4th cited to the constructed Multi Storeyed Building.
3. The Officers of the department have recommended to issue The Periodical Renewal Fire Certificate **Sri Sandeep Kumar Reddy Tikkavarapu Located at Ananthavaram(V), Varakavipudi (P),T.P Gudur(M),SPSR Nellore District**, subject to the following conditions.

Sl	As Builder	As Occupant	As Security Personnel
1	All the fire protection arrangements shall be maintained in good condition as seen during inspection.	All the escape/exit routes shall not be kept locked/blocked or encroached	All the occupants must know the correct method of operation of the fire fighting system installed.
2	Any loss of life or property due to non-functioning of fire safety measures and other installations shall be the responsibilities of the management.	All occupants shall be trained to operate the fire safety equipments during emergency.	Mock drills should be conducted once in 3 months for initial two years. Thereafter, once in every 6 months.
3	Addition / alteration, if any in the building may be verified by building authority.	Mock drills should be conducted once in 3 months for initial two years. Thereafter, once in every 6 months.	All security personnel shall be trained to operate the fire safety equipments during emergency.
4	This is Only for Fire Safety Point of View.	Raise the alarm if the fire cannot be controlled; Evacuate the area completely at once with nearest safe exit.	Attack the fire using available fire equipment only if you feel capable of controlling. If not, take all steps to isolate the area by closing doors and windows.

4. This Periodical Renewal Fire Certificate is valid from 11/07/2023 to 10/07/2026.
  5. The Responsibility/liability of the owner/occupier or both to maintain Fire safety measures in good condition in all times, in accordance with AP Fire safety Act 1999 and Rules, 2006.
  6. The Applicant/Management has agreed to comply with proposed revision of fire safety measures, which were sent to government vide Rc No. /MSB/Section/2023 Dt. 11-05-2023 or any other fire safety measures as may be approved by the government from time to time.
- The following deficiencies are identified by the officers of the department and needs to be attended to by the management.

Nil

Your Sincerely,

Director General  
State Disaster Response & Fire Services  
Andhra Pradesh, Vijayawada.

Copy to Sri Sandeep Kumar Reddy Tikkavarapu, Sembcorp Energy India Ltd [Project-2] Located at Ananthavaram(V), Varakavipudi (P),T.P Gudur(M),SPSR Nellore District  
Copy to Chief Office for Record Purpose  
Copy to Regional Fire Officer Concerned  
Copy to District Fire Officer Concerned  
Copy to Assistant District Fire Officer Concerned



## **EXTERNAL SAFETY AUDIT REPORT**

**PROTOCOL: IS 14489:2018**

**Audit Period: 2025-26**

*For*

### **M/s SEIL ENERGY INDIA LIMITED**

(Formerly Sembcorp Energy India Limited)  
Ananthavaram Village, Varakavipudi Panchayat,  
Thotapalli Gudur Mandal  
524344, SPSR Nellore, INDIA

*Prepared by*



### **M/s GLOBAL FIRE AND SAFETY SOLUTIONS**

**(Safety Engineers & Consultants)**

**COMPETENT PERSON UNDER AP FACTORIES RULES & ACT**

**7-9/1, Ambedkar Colony, Karakambadi Road, Beside  
Mangalam Police Out Post, Tirupati, Tirupati District,  
Andhra Prades - 517501**

**Cell : 8919505529., Email : globalfireandsafety9@gmail.com**



**SEIL ENERGY INDIA LIMITED**

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



# FOREWORD



# SEIL ENERGY INDIA LIMITED

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



## ACKNOWLEDGEMENT

We express our whole hearted thanks to Management and Employees of **M/s. SEIL Energy India limited** situated at Krishanpatna, Muthukur Mandal SPSR Nellore District, Andhra Pradesh India, for their Co-operation and unstinted help without which the Safety Audit of M/s SEIL Energy India Limited, could not have been possible. The courtesy and Cordiality extended to the audit team is highly appreciated. We do appreciate the best planning and constant co-operation from Mr.Pavan Rao, Head-HSE&F, N.S Venkatesan, Head –Fire & Safety P-2 and Mr. Gnanadesigan N - Head-Safety , P-1 and their operation team members and HOD of respective departments for speedy completion of this report.



**For Global Fire and Safety solutions**



# SEIL ENERGY INDIA LIMITED

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



## DISCLAIMER

Nothing in this report shall be construed as taking the place of any Law, Rule or Regulation of the relevant Governmental Agencies.

Users of this report are informed that no publication of this type can be complete nor any written document of this type can be a substitute for qualified engineering analysis. The experts and their professional experience only base the observations recommendations mentioned in this report on physical visits of the plant sections.

**Global Fire and Safety Solutions** does not hold any legal obligation in case of occurrence of any incident / accident / emergency in the plant while implementing the recommendations in this report all the views are based on technical expertise and past experience of the auditors.

The validity of this report is one year from concluding date of the Audit or next External Safety Audit due as per Requirements.





# SEIL ENERGY INDIA LIMITED

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



**Teamwork and leadership are both important to enhance safety within the work place. When Safety representatives and departmental teams take ownership of safety, it becomes a collective effort, not just management's responsibility**

A Safety Management System provides organizations with a framework to improve employee safety and health, reduce workplace risks and create better, safer working conditions. The development and implementation of a comprehensive Safety Management System will support continual improvement and enables an organization to develop and maintain a strong safety culture.

The formal and organization-wide approach to managing safety risk and guaranteeing the efficacy of safety risk controls is known as a safety management system (SMS). It consists of processes, practices, and policies for managing safety risks. In system safety and safety management, SMS presents an evolving process. It is a systematic procedure requiring businesses to treat safety with the same importance as other fundamental business activities.

Safety means not getting exposed to harm, safety is controlling of high risk in activities, so also safety is loss control. In totality, safety is a systematic approach in the control of activities, so as to avoid unwanted incidents and achieving good work environment. When systematic approach is practiced, it needs to be checked periodically for its effective functioning

SEIL Energy India Limited - SEIL - (Formerly Sembcorp Energy India Limited) is a leading independent power producer (IPP) committed to India's energy security. The company has a successful track record of developing and operating thermal power generation assets in the country. It has a 2.64 GW supercritical thermal power generation complex located in SPSR Nellore District, Andhra Pradesh, India.

SEIL owns and operates 4X660MW units to provide reliable and essential electricity to consumers across the sub-continent. Led by its strong leadership team, SEIL is a committed and long-term partner in the region's progress.

SEIL partners with the government and industry towards supporting India's energy security and its urbanisation and developmental goals. To ensure high performance and reliability, SEIL maintains high standards of behaviour, integrity, and governance in its operations.



# SEIL ENERGY INDIA LIMITED

## EXTERNAL SAFETY AUDIT REPORT IS 14489:2018



With its efficient and reliable power generation, SEIL is well-positioned to offer viable and best-in-class energy supply to meet the country's need for reliable and sustainable power.

SEIL Energy India Limited have been officially certified as a '**Great Place To Work**' Organization (By Great Place To Work, India – The certifying authority). The achievement is a testament to our supportive work environment and a great work culture.

SEIL Energy India Limited is certified for ISO **14001:2015**, ISO **9001:2015**, ISO **45001:2018**.

Good safety practices of the organization are a very visible way of showing that the organization does value the people working with them; so also, it will be rewarded by a workplace that's not only safer but more productive as well.

Apart from implementing good safety practices, periodical checking of the performance of the practices or the systems is also required. Conducting safety audit is one such requirement.

Safety audits are intended to promote, improve and then maintain good safety performance.

Audits review safety programs, policies, and procedures to check that they cover employee job tasks and hazards. They are a structured and effective way of preventing incidents and controlling safety hazards.

Though several audits are being conducted by the organization, including internal audits of the systems being implemented, one of the requirements is conducting of the safety audit as per the statutory requirement.

In order to meet not only the statutory regulations under Factories Act, But also to self-assess the implementation part of safety management systems and site specific safety improvement; HGL conducted External Safety Audit for this year by a reputed external agency followed by strict scrutiny.

So as to comply with the requirement, SEIL Management is engaging outside agency, for evaluating its occupational health and safety management system performance, followed by compliance of the observations and as part of it, engaged **Global Fire and Safety Solutions** for conducting the safety audit for the year 2024.

Global Fire and Safety Solutions feels it as an honor for getting the above assignment. **Global Fire and Safety Solutions** took this opportunity and carried out the audit, with an objective to review the various



## SEIL ENERGY INDIA LIMITED

### EXTERNAL SAFETY AUDIT REPORT IS 14489:2018



work practices and activities of the organization, such that the Occupational Health and Safety functioning of the organization is in line with the regulatory and other OHS system requirements.

Audit not only looks into the deviations or lacunae but also focuses on the best practices implemented by the organization. The recommendations given in the report are to be viewed as an aid to Management, for continual improvement and not as any faultfinding exercise.

**Global Fire and Safety Solutions** offers it's sincere thanks to the top management for providing the opportunity to Lumen in conducting the audit.

GLOBAL FIRE AND SAFETY SOLUTIONS extends its sincere thanks to all the HODs & other Plant Personnel for their cooperation to the audit team in carrying the audit successfully.

24<sup>th</sup> December, 2024

Hyderabad



*A. Rajasekhari*

**For Global Fire and Safety Solutions**



# SEIL ENERGY INDIA LIMITED

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



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# SEIL ENERGY INDIA LIMITED

## EXTERNAL SAFETY AUDIT REPORT IS 14489:2018



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**SEIL ENERGY INDIA LIMITED**

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



## 1.0 EXECUTIVE SUMMARY



## SEIL ENERGY INDIA LIMITED

**EXTERNAL SAFETY AUDIT REPORT IS 14489:2018**



- **M/s. SEIL Energy India Limited** is one of the best organizations in the field of Power generation in India. SEIL is an acknowledged as leading power producer in India
- The management of M/s SEIL Energy Limited wanted to review of its Safety Management System by third party. So The task has awarded to “GLOBAL FIRE AND SAFETY SOLUTIONS”
- It is appreciable that the organization has successfully implemented 5’S” in the organization and got certification from QCI. The overall score is also improved to 84.2%.It is very good sign for the organization.
- It is very good to note that every month SEIL Organised Mass Toolbox Talk (MTBT). In MTBT, one senior management representative declares HSE Theme of the Month. All employees and Associates are assembled in one place and discuss about the them. Everyday Safety department send Safety DM (Daily Mailer) as per the months theme. Video quiz were conducted as per monthly theme. In Monthly Apex Committee Meeting, Safety Moment being presented as per the months theme.
- It is good to note that organization to enhance Psychological Safety, SEIL has formed “Area Specific Teams” of Frontline Engineers and Associates to know and address the challenges, if any. 04 Area Specific Teams formed (Boiler, TG, BOP and CHP area). In each team, all disciplines (Mechanical, Operations, Electrical, and C&I) front line Engineers and Associates are members of the team. Safety Team nominees join these meetings. Total 08 meetings were conducted at each plant.
- It is good to note that SEIL organises “Raksha Bandhan” as “SURAKSHA BANDHAN” in Plant every year with Frontline Associates. Head-O&M, HODs, Line Managers and Engineers participated. It shows care and commitment between Associates and employees. Head O&M graced the occasion and spoke on importance of Interpersonal Bonding for Safety.
- It is highly appreciable that SEIL Observed January 2024 as Road Safety Awareness Month. Awareness campaigns were organized for SEIL Employees & Drivers. Seat belt and two-wheeler crash helmet checking drive was conducted. The importance of safety belt and crash helmet was explained
- It is good to note that On the Eve of 35th National Road Safety Month “Defensive Driving” training was organized from 9th to 12th Jan. 2024 by external trainers from Institute of Driving Training & Research (IDTR), Pune. The full day training was physically attended by 78 employees and 22 drivers from SEIL P1 & P2 along with online attendance of 30 employees on the last day.



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- It is very good to note that SEIL organized 02 days External Scaffolding Inspector Training programme for SEIL Employees and 01 day Scaffolding Erectors Training for Associates by BIST, Bangalore.
- It is good to note that 53rd National Safety Week 2024 was observed from 04th March to 10th March 2024. Various promotional and awareness activities were conducted for Employees and Associates during the week. Winners were awarded by Chief Guest Sh. K. Sudheer Babu, Chief Engineer (O&M) SDDTPS at the Valedictory Function.
- It is appreciable to note that SEIL Fire Team Participated in District Level Off-Site Mock Drill organized by State Authorities at BPCL Krishnapatnam Port.
- It is very good to note that National Fire Service Fortnight 2024, was organized from 14th April to 30th April 2024. Various promotional and awareness activities were conducted for SEIL Employees, Associates, and Families at Township during Fortnight. Winners were awarded at the Valedictory Function.
- It is good to note that World Environment Day was celebrated on 05th June 2024. Mass Plantation was done by Employees & Associates at both SEIL P-1 & SEIL P-2. Also organized various Environmental promotional activities like Online Quiz Competition for Employees, Poster Competition for Children, Slogan competition for Associates, Elocution Competition for Employees & Spouse at Township.
- It is good to note that Under “Life”, Plantation drive conducted at MV Palem High School, near SEIL on 6th June 2024 in which Shri Ch. Rajasekhar, Regional, Officer, APPCB attended as Chief Guest. School Children participated with enthusiasm in large numbers and took ownership of the sapling planted by them
- It is very good to note that Half Yearly ERP Mock Drill Conducted simultaneously at SEIL P-1 & P-2 involving complete evacuation of Employees and Associates except critical operation staff. Scenario - Severe Cyclone “BANDU” in June and Scenario – “Leakage of Chemical while handling in storage area” in December 2024.
- It is good to note that Job specific Toolbox talk, and Dynamic Risk Assessment being conducted before every O&M activity.
- It is good to note that Pre-employment medical examination and Safety Induction training being conducted for all new employees and workers.



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- It is highly appreciable that organization has carried out training on innovative way of rescuing the of personnel working at height without any unnecessary problems during rescue time
- It is observed that work permit system is implemented and adhere to the system always even for small works
- It is appreciable that Risk Assessment is done for all O&M activities and review the same again whenever any process change occurs.
- It is highly appreciable that Skill assessment is being for all Riggers, welders and other technicians before deploying them into the work by Safety engineer
- It is very good to note that Vertigo and acrophobia test is carrying out for all the workers for work height
- It is good note that organization has developed departmental Champions to ensure good implementation in all departments
- It is good to note that organization system has good Contractor Management system
- The organization has strongly believed that Training is one of the core elements in prevail the safety in the organization continuously. In view of that, a Training matrix for all level of employees is planned and being implemented. Training feedback is being taken for every training sessions to improve the system further
- It is highly appreciable that Organization is more committed for the health of the employees by providing availability of doctor in the OHC for 8 hours daily without fail
- Organization has “ MUTUAL AID “ agreement with neighbouring industries for risk mitigation in case of emergency situation
- Organization has defined and documented the occupational health safety Policy. The same policy is displayed in all conspicuous places in the factory premises.
- It is highly appreciable that Organization has successfully implemented “BEHAVIOUR BASED SAFETY SYSTEM “ in the Organization and Got awards for 4 years continuously for successful implementation of behaviour Based Safety System in the organization.

**It is very good to note that the Company has got following awards for Their EHS management system**

1. CII Gold Award was received for the excellence in Industrial Safety Leadership from the Confederation of Indian Industry (CII), Andhra Pradesh.



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2. BBS 'Platinum Benchmarking Award' for excellence in 'Occupational Safety and Health' and the award was received from the Forum of Behavioural Safety.
3. 5S 'Excellence Award' was received from the Quality Circle Forum of India (QCFI), Nagpur.
4. SEIL bagged 'Gold Award' for Excellence in the Healthiest Workplace category at the INFHRA Awards 2024.
5. SEIL P-1 has won the 'Excellent Energy Efficient Unit' Award from the Confederation of Indian Industry (CII) during its 25th National Award for Excellence in Energy Management Ceremony 2024 held in Hyderabad.
6. SEIL has won the Best Housekeeping Practices (Industrial Category) Award from Asian Housekeepers Association and Clean India Journal.
7. SEIL wins two prestigious India CSR & Sustainability Awards 2024 in 'Best Healthcare & Wellness Programme' and 'Best Environmentally Sustainable Programme categories'
  - It is observed that organization has been Conducting Mock drill as per ERP procedures. Statutory mock drill yearly twice and fire mock drill being conducted every month as per Onside Emergency procedure
  - Earth pits monitoring is being done. But the Test date, Due date and Resistance value are not displayed on the Earth pit covers in some of the areas
  - It is good to note about the implementation of motivational and promotional programs such as conducting safety competitions, celebrating safety day celebrations etc., so as to get the effective participation from employees in the OSH performance.
  - Walk through safety inspections are being conducted for identifying unsafe conditions / unsafe acts, a multi-functional team can be set up for carrying out the inspections section wise and to focus on process safety, structural safety, mechanical & electrical safety and about housekeeping aspects.
  - Provision of PPE both respiratory and non-respiratory is in place. Hygiene of respiratory PPE may be strictly ensured.
  - Monitoring of work environment, incident investigation, carrying of safety inspections is being followed.
  - Periodical review, compliance of legal requirements, ensuring continual improvement; imparting education and training on OHS issues are found satisfactory.
  - It is very impressive to note that organization has been conducting Skip Level Safety Town Hall Meeting conducted by CEO and Head-O&M with Employees and Associates once in a year. In this meeting Senior Management directly discussed safety issued with front line engineers and associates.
  - It is necessary to conduct Electrical Safety audit with expert agency
  - Site specific observations and recommendations are given in detail in Chapter N05 this report for implementation as per the priority of SEIL energy India Limited.



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## 2.0 INTRODUCTION



# SEIL ENERGY INDIA LIMITED

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## 2.1 INDUSTRY INFORMATION:

1.	Name of the Organization	M/s. SEIL Energy India Limited
2.	Address	Krishnapatnam, Muthukur mandal, SPSR Nellore district , Andhra Pradesh
3.	Phone Number	
4.	Name of the Occupier	Sri Raghav Trivedi, CEO,
5.	Address of the Occupier	Building 7A,Level-5,DLF Cyber city, Gurugram-122002 Haryana state, India
6.	Phone number	
7.	Name of the land/Factory Manager- SEIL-Project-1	Mr. BV Srinivas
8	Address of the Factory Manager SEIL-Project-1	Pyanapuram, Nelaturu village, Muthukur mandal, SPSR Nellore- 524344,Andhra Pradesh, Phone No. 91-8613501300
9	Name of the land/Factory Manager- SEIL-Project-2	Mr. Rajasekhar
10	Address of the Factory Manager SEIL-Project-2	Anathavaram Village,Varakavipudi Panchayat,TP Gudur mandal,SPSR Nellore -524344
11.	★ Police station ★ Nearest Fire Station ★ Nearest Hospital	★ Nellore ★ Nellore ★ Govt. Hospital, Nellore
12.	Manufacturing Process	Power generation



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## 2.1 Products manufactured in the unit:

Power generation in the plant

## 2.2 Process description- Process Flow Chart:

### Process Description:

SEIL Energy India Limited, Project -1 has 2 X 660-Megawatt Supercritical coal-fired units. And SEIL Energy India Limited Project -2 has same 2 X 660-Megawatt Supercritical coal-fired units.

SEIL has its own team for managing the operations and maintenance of the power plants. The two power Plants Project-1 and Project-2 are spread over 2232 acres area. The source of water for both the plants is the sea water as the plant is located near the Bay of Bengal. The coal is brought to the site through the sea route and transferred to the coal storage area through pipe conveyors. The belt conveyors are used to transfer coal from the coal yard to the bunker.

### Process description:

In Thermal Power Station heat energy is converted into electric power. Water is heated in a Boiler, comes out as dry super saturated steam and allows the high pressure steam into the turbine, spins the turbine shaft which drives an electric generator and produces electric power. The steam from the turbine is condensed in a condenser and recycled back to Boiler where it is heated. This is known as Rankine cycle.

The washed crushed coal is coming through Ship from Paradeep Port to Krishnapatnam port. Further, the coal is transported from the Krishnapatnam port to plant site through external coal pipe conveyor. The imported coal comes from Indonesia, through ship and it is transported through external coal conveyor. The coal plant having 3 nos. stock piles each is having storage. The coal from the coal yard is transported to Crusher house

The coal is crushed in Crusher house and converts into a powder form and is being transported to boiler for combustion through primary air. The primary air supplied by primary air fans and forced draft Fans are used for supplying combustion air to the boiler. 2nos. Induced draft fans are used to extract post combustion combustible products from the boiler and pass through regenerative Air Preheater and filtered out fly ash in the ESP (Electrostatic precipitator) and finally the flue gas is liberated into the atmosphere through a tall chimney. The combustion is taking place in a boiler which is slightly under below



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atmospheric pressure and produces heat at temperature of 1200°C. The Demineralized Water (DM) is circulated into the boiler through forced boiler circulation pump and absorbs heat from the boiler and converts into high dry super saturated pressure of 240 ksc and temperature of 565°C.

The high pressure and temperature steam is allowed to pass into the High pressure turbine through stop valves and control valves. The steam expands in the turbine blades and does useful work and spins the turbine. The exhaust steam from the HPT is reheated in the boiler pre-heater circuit and converts a pressure and required temperature. The medium pressure steam is allowed to pass into pressure turbine (PT) where it does some useful work and pass into turbine and finally this steam is condensed in the condenser.

A huge amount sea water is circulated into the condensers through circulating pumps and it absorbs heat from the exhaust steam of Turbines and finally it passes into natural draft cooling tower for cooling. During the process of condensation in the condenser, the steam to water phase conversion is taking place and non-condensable gasses are liberated through this process. These gases are expelled to the atmosphere through 2nos. vacuum pumps for each condenser.

The condensed water is pumped to the de-aerator through 4 nos. of Low pressure heaters where the condensate water temperature is raised from 38°C to 154°C. High pressure pumps are used to pump the de-aerator water to the boiler through 3 nos. High pressure heater where the feed water is heated up to required temperature. Thus the process circulates (Boiler – Turbine-Boiler) on continuous basis to generate power of 660 MW.

During the production of 2X660 MW power, it consumes nearly 400 tons of coal per day at different heating values of coal of 3000-4400 kcal/kg. Around 4000 tons of ash produced daily through the coal burning process, 80% of the ash is collected in the dry form and stored in the Silos and 20% of the ash collected in the wet mode and pumped to ash pond in required size. The dry fly ash is collected from the Silos and filled in closed truck ash tanker for utilization of Brick & Cement Small Scale Industries.

Sea water is the source for the above process. Sea water is drawn from the sea through pumps at open channel sea water pump house. The sea water is processed and converted into Service & DM water through Reverse Osmosis process.



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The power is evacuated through transmission line with no of feeders connected to AP and Telangana Grid. The power generated in the alternator at a voltage of 24KV and stepped up to 400KV by step-up transformer called Generator Transformer of Single-phase transformers of capacity 332MVA each.

Two numbers Service Transformers (ST) of capacity 400KV/11KV, 100MVA each were installed to draw power from grid to feed to 11KV station boards in addition to generated power.

The total process is controlled in centralized Central Control Room (CCR) with latest art of Super critical technology and it is one of the first of its kind in the Private sector as 2X660 MW Super Critical Power plant named as “SEIL Energy India Limited”

## Manpower:

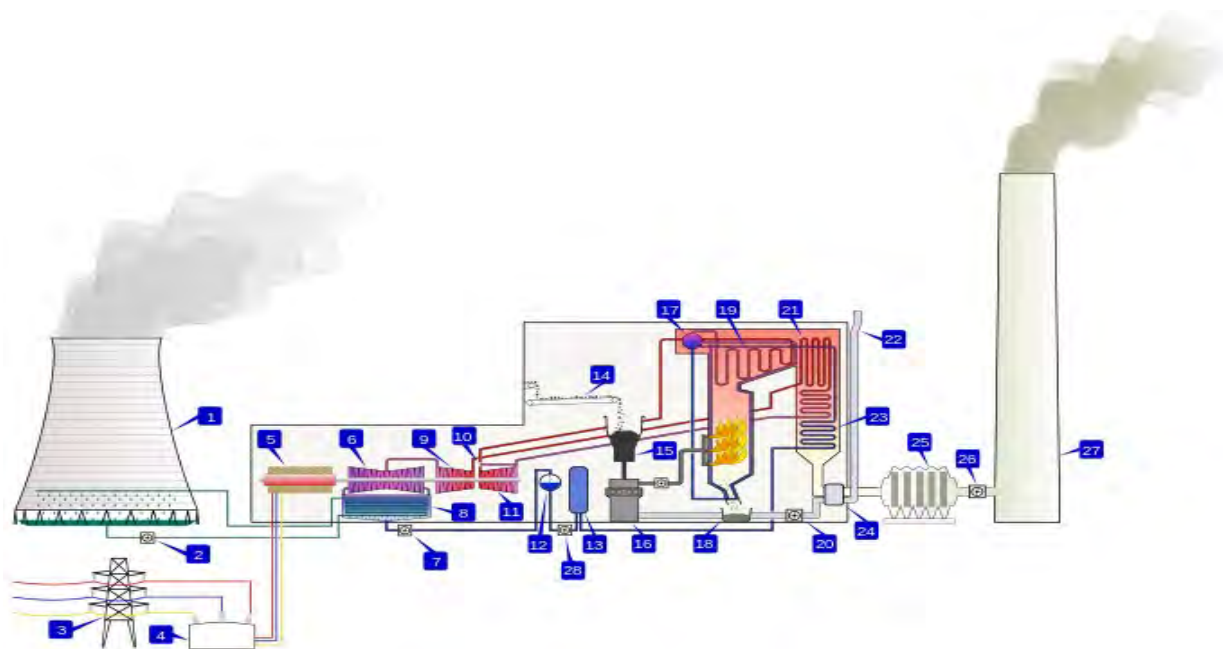
The SEIL employee count in Plant -1 is 313 whereas in Plant-2 is 267. The contractor employee count in Plant-1 is 819 whereas that in Plant-2 is 767. Around 46 contractors are listed to supply the associate employees for various Operations and Maintenance within the plant.

## Working hours:

Timings	
<b>A- Shift</b>	06:00 hrs to 14:00 hrs
<b>General Shift</b>	08:30 hrs to 18:00 hrs
<b>B-Shift</b>	14:00 hrs to 22:00 hrs
<b>C-Shift</b>	22:00 hrs to 06:00 hrs

For General shift employees 05 working days and 02 days weekly off and for shift employees 06 days working and 02 days weekly off.

TYPICAL PROCESS FLOW DIAGRAM OF THERMAL POWER PLANT:



### 2.3 Facility Capabilities and Features:

1. Cooling tower	10. Steam Control valve	19. Super heater
2. Cooling water pump	11. High pressure steam turbine	20. Forced draught (draft) fan
3. Transmission line (3-phase)	12. Deaerator	21. Re heater
4. Step-up transformer (3-phase)	13. Feed water heater	22. Combustion air intake
5. Electrical generator (3-phase)	14. Coal conveyer	23. Economizer
6. Low pressure steam turbine	15. Coal hopper	24. Air preheater
7. Condensate pump	16. Coal pulverizer	25. Electro Static Precipitator
8. Surface condenser	17. Steam separators	26. Induced draught (draft) fan
9. Intermediate pressure steam turbine	18. Bottom ash hopper	27. Flue-gas stack



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## 2.4 LIST OF RAW MATERIALS/ CHEMICALS USED IN THE PLANT:

In the manufacturing process different raw materials are used to produce the Power. The list of raw materials and chemicals are shown below:

### SEIL P-1 Bulk Chemicals and Quantity:

SEIL P1 BULK CHEMICAL TANKS				
S.no	Description	Quantity	Capacity	Location
1	BULK FERRIC CHLORIDE STORAGE TANK - A	1	53.55 m3	PRE-TREATMENT PLANT
2	BULK FERRIC CHLORIDE STORAGE TANK - B	1	53.55 m3	PRE-TREATMENT PLANT
3	BULK ACID STORAGE TANK - A	1	12 m3	WATER TREATMENT PLANT
4	BULK ACID STORAGE TANK - B	1	12 m3	WATER TREATMENT PLANT
5	BULK CAUSTIC STORAGE TANK - A	1	12 m3	WATER TREATMENT PLANT
6	BULK CAUSTIC STORAGE TANK - B	1	12 m3	WATER TREATMENT PLANT
7	BULK LIQUID CO2 STORAGE TANK	1	20 m3	WATER TREATMENT PLANT
8	BULK ACID STORAGE TANK	1	20 m3	CPU
9	BULK CAUSTIC STORAGE TANK	1	20 m3	CPU

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#### SEIL P-2 Bulk Chemicals and Quantity:

SEIL P2 BULK CHEMICAL TANKS				
S.no	Description	Quantity	Capacity	Location
1	BULK FERRIC CHLORIDE STORAGE TANK	1	20 m3	PRE-TREATMENT PLANT
2	BULK ACID STORAGE TANK	1	14 m3	WATER TREATMENT PLANT
3	BULK ACID STORAGE TANK (Standby)	1	15 m3	WATER TREATMENT PLANT
4	BULK CAUSTIC STORAGE TANK	1	12 m3	WATER TREATMENT PLANT
5	BULK CAUSTIC STORAGE TANK (Standby)	1	12 m3	WATER TREATMENT PLANT
6	BULK ACID STORAGE TANK	1	20 m3	CPU
7	BULK CAUSTIC STORAGE TANK	1	20 m3	CPU

#### 2.5 LIST OF EQUIPMENT USED FOR MANUFACTURING PROCESS:

The Equipment is boilers, ESP (Electrostatic Precipitators), ash handling area, Coal mill area, Turbine area, warehouses, ETP (Effluent Treatment Plant)/WTP (Water Treatment Plant), sea water pump house, chemical storage area, fire water pump house, Transformer yard, Central control Room, Battery room, mechanical workshop, clarifier, cylinder store area, hydrogen cylinder storage area, Fire station and OHC (Occupational Health Centre), etc.



### 2.5 GOOD EHS PRACTICES AT M/S SEIL ENERGY INDIA LIMITED:

Defensive Training on the eve of 35<sup>th</sup> Road Safety week:

#### Defensive Driving Training – January 2024

On the Eve of 35<sup>th</sup> National Road Safety Month “Defensive Driving” training was organized from 9<sup>th</sup> to 12<sup>th</sup> Jan. 2023 by external trainers from Institute of Driving Training & Research (IDTR), Pune.





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### O&H Calendar Inspections – Lifting Tools Tackles, Colour coding T&P, Power Tools & Full body harness.





Mock drill:

Mock Drill



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**Off-site mock drill:****Off Site Mock Drill at BPCL Krishnapatnam Port**



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## National safety day celebrations:





**Safety Training:**

**Scaffold Inspector Training for SEIL Employee & Associates on February 6<sup>th</sup>, 7<sup>th</sup> & 8<sup>th</sup> – 2024 by Team BIST – Bangalore**





**National fire Service Week Celebrations:**

**Observance of National Fire Service Week 2024**





**Fire safety awareness Programme at SEIL Township:**

**Fire safety awareness program, Drawing Competition and Fire demo at SEIL Township**





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## Environment day Celebrations:

### World Environment 2024 - "Lifestyle for Environment [LiFE]"





### Suraksha Bandhan Celebration:

#### Suraksha Bandhan Celebration

SEIL organised "Suraksha Bandhan" to show commitment and care towards our Associates for Zero Harm.  
HODs, Line Managers, Engineers and Associates participated.





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### Monthly Mass Tool box talk:

#### Monthly Mass Toolbox Talk





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## 3.0 REVIEW OF SAFETY MANAGEMENT SYSTEM

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### 3.0 Safety Management System:

S.NO	CONTENT	APPLICABLE LEGISLATION /GOOD HSE PRACTICE	COMPLIANCE	RECOMMENDATION/ COMMENT
1	<b>SAFETY ORGANIZATION</b>	Section-40-B of Factories Act	Safety department is set up with a Sr.General manager and being assisted by a competent team Safety officers are qualified and experienced. They carrying out plant safety inspections, conduct accident investigation and organize safety committee meetings etc. as prescribed under the statute	Effective functioning of safety department is observed
2	<b>SAFETY COMMITTEE</b>	<b>Section 41-G</b> [Rule 88C (3) of the Factories Rules	Safety committee is formed with equal proportion with Staff and workers as per the factory rules. The committee is being met once in 3 months and discuss on unsafe conditions/unsafe acts in the factory. Action plan is being prepared to take mitigate measures. Meeting minutes are being circulated	Action plan is being reviewed in the next meeting and advise people if any lapses found
3	<b>SAFETY BUDGET</b>	Good practice	No specific safety budget but top priority is being given for safety jobs	Appreciable
4	<b>HEALTH &amp; SAFETY POLICY</b>	Section-7A	Safety and health policy is defined, documented and displayed in all conspicuous places in the factory premises	Good
5	<b>PLANT SAFETY INSPECTIONS</b>	Good HSE practice	Plant safety inspections are being carried out Periodically by Safety Officers, Engineers and jointly with plant personnel. Reports are being generated.	Good
6	<b>SITE SAFETY MANUAL</b>	Good HSE practice	No such manual is available.	Safety manual is to be prepared. It is optional .No legal requirement
7	<b>WORKPERMIT SYSTEM</b>	Good HSE Practice	Work permit system for hot work, height work, electrical permit, Excavation Permit, Confined space entry are in place. The Safety department is receiving the duplicate copy and is kept in the	Good



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			department	
8	<b>CONTRACTOR SAFETY MANAGEMENT</b>	Good HSE Practice	Contractors are engaged, mainly for housekeeping, maintenance works. The terms and conditions of work order include safety provisions / norms and clauses for violations, is to be included in the work order	It is highly appreciable that organization has a contractor's evaluation procedure
9	<b>MOTIVATIONAL AND PROMOTIONAL MEASURES</b>	Good HSE Practice	Various safety competitions are being organized during national HSE campaigns such as NSD, Environment day etc. and prizes are being awarded to winners.	It is highly commendable
10	<b>SAFETY EDUCATION AND TRAINING</b>	Sec. 7-A (1) (c) and Sec.111-A of the Factories Act, 1948 places a duty on the occupier to arrange training on health and safety at work. Appropriate 'Training Policy' may be established for various categories of workers.	Safety trainings are being conducted in the organization periodically	Annual HSE training calendar is prepared and trainings are conducted accordingly. Effectiveness of trainings are being evaluated
11	<b>ACCIDENT INVESTIGATION, REPORTING AND ANALYSIS</b>	Sec. 88 of the Factories Act, 1948 and Rule 130 of the Factories Rules,	All incidents, accidents are being investigated and analyzed for root causes	Reports are available. Root cause analysis is to be done by adopting one of QC tools
12	<b>STATUTORY LICENSES AND APPROVALS</b>	Mandatory	All licenses and approvals are obtained. A legal register is prepared and being tracked	Good adherence to applicable legislation
13	<b>FIRST AID APPLIANCES</b>	The first aid boxes should be distinctively marked with a red cross on white background. [Rule 91 of the	Adequate number of first aid boxes are provided throughout the plant	Good arrangement



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		Factories Rules,		
14	<b>OHC/ FIRST-AID CENTRE</b>	Rule 88-M of the ... Factories ..., 1969 requires provision and maintenance of an Occupational Health Centre. Therefore, the ambiguity with names may be removed by keeping the name of the facility as "Occupational Health Centre", instead of 'Ambulance Room' and 'Plant Medical Unit'.	OHC with good facilities is provided	GOOD facilities are provided in OHC
15	<b>OCCUPATIONAL DISEASES</b>	As per 29 occupational diseases listed in the Third Schedule to the Factories Act, 1948.	No such cases are found	It is good
16	<b>MEDICAL EXAMINATIONS</b>	[Rule 88-L (1) (b) of the .. Factories Rules,	Periodical examinations are being conducted for employees once in a year	It is good practice
17	<b>BIO-MEDICAL WASTE MANAGEMENT</b>	R 4 (4) of the Bio-Medical Wastes (Management and Handling) Rules]	Bio-Medical waste is generated and being disposed to authorized agency for its safe disposal	It is good practice
18	<b>PERSONAL PROTECTION EQUIPMENT</b>	Rule-61-C of Factories Act and other practices	Suitable PPE are being given and sufficient stock is being maintained	It is good practice
19	<b>HOUSE KEEPING</b>	Section-11 ,Factories Act- 1948	Good Housekeeping is being maintained	Good housekeeping is observed in the factory premises and all departments
20	<b>HIRA</b>	Good HSE practice	HIRA is done for all activities and safety measures are taken accordingly	Good documentation



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21	<b>FIRE PREVENTION AND PROTECTION</b>	Rule 71 (10) (a) of the ... Factories Rules,].	Adequate Number of fire extinguishers of various types and capacities are provided and being inspected periodically. Fire hydrant system is provided around the factory premises.	Good Fire net work
22	<b>EMERGENCY PREPAREDNESS</b>	As per Section 41B(4),Factories Act,1948	On-site emergency plan is in place. Emergency situations with respect to operations are identified and mock drills are being conducted	Holiday/Sunday mock drills are to be conducted to check the readiness of employees
22	<b>ELECTRICAL SAFETY</b>	IE Rule 46 and 63, Approval of Central Electricity Authority to energize the electrical equipment was available.	<p>The report reflects the condition as observed in several areas visited during the audit Process and examination of relevant documents.</p> <p>Documents are maintained as per the requirement for the maintenance departments. Preventive maintenance schedule is prepared and being followed;</p> <p>In general, housekeeping is good</p> <p>Substations, drive rooms are well maintained</p> <ul style="list-style-type: none"> <li>• Panel doors locked</li> <li>• Good housekeeping / illumination</li> <li>• Rubber mats provided</li> </ul> <p>Statutory clearances are in order.</p> <p>List of authorized persons (Holding Govt. certificates) for operating substations are to be displayed</p> <p>Testing &amp; Calibration of instruments / protection relays are done every year</p> <ul style="list-style-type: none"> <li>• Protection relays are tested through external agency</li> <li>• Transformer oil testing is carried out through External agency</li> <li>• Main transformers are also tested by Expert</li> </ul>	Electrical safety audit is to be carried out



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			<p>agency</p> <ul style="list-style-type: none"> <li>• All master instruments are tested &amp; calibrated by a Competent agency</li> <li>• However, so far as electrical safety standards and basic safety rules are concerned, some grey areas are still there, which need management attention for</li> <li>• Improvement. One of the important criteria of improving safety standard is visible demonstration of company's objective through systems, policies and programs.</li> </ul>	
23	<b>TOOLS AND TACKLES TESTING</b>	As per Section-28 and 29 of Factories Act	<p>Material handling equipment like EOT cranes, electric hoists, chain pulley Blocks, etc. are being tested and periodically examined by competent person and records are maintained in Form No.-38 as per statutory requirement. This is a good practice.</p> <p>Lifting tackles like Wire Rope Slings, Chain Slings, D-shackles, are also being tested by competent person and records are maintained</p>	Good record is being maintained
24	<b>MATERIAL HANDLING</b>	Good HSE practice	Manual material handling training is being given to all the employees & contractor men working in the factory	Good training is being given. Record is being maintained
25	<b>HANDLING OF GAS CYLINDERS</b>	Good HSE practice	Oxygen, D.A. Argon and other gas cylinders are being stored at dedicated place by taking suitable precautions. Names of the gas cylinders stored are displayed.	Good storage facility observed
26	<b>GUARDING OF MACHINES AND DANGEROUS</b>	Section-26 of the Factories Act	Machine guarding is found to be good. Machine guarding interlock is also provided	Good practice observed



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	AREAS			
27	MEANS OF ACCESS, PLATFORMS & RAILINGS	As per Section-32 of Factories Act	Most of the access / approach, floors, walkways / passages, gangways, etc. were found in good condition & maintained.	Good condition is observed
28	VENTILATION, ILLUMINATION, NOISE, VIBRATIONS & RAILINGS & ERGONOMICS	As per section-13 of Factories Act	<p>Air conditioning is provided for comfort of the personal in the areas of the company, like Administrative building, all Control Rooms, offices, etc. The general natural Ventilation system is good. Supplementary Ventilation like exhaust fans, Industrial fan has also been provided.</p> <p>The general Illumination level of the entire Plant is good during day time. Illumination survey is carried out every month by electrical Department.</p> <p>Noise Level Monitoring is being done periodically. Reports shows that at some locations noise levels were above 75 dB (A) and at some locations below 75dB(A). Noise may be controlled at these locations and/or workers should wear earplugs / earmuffs.</p>	Good ventilation provided
29	PREVENTIVE MAINTENANCE	Good HSE practice	Preventive Maintenance schedule is prepared for all equipment. Periodicity of maintenance is given by considering the importance of equipment	Preventive maintenance schedule is in place
30	Stack and AAQ Monitoring	Good HSE practice	Stack and AAQ monitoring is done every month. Noise and fugitive emission levels are also being monitored monthly.	Work place monitoring is carried out monthly
31	MANAGEMENT OF CHANGE	Good HSE Practice	Management of change procedure is available. Risk assessment is being done whenever there is change in process and any modification work done	Management of change procedure is available
32	SATUTORY WARNINGS & NOTICES	Good HSE practice	Statutory warnings / notices, caution boards, safety instructions, etc. are found displayed in some places	Good signage in the factory premises
33	MSDS	Good HSE	MSDS of all the chemicals are	Displayed MSDS of all

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		practice	available with the Safety Department and in the Laboratory	chemicals used at usage area
34	<b>COLOR CODING OF PIPE LINES</b>	Good HSE practice	Color coding of lines is displayed in one location in factory premises	Appreciable

### 3.9.9 Fire Protection System:

M/s SEIL Energy India Limited is very well equipped with fire protection system. The details are as given below:

#### SEIL Plant Project -1:

<b>FIRE WATER PUMP HOUSE</b>	
FIRE WATER RESERVE TANK CAPACITY 4075 M3	<b>02 Nos.</b>
<b>PUMPS FOR FIRE HYDRANT SYSTEM (PRESSURE 10.5 Kgf/Cm2)</b>	
ELECTRICAL DRIVEN PUMPS 410 M3 Capacity	<b>03 Nos</b>
DIESEL DRIVEN PUMPS 410 M3 Capacity	<b>02 Nos.</b>
<b>PUMPS FOR SPRAY SYSTEM (PRESSURE 10.5 Kgf/Cm2)</b>	
ELECTRICAL DRIVEN PUMPS 410 M3 Capacity	<b>01 No</b>
DIESEL DRIVEN PUMPS 410 M3 Capacity	<b>01 No.</b>
<b>PUMPS FOR MAINTAINING PRESSURE</b>	
ELECTRICAL DRIVEN JOCKEY PUMPS 40 M3 Capacity	<b>02 Nos.</b>
<b>BOOSTER PUMPS FOR TPs and BOILERS</b>	
ELECTRICAL DRIVEN PUMP 171 M3 Capacity	<b>01 No</b>
DIESEL DRIVEN PUMP 171 M3 Capacity	<b>01 No.</b>
<b>FIXED FIRE FIGHTING INSTALLATIONS</b>	
Deluge Valve Water Spray System (HVWS/MVWS )	<b>147 Nos</b>
Fire Water Hydrants	<b>207 Nos</b>
Fire Water Risers	<b>117 Nos</b>
Fire Water Monitors	<b>58 Nos</b>
IG55 Inert Gas Fire Protection System (For CCR) Argon 50%, Nitrogen 50% (300Bar)	<b>134 Cyl.</b>
Foam Tank @ 6000 Ltr (Foam Pourer system for FO Tank)	<b>2 Nos</b>
<b>FIRST-AID FIRE FIGHTING EXTINGUISHERS OF DIFFERENT TYPE &amp; CAPACITYs</b>	
Foam 9Ltr	<b>212 Nos</b>



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Foam 50Ltr	09 Nos
CO2 2KG	30 Nos
CO2 4.5KG	275 Nos
CO2 22.5KG	11 Nos
DCP 500 grm	04 Nos
DCP 1KG	12 Nos
DCP 2KG	10 Nos
DCP 4KG	134 Nos
DCP 6 KG	336 Nos
DCP 25KG	31 Nos
DCP 75KG	05 Nos
DCP Modular Type 15KG	20 Nos
Clean Agent Modular type 5kg	20 Nos
Total	1109 Nos
<b>FIRE DETECTION SYSTEM</b>	
MULTI SENSOR DETECTORS AT CABLE GALLERY, PANEL ROOM, WARE HOUSE AND BUILDINGS	814 Nos
HEAT DETECTORS FOR BATTERY ROOMS	83 Nos
IRD FOR Conveyor Galleries & TPs	38 Nos
LINEAR HEAT SENSOR CABLE (LHS)FOR CONVEYOR GALLERIEs AND CABLE GALLERIES	
QUARTZOID BULB DETECTOR(QBD ) FOR TRANSFORMERs AND OIL TANKS	
<b>FIRE / EMERGENCY WARNING SYSTEM</b>	
FIRE ALARM PANELS	10 Nos.
MANUAL CALL POINTS	183
HOOTER AND BLINKERS	117 Nos
EMERGENCY SIREN	7 Nos
<b>MAJOR FIRE FIGHTING APPLIANCES</b>	
Multipurpose Fire Tender With Equipment/Accesseries	2 Nos
Emergency Fire Jeep	1 No
<b>EMERGENCY AMBULANCES</b>	



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Advanced Cardiac Life Support Ambulance Apollo	1 No
Ambulance SEIL	1 No
<b>FIRE FIGHTING AND RESCUE EQUIPMENTS</b>	
Portable Fire Pump	1 No
Floating Fire Pump	1 No
Mobile Foam Unit	4 Nos
High Expansion Foam Generator	2 Nos
DCP Trolley Mounted -150 Kg Capacity	1 No
Life Buoy	10 Nos
Life Jacket	10 Nos
Safety Net	2 Nos
Full Body Harness Safety Belt	7 Nos
Rope Ladder	3 Nos
Rescue Extention Ladder 10.5Mtr	2 Nos
Rescue Rope	5 Nos
Nomex Suit	8 Nos
Proximity Suit	10 Nos
Trolley Mount Breathing Apparatus Set 300 bar x 04Cylinders	1 set
SCUBA Set	1 set
Breathing Apparatus Spare Cylinders	10 Nos
Tripod Stand with Rope and Accessories	1 Set
Rolling Rescue Structure	01 No
Rescue Structure	03Nos
Advanced Firefighting Technology (Water/Foam)	1 Set
Long Range Water Cum Foam Monitor	4 Nos
Medium expansion Foam Generator	1 No
Foam Making Branch 10 X	2 Nos
Foam Making Branch-5X	2 Nos
Combi Tool (Pnumatic Cutter & Spreader)	1 No
Delivery Hose Pipe @15Mtr	100 Nos
Fire Man Safety Helmat	6Nos
Rubber Gum Boot	20 Pairs



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Firman Axe Type-B	10 Nos
Emergency Hand Operate Siren	1 No
<b>CHEMICAL SPILLAGE &amp; EMERGENCIES ARRANGEMENTS</b>	
SCBA (Breathing Apparatus Set) 300 bar 35 min working duration	16 Nos
Emergency Escape Breathing Device 15min duration	06 Nos
Chemical Suit	10 Nos
Chemical Hand Gloves	04 Pair
Rolling Rescue Structure	01 No
Rescue Structure	3 Nos
Water Curtrain	02 Nos
Fast Action Spray Nozzles	02 Nos
Triple Purpose Nozzles	10 Nos
<b>EMERGENCY STOCK FOR AFFF(FOAM) &amp; DCP</b>	
AFFF Foam (Aqueous Film Forming Foam)	5000 Ltr
Dry Chemical Powder	500Kg
<b>PROFESSIONAL FIREFIGHTING/RESCUE DEPARTMENT</b>	
Head Fire Safety (Both Plant)	1
Fire Officers (Both Plant)	4
<b>FIREFIGHTING/RESCUE TEAM (OUTSOURCED MANPOWER)</b>	
Leading Fireman	6
Driver Cum Pump Operator	6
Total	38

### SEIL plant Project-2:

<b>FIRE WATER PUMP HOUSE</b>	
FIRE WATER RESERVE TANK CAPASITY 1100 M3 Capacity	02 Nos.
PUMPS FOR FIRE HYDRANT AND SPRAY SYSTEM (PRESSURE 10.5 Kgf/Cm2)	



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ELECTRICAL DRIVEN PUMPS 273M3 Capacity	04 Nos
DIESEL DRIVEN PUMPS 273 M3 Capacity	02 Nos.
<b>PUMPS FOR MAINTAINING PRESSURE</b>	
ELECTRICAL DRIVEN JOCKEY PUMPS 40M3 Capacity	02 Nos.
<b>BOOSTER PUMPS FOR BOILERS</b>	
ELECTRICAL DRIVEN PUMP 137M3 Capacity	01 No
DIESEL DRIVEN PUMP 137 M3 Capacity	01 No.
<b>FIXED FIRE FIGHTING INSTALLATIONS</b>	
Deluge Valve Water Spray System (HVWS/MVWS/AV)	127 Nos
Fire Water Hydrants	196 Nos
Fire Water Risers	91 Nos
Fire Water Monitors	107 Nos
Foam Tank @2100 Ltr (Foam Pourer system for FO Tank)	2Nos
IG55 Inert Gas Fire Protection System (For CCR) Argon 50%, Nitrogen 50% (300Bar)	100 Cyl.
<b>FIRST-AID FIRE FIGHTING EXTINGUISHERS OF DIFFERENT TYPE &amp; CAPACITYs</b>	
Foam 9Ltr	143 Nos
Foam 50Ltr	11 Nos
CO2 2KG	30 Nos
CO2 4.5KG	220 Nos
CO2 22.5KG	25 Nos
DCP 1KG	20 Nos
DCP 2KG	22 Nos
DCP 4KG	150 Nos
DCP 6 KG	339 Nos
DCP 9 KG	41 Nos
DCP 25KG	20 Nos
DCP Modular Type 15KG	10 Nos
Clean Agent Modular type 5kg	20 Nos



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Total	1051 Nos
<b>MAJOR FIRE FIGHTING APPLIANCES</b>	
Multipurpose Fire Tender With Equipment/Accesseries	2 Nos
DCP tender with Equipment/Accessories (Cap.2000KG)	1 No
<b>EMERGENCY AMBULANCES</b>	
Advanced Cardiac Life Support Ambulance Apollo	1 No
Ambulance SEIL	1 No
<b>FIRE FIGHTING AND RESCUE EQUIPMENTS</b>	
Portable Fire Pump	1 No
Floating Fire Pump	1 No
Mobile Foam Unit	3 Nos
High Expansion Foam Generator	1 No
Medium Expansion Foam Generator	1 No
Rescue Extention Ladder 10.5Mtr	2Nos
Rope Ladder	3 nos
Full Body Harness Safety Belt	5 Nos
Rescue Ropes	5 Nos
Rescue Structure	3 Nos
Emergency Lights	3Nos
Life Buoy	10 Nos
Life Jacket	6 Nos
Nomex Suit	6 Nos
Proximity Suit	4 nos
Chemical Suit	5 Nos
SCBA (Breathing Apratus Set) 300 bar 35 min working duration	14 Nos
ELBA (Emergency life escape breathing appartus) 15 min duration	6 Nos
Trolley Mount Breathing Apratus Set (4Nos @300Bar)	1 No
Breathing Apratus Spare Cylinders	4 Nos



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Tripod Stand with Rope and Accessories	1 Nos
Foam Making Branch 10 X	2 Nos
Foam Making Branch-5X	2 Nos
Combi Tool (Pnumatic Cutter & Spreader)	1 No
Fire Man Safety Helmat	6Nos
Rubber Gum Boots	10 Pair
Delivery Hose Pipe @15Mtr	100 Nos
Firman Axe Type-B	10 Nos
Emengency Hand Opearate Siren	1 No
<b>CHEMICAL SPILLAGE &amp; EMERGENCIES ARRANGEMENTS</b>	
SCBA (Breathing Apratus Set) 300 bar 35 min working duration	14 Nos
Emergency Escape Breathing Device 15min duration	06 Nos
Chemical Suit	05 Nos
	04
Chemical Hand Gloves	Pair
Rescue Structure	03 Nos
Water Curtrain	02 Nos
Fast Action Spray Nozzles	02 Nos
Triple Purpose Nozzles	10 Nos
<b>EMERGENCY STOCK FOR AFFF(FOAM) &amp; DCP</b>	
AFFF Foam (Aqueous Film Forming Foam)	5500 Ltr
Dry Chemical Powder	500Kg
<b>PROFESSIONAL FIREFIGHTING/RESCUE DEPARTMENT</b>	
Head Fire Safety (Both Plant)	1
Fire Officers (Both Plant)	4

FIREFIGHTING/RESCUE TEAM (OUTSOURCED MANPOWER)	
Leading Fireman	6
Driver Cum Pump Operator	6
Fire Man	25
<b>Total</b>	<b>37</b>

### Some more Information on Fire protection System at the site:

Different fire extinguishers are like CO<sub>2</sub>, DCP, MF are placed near the equipment and Other areas where ever necessary

- Fire hydrant system checks are conducting on daily basis. However it is recommended to calculate fire load of the premises and ensure that the existing fire suppression measures are adequate.
- Required numbers of fire extinguishers (different classes) are available in the site and servicing done by the internal safety team once in a month.

### 3.9.9.1 Emergency Preparedness and Response:

- Well drawn on site emergency plan is in place.
- Training programs are being organized periodically on “On site Evacuation Drill” periodically at least once in six months
- Mock drills are to be organized at regular intervals for different scenario’s.
- Assembly point/ECC/shift ECC are designated for specially
- Responsibilities of site controller, incident controller etc. are defined
- List of telephone s, mutual aid scheme, Government officials etc are included
- Wind socks are provided
- Mutual aid scheme with neighboring industries is introduced

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### 3.9.9.2 Material Handling

#### Dos's

- Stacking of materials must never be against the wall and should be well within 3 meters height. At least 1.5 meters around the stacking must be kept clear for movement and inspection on regular basis.
- Yellow line discipline to be adhered where ever applicable.
- Ensure adequate firefighting equipment is available in the area.
- Adequate Firefighting equipment's and water Hydrant system with Monitor to be installed.
- To maintain clean environment in the storage area and to avoid Oil/Liquid spillage.
- Authorized Operator only to handle Fork Lift trucks/ to follow instructions as per Equipment manual.
- No one is permitted to sit on the forklift truck other than the truck operator if it is engaged. To drive at safe speed with caution.
- Do not leave the Fork Lift Truck with engine on and do not load such that visibility is restricted. Recommended to tie the bunch of drums with tie band.
- Ensure proper Anchoring of the Load on Vehicles.
- Avoid using Fork Lift truck wherever trolley can be used.
- Use proper lifting tackles and associated tools and equipment such as Hoist, Chain Pulley blocks, Jacks etc., for handling heavy loads.
- Avoid swinging of Hoist chain with or without load and movement of personnel below the overhead load being carried.

#### DON'TS

- Do not carry load without properly balancing it.



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- Don't carry load over persons and machines.
- Don't allow load to remain suspended.
- Don't overload the equipment beyond its capacity.
- Don't allow more than one person to give signals.
- Don't use the equipment for pulling the load.
- Don't create jerk while transferring the load.
- Don't ride on the load.

#### ACCIDENTS –INCIDENTS REPORTING- RECOMMENDATIONS

Observation	Recommendation
Accidents-Incidents record	Site is maintaining accident-incident record. But needs to prepare a trend analysis based on which the training programs needs to be conducted
Mechanism for capturing the near Misses	Site needs to explore the options to communication for effective capturing of Near-Misses
Work Place Monitoring and exposure studies	Site needs to carry out a preliminary assessment of exposure studies to understand the effectiveness of engineering, administrative and PPE controls in the areas of chemical usage for establishing a base record.
First-aid Cases	First –aid cases are being recorded and analyzed for root cause. Safety re-induction for the employee is also being done for the employee taken first-aid. The Safety-re-induction record is being maintained



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## **4.0 METHODOLOGY**



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The site safety audit was conducted referencing to BIS 14489:2018. Audit is based on discussions with plant personnel, perusal of documents and records submitted by the company, field inspection, information data, clarifications & inputs provided by the company personnel, etc.

During the safety audit the audit team focused on the documents of the organization, related to the following practices:

An illustrative list of documents perused during the safety audit is given below:

- ◆ OS & H Policy
- ◆ Organization Chart
- ◆ Training records on safety, fire and first aid
- ◆ Record of tests and examinations of equipment and structures as per statutes
- ◆ Safe Operating Procedures for various operations
- ◆ Record of Work Permits
- ◆ Record of monitoring of flammable and explosives substances at work place
- ◆ Maintenance and testing records of fire detection and fire fighting equipment
- ◆ Material Safety Data Sheets
- ◆ On-site Emergency Plans and record of Mock Drills
- ◆ Housekeeping inspection records
- ◆ Minutes of Safety committee meetings
- ◆ Approval of layouts and other approval from Statutory Authorities
- ◆ Maintenance inspection records
- ◆ Calibration and testing records
- ◆ Shut down maintenance procedures
- ◆ Records of previous audits

The following elements of safety management system are elaborated in this report.

- ◆ Occupational Safety & Health Policy
- ◆ OS & H Organizational setup



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- ◆ Education & Training
- ◆ Employees participation in OS&H management
- ◆ Motivational and promotional measures
- ◆ Safety manual and safety awareness
- ◆ Compliance with statutory requirements
- ◆ Hazardous area classification
- ◆ New equipment review / inspection
- ◆ Accident reporting, analysis, investigation & implementation of recommendations
- ◆ Risk Assessment including hazard identification
- ◆ Safety Inspections
- ◆ Health and Safety improvement plans / targets
- ◆ First aid facilities – Occupational Health Centre
- ◆ Personal Protective Equipment
- ◆ Housekeeping
- ◆ Machine and General area guarding
- ◆ Material handling equipment
- ◆ Electrical and Personal safeguarding
- ◆ Ventilation, Illumination and Noise
- ◆ Work environment monitoring system
- ◆ Prevention of occupational diseases including periodic medical examination
- ◆ Safe Operating Procedures
- ◆ Work Permit System
- ◆ Fire prevention, protection and fighting systems
- ◆ Emergency Preparedness Plans
- ◆ Process / Plant modification procedure
- ◆ Transportation of Hazardous Substances
- ◆ Contractor Safety System
- ◆ Safety for Customers
- ◆ Safety Checklists

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## **4.1. AUDIT GOALS AND OBJECTIVES**

### **4.1.1. AUDIT GOALS**

1. Audit goal is decided based on documented Safety Management system and to verify the safety practices are in line with IS code ( IS 14489:2018) of safety practices
2. To verify and assess the Safety management system of the organization against the OH& S Standard and to identify the areas for improvement
3. To evaluate the capability of safety management system to ensure compliance with statutory, regulatory and contractual requirements

### **4.1.2. AUDIT OBJECTIVES:**

The audit objectives are defined as follows:

- Identify design deficiencies and weaknesses, if any, that might have cropped up during modifications/ additions of facilities.
- Examine the existing operating/maintenance and other work practices, safety systems, fire protection facilities and control measures which might have degraded over the time.
- Identify potential Health & Safety (H&S) hazards not covered by the existing control procedures
- Recommend improvements for better effectiveness of the existing procedures, systems and control measures for H&S Hazards.
- Recommend Procedures, systems and control measures for the hazards identified.
- Study compliance with critical statutory provisions and relevant codes of practice and recommend actions to be taken wherever there is non-compliance

### **4.1.3. AUDIT SCOPE:**

**Audit scope includes as follows:**

1. Physical Locations
2. Activities and Processes of organization
3. Organization activities performed by Company employees and Contract employees

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#### 4. Applicable Legal and Other requirements with respect to OH&S

##### 4.1.4 AUDIT TEAM:

The audit is carried out as per IS 14489:2018 and requirements of Factories Act, 1948 and other safety Statues on **23<sup>rd</sup> and 24<sup>th</sup> December, 2024**

The audit is carried out by experienced persons from **M/s Global Fire and Safety Solutions** are as follows:

1. Mr. K.Suri Babu
2. Mr. Lokesh

The team representatives on behalf of the organization are as follows:

1. Mr. N.S.Venkatesan- Head- Fire Safety Project -02
2. Mr. D.K.Panda- Head Safety-Project-01

##### 4.1.5 OPENING MEETING:

The purpose of opening meeting is to introduce the audit team to Company Management and to restate the purpose of audit i.e the objective and scope, how it will be undertaken and how results are to be communicated back to the company. At the same time the company will introduce their team members to audit team

In this opening meeting –

- Members of the audit team and auditee teams were introduced.
- Audit plan, purpose of audit objectives and necessary documents to be maintained to implement the OH&S system were explained
- Methods and audit procedures were also explained
- Departmental heads are informed the timing of visit to their department
- Resources and facilities required for the auditor was conformed
- Schedule of the audit is prepared and finalized



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- Date and timing of closing meeting are also finalized and fixed in the meeting
- Opportunity for the organization members was given to clarify their queries regarding audit procedure and methodology
- Observations and Recommendations were recorded and summarized in the chapter no.5.0

#### 4.1.6 DOCUMENTS AND RECORDS VERIFIED:

Documents and records verified for the purpose of examine the implementation of OH&S systems. The records verified during the audit are as follows:

1. Statutory licenses required to operate the industry like factory license, Explosive licenses form Chief Controller of Explosives and FSSI license (food license) from concerned authority were checked for their validities and compliance
2. Work permit system formats, Standard operating Procedures were checked
3. Safety training record and feedback given by the trainees were also checked
4. Accident/Incident record, Near misses capture record , accident/incident record were checked
5. Mock drill record was also checked
6. Following Elements of OH&S management systems and technical aspects as mentioned in annexure-A of the IS 14489:2018 were audited:

#### ➤ OH & S MANAGEMENT

1. OH & S Policy
2. OH & S organizational set-up
3. Safety Manual
4. Standard modification procedure
5. Plant modification procedure



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6. Work permit System
7. Contractors Safety System
8. Plant design and layout
9. Medical management of accidents
10. Management of emergencies (natural/man-made)
11. Employee selection and placement
12. Safety culture
13. Statutory licenses, approvals and records
14. Motivational and promotional measures for OH&S
15. Hazard identification and job safety analysis
16. Product safety
17. Safety training record
18. Change management
19. Emergency preparedness
20. Mock drill record
21. Root cause analysis for incidents
22. Accidents and Incidents records



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## **5.0 FIELD OBSERVATIONS- RECOMMENDATIONS**

### **SAFETY LAPSES –LOCATION WISE –RECOMMENDATIONS**

#### **SEIL PLANT- Project-1**

##### **A. WARE HOUSE-1/WARE HOUSE-2/OPEARTIONS:**

Department	Observations	Recommendations
<b>WARE HOUSE-1/WARE HOUSE-2/OPEARTIONS</b>	No emergency light indication	Provide indication for emergency light for easy identification and traceability
	No display for emergency light in warehouse	Displaying an indication for emergency light in stores
	No proper protection for the articles stored at the last row of the racks	Provide a belt for the last row of the racks to prevent fall down of articles
	No display of load carrying capacity for the racks in Ware house-2	Display Load carrying capacity of racks in warehouse-2

##### **B. OPERATIONS/WTP/FURNACE OIL STOARGE/ COAL CRUSHER AREA:**

Department	Observations	Recommendations
<b>OPERATIONS/WTP/FURNACE OIL STOARGE/ COAL CRUSHER AREA</b>	No rubber mats provided near UPS room electrical panels	Provide rubber mats near electrical panels in UPS room
	No Overload indication mechanism for Clarifier scraper	To be review for Overload indication mechanism in clarifier scraper.
	No flange guarding for SMB dosing tank delivery line flanges	Provide guarding for SMB dosing tank delivery lines

## SEIL PLANT-Project -2

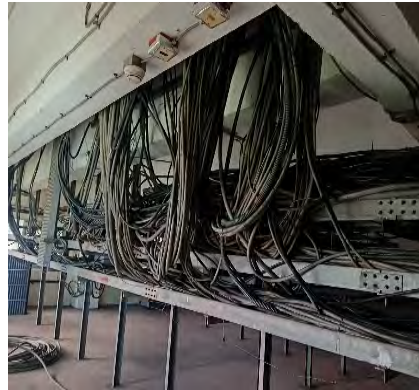
### A. WTP/WARE HOUSE/CHP:

Department	Observations	Recommendations
<b>WTP / WAREHOUSE / CHP</b>	No display of color coding of HCL and Caustic lines	Display the color coding of the lines
	It is observed that cables are hanging and out of cable trenches in Coal handling plant	Electrical cables are to be dressed properly
	No emergency light indication in warehouse	Provide an indication for warehouse emergency light

### B. OPERATION/ELECTRICAL/MECHAINCAL DEPARTMENTS:

Department	Observations	Recommendations
<b>OPERATION/ ELCTRICAL AND MECHANICAL DEPARTMENTS</b>	No Color Coding display process lines at the operation floor of Operation department	Display color coding of lines at Operation floor
	Some of the electrical cables are found out of cable trench and hanging	Dress the electrical cables properly.

**Some of the Photographs taken during audit time:**





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## 6.0 COMPLIANCE TO APPLICABLE LEGISLATION



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Sr. No.	EHS Issue/observation	Action to be taken	Present status	Applicable legislation
1	Consent To Establishment under water Act	Industry shall have CFE before establishing the plant	Complied	water(Prevention & control of pollution ) Act-1974
2	Consent to operate under water Act	Industry shall have CFO before Putting the plant in to operation	Complied. Valid up to 30.11.2026	water(Prevention & control of pollution ) Act-1974
3	Consent to operate under Air Act	Industry is having CFO with up to November,2022.respect to water Act	Complied. Valid up to 30.11.2026	Air(Prevention & control of pollution) Act-1981
4	Hazardous waste Handling	Industry shall have hazardous waste handling and storage consent	Complied. Valid up to 30.11.2026	Hazardous waste(Management &Handling) Act -2016
5	Environment Protection	Industry has to submit environment statement every year on or before 30 <sup>th</sup> of September	Being Complied	Environment(protection) Act-1986
6	Boiler License	The boiler is registered	Complied	Indian Boilers Act,1923
7	License for Electrical installations	Electrical inspectorate has given license	Complied	Electricity Act,1910/1956
8	Factory License	Applied for continuation by paying yearly fees	Complied	Factory Act,1948
9	Water Cess return filing	Flow meters fixed and Cess returns are to be filed	Complied	Water (Prevention & control of pollution) Cess Act-1977



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## EXTRENA SAFETY AUDIT REPORT IS 14489:2018



Sr. No.	EHS Issue/observation	Action to be taken	Present status	Applicable legislation
10	Public Liability coverage for industry	Public liability Insurance is to be taken	Complied	public liability insurance)Act
11	Manufacture ,storage & importing of Chemicals	Adhere to the system	Complied	Manufacture ,storage & import of hazardous chemical Rules-1994  (Information to APPCB)
13	Used batteries disposal	As per the Battery Management Rules,2008, Returns needs to be filed for every six months to APPCB in the form-8 when plant is commissioned	Complied	Battery Management Rules-2021
14	EHS Policy	EHS policy is to be displayed in English and local language at main gate and other prominent areas.	Complied	As per the factory Act,1948, Sec 7(A),factory shall have EHS policy and it shall be displayed
15	Establishment of OHC/First aid center	OHC/First aid room is to be established in the factory premises	Complied	factory Act,948
16	Mock-drills are to be conducted for the identified on-site emergencies	As per the Factory Act-1948 and MSHIC Rules,2008, Mock-drills needs to be conducted for all identified emergency situations	Being Complied.	Factory Act-1948 and MSHIC Rules,2008,
17	On-site Emergency plan	As per MSHIC rules, 2008, The industry shall have On-site Emergency preparedness plan and response. All types of emergencies		MSHIC Rules-2016



# SEIL ENERGY INDIA LIMITED

## EXTRENA SAFETY AUDIT REPORT IS 14489:2018



Sr. No.	EHS Issue/observation	Action to be taken	Present status	Applicable legislation
		are to be identified and mitigate measures are also to be written for addressing the emergency situations. Emergency escape routes and Emergency assembling points are to be identified	Complied	
18	MSDS of Chemicals	MSDS sheets of the chemicals are to be displayed	Complied	Good Practice
19	Periodical health Examinations (As per the Factory Act,1948)	Periodical health examinations are to be conducted once in year to all employees and submit report to Inspector of factories	Complied	Factory Act,1948)
20	Safety Committee	Safety committee has to be constituted and safety meeting are to be conducted once in three months. The MOM is to be displayed	complied	Factory Act,1948
21	Safety trainings	Safety trainings are to be conducted for all employees	Complied	Good Practice
22	Appointment of qualified Safety Officer	A qualified safety Officer is to be recruited	Complied	Factory Act,1948
23	New Equipment Safety assessment	Ensure internal/external safety assessment of new equipment before commissioning	Complied	Good Practice
24	Appointment of qualified Electricians	Ensure that all licenses are being renewed immediately after expiry period	Complied	IE Rule No 45



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### EXTRENA SAFETY AUDIT REPORT IS 14489:2018



Sr. No.	EHS Issue/observation	Action to be taken	Present status	Applicable legislation
25	Electrical Resistance gloves	Ensure proper gloves are used	Being followed	IE Rule No -61
26	Earth pit Inspections	Earth pits are to be monitored periodically	complied	IS 3043:1989
27	Fire suppression arrangement near panels	Fire suppression system is to be provided near panels, i.e Fire extinguishers /sand buckets	compiled	IE rule No.43
29	High Power committee recent Recommendations	HARA ,HAZOP are to be conducted	Complied	Recent Circular

	<div>SEIL ENERGY INDIA LIMITED</div> <div>EXTRENAL SAFETY AUDIT REPORT IS 14489:2018</div>	
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IS 14489:2018			
CODE OF PRACTICE ON OCCUPATIONAL SAFETY AND HEALTH AUDIT			
S.NO	SAFETY AUDIT ELEMENTS	SUMMARY OF OBSERVATIONS	Remarks
<b>OCCUPATIONAL HEALTH &amp; SAFETY POLICY</b>			
1.	Does the organization have a health and safety policy? (If yes, please attach one copy)	Health and safety policy is in place	Complied
2.	Do you have any corporate safety policy? (If yes, please attach one copy)	The policy is developed	Complied
3.	Who has signed the health safety policy? (Indicate his position)	-----	-----
4.	Whether it is prepared as per guidelines of the Statutory Provisions?	Policy is prepared as per guidelines of statutory provisions	-----
5.	When was the safety policy declared and adopted?	Policy is declared and implemented in the unit.	Complied
6.	How many times it has been updated till now?	Safety policy is reviewed in MRM	Complied
7.	Whether the policy is made known to all?	Yes	Complied
8.	Whether the safety policy was scrutinized by outside expert agency?	No	---
9.	What was the last date of updation?	23 <sup>rd</sup> May 2023	
10.	Does it find a place in the annual report?	Yes	Complied
<b>SAFETY AND HEALTH ORGANIZATION SETUP</b>			
11.	Does the factory have a safety department?	Yes	Complied
12.	Whether the strength and qualifications of Safety Officers are as per the statutes?	Nearly 20 Yes all are qualified	Complied
13.	Does the head of safety department	Yes ,	Complied



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	/safety officer report to the chief executive?		
14.	How often are the safety officers retained in the latest techniques of total safety management? What is the frequency of retaining?	As and when opportunity comes, Attending safety seminars and Training programs	Being complied
15.	What additional duties are the safety officer required to do?	Nil	---
16.	What is the power of safety officer vis-à-vis unsafe condition or unsafe act?	Empowered to stop any unauthorized and unsafe activities	Complied
<b>Safety Committees</b>			
17.	Does the Factory have Safety Committee? Their types, structure and terms of reference	Safety committee is formed.	Complied
18.	Is the tenure of the SC as per statute?	Yes, 2 years	Complied
19.	Selection of SC elected or nominated	Nominated	Complied
20.	Frequency of SC meeting	Once in month	Complied
21.	What are the subjects / or the problem discussed in the meeting.	Unsafe conditions/Unsafe acts	Complied
22.	How are recommendations of the committee(s) implemented?	First-priority	Complied
23.	Are the minutes of the safety committee(s) implemented?	Yes	Complied
24.	Are the minutes forwarded to the trade union(s) and chief executive and occupier?	There is no union on the Site	-----
25.	How the management and trade union are play their active roles in supporting and accepting the committee(s) recommendations(s)?	No union on the plant.	-----
26.	How are the safety committee(s) members apprised of the latest developments in safety, health and environment?	Every month new developments discussed in monthly safety committee meeting.	-----
<b>Safety Budget</b>			
27.	What is the annual safety budget?	3.25 crores in 2024	Complied



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28	How much percentage is this budget of the total turnover of the Company?	No limitation as far safety is concerned	Complied
29	How much budget has utilized till date?	98%	Complied
30	Is the safety budget adequate?	Yes	Complied
31	How is the safety budget arrived at?	FY	--
32	What is the pattern of expenditure for the last five years?	Every year the Safety department prepares as per site requirement. Utilized 100%	---
33	What are approved sanctions for the expenditure in this budget?	PPEs, New Initiatives, Reward and recognition	----
34	Does this budget get reflected in the annual report of the company?	NA	-----
<b>SAFETY MANUAL</b>			
35	What is the periodicity of updation / review of safety manual	Safety manual is there	Complied
36	Does the safety manual adequately address all the hazards in the plant?	Yes	Complied
37	Are the employee made aware of safety rules / instruction mentioned in the safety manual?	Yes	Complied
<b>STANDARD OPERATING PROCEDURES ( SOP )</b>			
38	Are written Standard / safe operating procedures available for all operations and processes?	Yes, Being followed the same	Being complied
39	Whether the written Standard / safe operating procedures are displayed or made available and explained in the local language to the workers?	Kept in workplaces for immediate reference	Complied
40	Whether the concerned section and safety department prepares standard / safe operating procedure jointly?	Yes ,.	Complied
41	Are standard / safe operating procedures reviewed and updated?	As per predefined procedure & any major changes.	Being followed
42	Have the workers been informed of the consequences of failure to	Will be Covered during in trainings	Being followed



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	observe the standard / safe operating procedures?		
<b>PLANT MODIFICATION PROCEDURES</b>			
43	What is the system for effecting any change in the existing plant, equipment or process?	Change control procedure in place.	Being Complied
44	Whether the P & I diagrams and other related documents are updated accordingly?	Yes	Being Complied
45	Whether hazard assessment done before implementation of modifications.	Yes	Being Complied
<b>WORK PERMIT SYSTEM</b>			
46	What types of work permits exist in the factory?	Work permit system is in place	General work, Hot work, Height work, Confined space, & Electrical work, lifting, scaffolding erection and dismantling, on line work permits etc are in place
47	Are the necessary forms detailing required safety precautions have been prepared and used for each type of work-permit?	Yes	complied
48	Is the responsibility assigned to authorized person for issuing of safety work permit?	Yes	Complied
49	Is the copy of safe work permit sent to safety officer before execution of the job?	Yes	Yes
50	Is validity period specified in the	yes	Complied



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	safety work permit? Are the records of work permit available and maintained in proper order?		
<b>Control Measures for Work at Height</b>			
51	Is adequate safe access provided to all places where workers need to work?	yes	complied
52	Are all such access in good condition?	Yes	Complied
53	Are all scaffolds are properly designed and erected?	Yes	Complied
54	Are ladders securely clamped or lashed in place?	Yes , all ladders is in good condition	Complied
55	Are planks in good condition?	Yes	Complied
56	Are scaffold walkaways, platforms, runs or stairs free of debris, grease, any unnecessary obstruction and projecting nails?	Yes , all walkways have clear access.	Complied
57	Are the scaffolds higher than 20 m.? If yes, is a netting or intermediate railing provided between toe-boards and hand railings?	Yes	Complied
58	Are folding stepladders properly used?	NA not use	--
59	Are ladders set up at the proper slope of about 1:4?	Yes	Complied
60	Do workers use hand lines to lift tools or materials?	Yes	Complied
61	Are proper ladders used around electrical hazards?	Yes	Complied
62	On sloping roofs, are crawling boards, lifelines, safety belts and edge protection provided where needed?	AS & when required provide the same.	Complied
63	Whether the weak spots, skylights, or deteriorated asbestos-cement boards through which a worker might fall	Not having such type of buildings.	Complied



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	while working in the roof has been identified and safety net provided appropriately?		
64	Are the workers being medically examined for their fitness to work at height?	Yes	Complied
<b>Work in Confined Space</b>			
65	Is work permit system followed for working in confined space?	Yes	Complied
66	Whether monitoring of the atmosphere inside the confined space is carried out and ensured that there is no flammable or toxic gas in the area?	Yes	Complied
67	Whether the person entering the confined space is using suitable personal protective equipment( PPE)?	Yes	Complied
68	Is rescue team available in case of any emergency?	Yes	Complied
<b>CONTRACTORS' SAFETY SYSTEM</b>			
69	Is there any system for selection of contractors?	Yes	Complied
70	Are there any guidelines on contractor's safety and training?	Yes	Complied
71	Whether contract document includes necessary safety and welfare clauses as per statutes?	Yes	Complied
72	Is there any programme to ensure use of PPE by contractors personnel?	Job engineer have been checked before start of work in TBT.	Complied
73	Do the contractors have their own safety organization?	Yes	Complied
74	Are the contractors reporting all accidents and injuries?	Yes	Complied
75	Are contractor workers trained to observe safety at work place?	Yes	Complied
76	Whether contractor workers are engaged in process / operations? If	Contract workers are engaged in housekeeping &	Complied



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	yes, are they aware of safe operating procedures?	helping activities.	
<b>PLANT DESIGN AND LAYOUT</b>			
77	Whether hazardous operations in the plant are segregated?	Yes	Complied
78	Whether occupational health & safety aspects are considered during the design?	Yes	Complied
79	Is all the equipment provided with adequate space for working, maintenance etc.?	Yes	Complied
80	Are the storage tanks provided with enough space / clearance between them?	Yes	Complied
81	Whether the plant layout has taken care of the movement of firefighting equipment and emergency exits?	Yes	Complied
<b>MEDICAL MANAGEMENT OF ACCIDENTS</b>			
82	Are medical facilities available with trained first aid staff and equipment in round the clock shift for all including contractors?	Yes	Complied
83	Is the ambulance van available for round the clock basis with the dedicated driver?	Yes	Complied
84	Is there any mutual aid scheme available with the nearest hospitals to manage and treat injuries during emergency?	Yes	Complied
85	Are the workers / contractor workers aware of emergency medical facilities?	Yes	Complied
<b>MANAGEMENT OF EMERGENCIES (NATURAL / MAN-MADE)</b>			
86	Does the system exist to detect and control these Emergencies?	Fire alarm system & fixed detectors are available	complied



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87	Does the system exist to detect and control these Emergencies?	The facility having auto operated fire hydrant system & portable fire extinguishers	complied
<b>EMPLOYEES SELECTION AND PLACEMENT</b>			
88	Whether norms are available for selection of different category of employees?	Recruitment policy in place. Preference is being given for the Safety Knowledge in the process	Complied
89	Whether pre-employment medical examination is being conducted for employees?	Yes	Complied
90	Is there any procedure to evaluate safety awareness and record of the employees during their promotion?	Yes	Complied
<b>SAFETY CULTURE{Attitudes of Managers}</b>			
91	Do the managers follow the plant safety rules at all times?	Yes	Complied
92	What are their attitudes towards safety reviews and audits?	They are accepted in positive way & will co-ordinate & support to implement the best safety practices.	Complied
93	What is the response of management to safety violation?	Taking seriously & giving counseling to improve safety culture.	Complied
94	Whether safety related decisions are taken in consultation with the workers?	Yes	Complied
95	What is the attitude of the managers towards non use of personal protective equipment?	They are insisting to wear appropriate PPE in work place.	Complied
<b>Attitudes of Workers</b>			
96	Whether workers are aware of the consequences of their wrong actions?	Trainings conducted on importance of PPE at work place.	Complied
97	Are laid down safe working procedures followed strictly?	Yes	Complied



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98	What is the attitude of the workers towards their own mistake, which can prejudice safety?	Given counseling to such type of personnel. BBS system is in place	Complied
99	Do the workers report near miss incidents and suggest safety improvements?	Yes	Complied
100	Are the workers aware of the system of rewards and sanctions relating to safety matters?	Yes	Complied
101	What is the attitude of workers towards use of personal protective equipment?	Wearing appropriate PPE while working without fail	Complied
<b>STATUTORY LICENSES, APPROVALS AND RECORDS</b>			
102	Whether all the safety related Acts / Rules (with latest amendments) applicable to your organization identified, informed to all employees and complied?	Yes	Complied
103	Whether the licences have been validated?	Factory license, CFO ,PESO license etc.	Complied
<b>MOTIVATIONAL AND PROMOTIONAL MEASURES FOR OH &amp; S</b>			
104	Does the factory have occupational health and safety suggestion scheme?	Yes suggestion boxes provided	Complied
105	Are occupational health and safety contests organized in the factory?	Yes, conducted during NSD & WED celebrations.	Complied
106	Does the factory participate in National Awards?	Yes	Complied
107	Has the factory been awarded during last five years?	Yes	Complied
108	Does the organization publish safety bulletin / newsletters?	Yes	Complied
109	Whether the safety bulletins are widely distributed?	Yes	Complied
110	How is the occupational health and safety information including accident statistics disseminated in the factory? (Bulletin boards, Newsletter etc.)	safety information board is displayed	Complied



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111	What are the activities conducted during National Safety day / week?	Safety quiz, elocution, firefighting drill, safety posters, safety quotations competition to all employees & contract employees.	Complied
112	What is the percentage of Workers participating in the various safety promotional activities?	More than 90% of the people participated in various safety promotional activities.	Complied
<b>HAZARD IDENTIFICATION AND JOB SAFETY ANALYSIS</b>			
113	Was an initial process hazard analysis (PHA) completed?	Completed	
114	What are the stages of PHA? Whether a dedicated group is identified for PHA?	Yes	Complied
115	Was the PHA appropriate for the complexity of the process and identify, evaluate, and control the hazards involved in the process?	Yes	Complied
116	Does the hazard evaluation use one or more of the following PHA methodologies: What-If Analysis, Process Checklist, Hazard and Operability Study (HAZOP), Failure Mode and Effects Criticality Analysis (FMECA), Fault Tree Analysis (FTA) or any other appropriate equivalent methodology?	Yes	Complied
117	Does PHA assures addressing issues of inherent safety features with respect to material and their properties?	Yes	Complied
118	Does the PHA address the hazard identification, incidents history, consequences of failures (engineering and administrative controls), human factors, consequent analysis with respect to possible safety and health effects of failure of controls?	Yes	Complied



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119	What are the stages of PHA? Whether a dedicated group is identified for PHA?	Yes	Complied
120	Does the system exists to promptly address findings and recommendations of PHA?	Yes	Complied
121	Are the PHA's updated and revalidated at least every five years by a qualified team to assure that the PHA is consistent with the current process?	Yes	Complied
122	Whether the activities requiring Job Safety Analysis have been identified?	yes	Complied
123	Whether the identified jobs for Hazard Identification have been carried out by trained and experienced persons?	being done	Complied
124	Whether the checklists have been prepared on each Job Safety Analysis and are being used while carrying out the job?	Prepared	Complied
<b>PRODUCT SAFETY</b>			
125	Whether hazards arising from use of the products are identified?	HAZOP study has done in the past.	Complied
126	Whether material safety data sheet prepared for the products?	NA	
127	Are all the products labeled and packed appropriately?	NA	----
128	Whether safety instructions are given along with products?	NA	----
<b>SAFETY TRAINING</b>			
129	Whether training needs have been identified?	Yes	Complied



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130	Is there any programme of induction training, its duration and topics covered?	Yes, General safety and Process safety, Area specific hazards and ERP system. Total 2.5 hours	Complied
131	Whether the assessment of the trainees has been carried out?	Yes	Complied
132	What are the infra-structural facilities available for training?	Separate training hall & projector	Complied
133	Whether training is conducted by qualified person?	Yes	Complied
134	Whether trainers are being re-trained from time to time?	Yes, trainers being attended	Complied
135	Whether proper records of training program conducted are maintained?	Trainings are being conducted but records are available	Complied
136	How training programs are evaluated?	Through feedback from employees	Complied
137	Whether schedule for training on occupational health and safety is available and maintained?	Yes	Complied
138	Whether the training programmes are reviewed?	Yes	Complied
139	Are all the employees periodically trained / retrained and what is the frequency of such training?	Yes	Complied
140	Are the retraining needs identified whenever a new process / products and change in existing process introduced?	Yes	Complied
141	Whether training covers top management?	Yes	Complied
142	How many hours of safety training is given to different employees?	Being tracked .Nearly 10 hours /employee/annum	Complied
<b>CHANGE MANAGEMENT [Management of Change]</b>			
143	Are there written procedures for managing change to process chemicals, technology, equipment and procedures and changes to	Yes	Complied



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	facilities that affect the plant process / system operation?		
144	Do the procedures assure that the technical basis for the proposed change addressed prior to any change?	Yes	Complied
145	Do the procedures assure that the impact of the change on safety and health addressed prior to any change?	Yes	Complied
146	Do the procedures assure that modifications to operating procedures are addressed prior to any change?	Yes	Complied
147	Do the procedures assure that the necessary time period for the change is addressed prior to any change?	Yes	Complied
148	Do the procedures assure that the authorization requirements for the proposed change are addressed prior to any change?	Yes	Complied
149	Are employees involved in operating a process, and maintenance and contract employees whose job tasks will be affected by change informed of, and trained in, the change prior to the start-up of process or affected part of process / operations?	Yes	Complied
150	Is the safety information is reviewed and updated on changes?	Yes	Complied
151	Are the operating procedures or practices updated?	Yes	Complied
<b>Mechanical Integrity</b>			
152	Does the mechanical integrity program include for all mechanical equipment including pressure vessels and storage tanks, piping and components, relief devices and vent systems, emergency shutdown systems, pumps, control systems?	All equipment are covered in preventive maintenance schedule & SRV's & pressure vessels being tested by competent person periodically.	Complied
153	Are there written procedures to maintain the ongoing integrity of process equipment?	Yes	Complied



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154	Whether training been provided to each employee involved in maintaining the on-going integrity of process equipment?	Training imparted to all employees as per training needs by LR department	Complied
155	Are inspections and tests performed on each item of process equipment included in the program?	Yes, as per pre-defined schedule.	Complied
156	Does the inspection and test frequencies meet the manufacturer's recommendation and good engineering practice?	Yes	Complied
157	Are inspections and tests performed more frequently if determined necessary by operating experience?	Yes, as per the defined schedule	Complied
158	Are deficiencies in equipment that are outside limits corrected before further use so as to assure safe operation?	Yes	Being followed
159	In the construction of new plants and equipment, whether quality assurance programme is implemented to ensure that equipment fabricated is suitable for the process?	Yes	Complied
160	Are appropriate checks and inspections made during equipment installation stage?	Yes	Complied
161	Are the suitability of maintenance materials, spare parts and equipment ensured during maintenance	Yes	Ensured by Engineering dept.
<b>PHYSICAL HAZARD</b>			
162	Are all the passages, floors and the stairways in good condition?	Yes	---
163	Is glass door taped or otherwise marked to make it visible to workers?	Marked	Complied
164	Do you have the system to deal with the spillage?	Spill control procedure in place	Complied
165	Do you have sufficient disposable bins clearly marked and whether these are suitably located? Are	Yes , provided	Complied



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	containers of refuse (waste) and trash emptied at the end of every day or soon after they are full? Are the containers or bins regularly cleaned?		
166	Are drip trays positioned wherever necessary?	Yes	Complied
167	Do you have adequate localized extraction and scrubbing facilities for dust, fumes and gases? Please specify	Exhaust fans & scrubbers are arranged	Complied
168	Whether walkways are clearly marked and free from obstruction?	clearly maintained	Complied
169	Do you have any inter-departmental competition for good housekeeping?	Yes and 5S system implemented	Complied
170	Has your organization elaborated good housekeeping practices and standards and made them known to the employees?	Dedicated housekeeping team deployed area wise	Complied
171	Are there any working conditions, which make the floors slippery? If so, what measures are taken to make them safe?	Generally maintained good condition & if any slippery conditions observed	Complied
172	Does the company have adequate measures to suppress polluting dust arising out of materials stored on the roadside?	Yes, Scrubbers & dust collectors, DFDS system are provided.	Complied
<b>Machine and General Area Guarding</b>			
173	Whether machinery and equipment which can cause physical injuries to operator have been identified?	Taken proper safety precautions such type of equipment.	Complied
174	Are all moving parts and point of operation of machinery adequately guarded?	Yes , provides guards.	Complied
175	Are all fixed guards securely bolted in position and in good condition?	Yes, properly fixed	Complied
176	Are all interlock guards for prevention of physical injury in good condition?	Maintained good condition.	Complied



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177	Are all emergency stop buttons effective and clearly labeled?	Yes	Complied
178	Are the operators for machines having moving parts aware of the danger of working with loose clothing?	Yes , covered during training programs.	Complied
179	Are the openings where there is free fall hazard covered or fenced securely?	Yes , properly covered	Complied
<b>Material Handling</b>			
180	Are adequate equipment available for handling materials?	Yes	Complied
181	Are the workers aware of the hazards associated with material being handled?	Yes	---
182	Where manual handling is necessary, are the workers been trained? Do they practice this? Are workers warned for lifting of excessive weight? (Maximum weight of material for adult male and female are 55 Kg and 30 Kg respectively)	Trainings given on safe handling chemicals & ergonomically hazard	Complied
183	Do workers follow safe procedures for storage of materials?	Yes	---
184	Is the register maintained to record particulars of examination of all lifting machines, tools and tackles?	Register available	Complied
185	Are all the statutory examinations and tests carried out and certified by competent person(s)?	Yes	Complied
186	Are the operators of crane, lifts, hoists and other mechanized operations adequately qualified?	Work permit system in place.	Complied
187	Is the safe working load clearly marked?	Yes	Complied
188	Has the person employed to operate crane, forklift, or to give signals to crane been medically examined for eyesight and colour vision?	Yes	Complied



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189	Is the frequency of eyesight and colour vision examination as per the latest rules?	Yes	Complied
<b>Electrical Safeguarding</b>			
190	Are licensed electricians available for electrical work?	Yes	Complied
191	Whether area classification for electrical equipment has been carried out?	FLP electrical fittings are maintained wherever required .	Complied
192	Do the electrical fittings conform to area classification for electrical equipment?	Yes	Complied
193	Is a ground fault current interrupter system (ELCB) in use?	Yes RCCB used	Complied
194	Are all connections made by using appropriate plugs, receptacles or enclosures? Are fuses provided?	Yes	Complied
195	Are there any make shift connection bare wires or damaged cables?	No	---
196	Is there a system of ensuring periodical inspection of hand tools, extension boards used for electrical work?	Yes	Complied
197	Do the workers use proper types of PPE during the working on live line?	Yes	Complied
198	Is the separate work permit issued for working on high voltage line?	Yes	Complied
199	Whether the process(s) and equipment that generate and accumulate static charge have been identified?	Yes and taking proper safety measures to dissipate the static electricity.	Complied
200	Whether all such equipment including pipelines for flammable materials are properly bonded and earthed?	Yes ensured by user department & engineering dept.	Complied
201	Whether earth pit resistance is measured and the record maintained?	Earth pit resistance measured and records are being maintained	.Complied



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202	Whether lightning arrestor has been installed and is adequate?	Yes	Complied
<b>Safety in Storage and Ware housing</b>			
203	Whether the Material Safety Data Sheet for all chemicals is available?	Yes	Complied
204	Are the chemicals stored as per their hazardous properties including the incompatibility?	Yes	Complied
205	Are all containers clearly, indelibly labelled? Are all chemicals stored as per safety regulations?	Yes	Complied
206	Whether all racks and steel cages have sufficient load bearing capacity?	Yes	Complied
207	Is adequate natural ventilation provided to store room? Is there any emergency exit?	Ventilation & emergency exit provided.	Complied
208	Whether adequate firefighting arrangement existing in flammable chemical storage?	Yes	Complied
209	Whether methodology for handling spillages of hazardous chemical available along with the equipment required handling the spillage?	Spill control procedure & spill control kits in place.	Complied
210	Whether aisles are marked and emergency exits displayed?	Yes	Complied
<b>Hazard Assessment for New Equipment</b>			
211	What is the system for effecting any change in the existing plant, equipment?	Change control procedure in place.	Complied
212	Is there system for evaluating hazards from new equipment?	Through change control system only.	Complied
213	Whether the P and I diagrams and other related documents are updated accordingly?	Yes	Complied
214	Is any Job Hazard Analysis (JHA) carried out after installation of new equipment?	Yes PSSR system implemented	Complied



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Hazards from Radiation Sources			
215	Whether licences have been obtained for storage / handling of radioactive material?	Yes.	Complied
216	Whether approved Radiological Safety Officer appointed?	NA	---
217	Whether appropriate PPEs are used against radiation hazards?	NA	---
218	Is the flooring of the radioactive material handling area amenable for proper decontamination?	NA	---
219	Is the storage room of radiation source as per the licence condition?	NA	--
220	Are all persons working in the facility have radiation safety training?	NA	--
221	Is the operators handling devices using radioactive materials qualified and possess the necessary certificate?	NA	--
222	Is the periodical radiation monitoring carried out?	NA	--
223	Are the records of inventory of radioactive material maintained in the standard format and submitted to the competent authority as per the period specified?	NA	--
224	Are emergency handling tools available?	NA	--
225	Are the personnel monitoring badges (TLD, Pocket dosimeter etc.) assigned and worn by each radiation worker?	NA	--
226	Are the radiation symbol and red light displayed as required?	NA	--
CHEMICAL HAZARD			
Transportation of Hazardous Substances			
227	What potentially hazardous materials are transported to or from the site	Hazardous wastes only	Complied



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	(including wastes)		
228	<p>What mode of transport are used?</p> <p>1) Road, 2) Rail, and 3) Pipelines 1) Road</p>	Road	---
229	<p>Does the company employ licenced vehicle of its own / outside sources?</p> <p>ii) Are the loading / unloading procedures in place and safety precautions displayed?</p> <p>iii) Is there a provision to check the healthiness of road tanker with respect to explosives rules?</p> <p>iv) Are loaded tankers or trucks parked in a specific area on-site?</p> <p>v) Do all truck and tanker drivers carry transport emergency (TREM) card or instruction booklet?</p> <p>vi) Do all truck and tanker drivers get training in handling emergencies during transport?</p> <p>vii) Are all the tankers marked for proper Hazchem code?</p>	<p>Hired with third party transport</p> <p>TREM cards also provided to drivers.</p> <p>All drivers trained on hazardous chemical handling.</p> <p>Ensure All storage tankers are having HAZ chem code.</p>	--
230	<p>Rail</p> <p>1.What hazardous materials are transported by rail?</p> <p>2.Does the company have a direct siding on site?</p> <p>3.Are tankers or other wagons used in transportation?</p>	NA	---
231	<p>Pipelines</p> <p>1.What materials are transported to and from the site by pipelines?</p> <p>2.Are the pipelines underground or over ground?</p> <p>3.Are corrosion protection measures employed in pipelines?</p>	NA	



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	4. Whether intermediate booster pumps are used?		
<b>Handling of Hazardous Substances</b>			
232	What are the hazardous substance handled in the factory?	Used oil Chemical residue, ETP sludge etc	-----
233	Whether quantity of hazardous substances is above the threshold limit specified in the Manufacture, Storage and Handling of <i>Hazardous Substances Rule</i> , 1989? If yes, then required documentation is available as per the rule.	NO	
234	Whether written procedure for handling the hazardous substance is available and operators are trained for handling such substances including actions required in case of leakages and spillages?	SOPs are prepared	Complied
235	Are the employees aware of the hazards arising from hazardous substances and safety precautions to be taken during handling of these?	Yes	Complied
<b>Material Safety Data Sheets (MSDS)</b>			
236	Are the material safety data sheets available for all the chemicals handled, used and manufactured in the factory?	Yes , MSDS are available in work place.	Complied
237	Whether the latest MSDS are displayed at strategic locations?	Yes , kept at work places.	Complied
238	Is it available in local language?	Yes local language	Complied
<b>Spill Control Measures</b>			
239	Whether spill control procedure is available?	Yes	Complied
240	Whether spill collection pit / sump is available at the workplace?	Yes	Complied



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241	Whether methodology for recovery / disposal of collected material has been established?	Yes	---
<b>Storage of Hazardous Substances</b>			
242	Whether storage vessels are identified with the capacity as required under MSIHC, Rules 1989	NA	---
243	What are the storage pressure and temperature? Whether vessels are above ground / underground?	Ambient temp & atmospheric pressure only	--
244	If any of the tanks storing flammable material, whether electrical equipment and fittings are as per electrical area classification?	Yes	--
245	Is the bunded area takes into account the total quantity of the largest tank?	Yes	--
246	Whether the bund perimeter takes into consideration of trajectory of leak from tank?	Yes	--
247	Are the vessels properly bonded and earthed and whether periodically checked and record maintained?	Yes	
248	Are the vessels fitted with remotely controlled isolation valves?	Yes	--
249	Are vessels provided with emergency vent, relief valve, bursting disc, level indicator, pressure gauge, and overflow line?	Yes	--
250	Where do such vents discharge?	Dump tanks & collection tanks.	--
251	Are the vessels provided with alarms for high level, high temperature and high pressure?	Yes	
252	Are standby empty tanks or any other alternate systems provided for emptying / transfer in case of emergencies?	Yes	



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253	What are the provisions made for firefighting / tackling emergency situations around the storage vessels?	Hydrant network, deluged system& hydrant sprinkler system	--
254	Has any consequence analysis for loss of containment been carried out?	Yes	
255	Whether the vessels are tested as per statute?	Yes	--
256	Whether log sheets are filled up on daily basis for recording the parameters of these vessels?	Yes	----
257	Whether monitors for detection of leakage of flammable / toxic material installed?	Yes	-----
258	Whether the chemicals stored are as per their compatibility?	Yes	--
<b>Gas Cylinders</b>			
259	What are the various gas cylinders used in the plant?	Nitrogen, Hydrogen, Zero air & Acetylene cylinders and LPG	Complied
260	Are valid licenses available for storing all these cylinders?	Yes	Complied
261	Are the cylinders stored and segregated as per their compatibility?	Yes	Complied
262	What are the measures taken for combating any emergency in the cylinders storage area?	Properly secured , protective guards or caps to be provided, need to be ensured regularly.	Complied
263	Whether integrity test certificates are obtained from the suppliers of the cylinders?	Yes	Complied
264	Are the cylinders chained and secured properly along with the valve caps and proper identification colour code?	Properly secured, protective guards or caps to be provided, need to be ensured regularly.	Complied
265	Are the cylinders protected from heat or sun and rain?	Yes	Complied
267	Whether monitors for detection of leakage of flammable / toxic gas installed?	Leak detection system is provided	Complied



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Labeling and Colour Coding			
268	Are all the containers, vessels and storage tanks labeled for its content and capacity?	Yes	Complied
269	Whether the pipelines are colour coded as per IS 2379?	Yes	Complied
270	Is any plant specific colour code followed?	Yes	Complied
271	Whether the colour codes are displayed conspicuously in the working areas?	Yes	Complied
Hazardous Waste Management			
272	Is identification done for various types of hazardous wastes?	Yes, obtained license from APPCB.	Complied
273	Are these quantities less than those specified by the Hazardous Wastes (Management & Handling) Rules, 1989?	Yes	Complied
274	What are their disposal modes?	Authorized recyclers	Complied
275	What are the systems / measures adopted for controlling air / water / land pollution?	Complied all the conditions stipulated in the CFO.	Complied
276	Whether the solid waste like combustibles, plastic, metals etc. segregated?	Yes	Complied
FIRE AND EXPLOSION HAZARD			
	<b>Organizational Set-up for Fire Fighting</b>		Complied
277	What is the total strength of fire station and fire crew?	37 + 04 fire officers each plant	Complied
278	How many fire crews are available in each shift?	Nearly 30 persons	Complied
279	Is there fire squad identified in each shift?	Yes	Complied
280	Standing fire order is available with latest revision	Yes	Complied



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281	How is the communication with fire station?	By phone, intercom, walkie talkie	Complied
282	Does fire safety inspections carried out?	Yes inspected by Fire authority	Complied
283	Does emergency procedure available for leakage or combustion of flammables?	Yes	Complied
284	What measures are available to control the fire load in the plant area?	Fire hydrant system, portable fire extinguishers, fire alarm system.	Complied
285	Whether technical knowledge and skills of the manager and staff responsible for overall fire safety of the plant is adequate?	Yes , qualified & technically sound EHS staff monitoring the fire safety activities.	Complied
286	How many major and minor incidents / fires were there in the factory during the last five years? Give department / plant wise.	No fire accidents were happened	Complied
287	Have all the fires / incidents been investigated and corrective actions taken? Give break-up.	Yes	Complied
288	Resources: 1.Adequacy of protective clothing (coat, trouser, gloves, boots and helmets); 2.Availability of SCBA for firefighting operations and spare cylinders (at least 2 for each SCBA);	Yes	Complied
289	Adequacy of hose, nozzles, ladders, lighting equipment and pumps; and	Yes	--
290	Communication facility at fire station, walkie talkie sets during firefighting	Yes, Emergency telephone & Walkie talkies facilities available.	Complied
<b>Built in Safety in Civil Design and Construction</b>			
291	Whether the two safe means of escape available? Are they in separate directions?	Yes	Complied
292	Is emergency exits provided to the	Yes	Complied



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	building handling flammables?		
293	Whether emergency lights are provided?	Yes	Complied
294	Whether fire / smoke detectors are installed in fire prone areas?	Yes	Complied
295	Whether fire call points are provided in different areas?	Yes	Complied
296	Whether Fire hydrants are provide near the buildings?	Yes	Complied
297	Is ventilation system in plant handling flammables is adequate to prevent formation of flammable mixtures?	Yes	Complied
298	Is adequate separation is provided between combustible / flammable materials and other material to restrict the fire growth?	Separately stored all combustible & flammable materials	Complied
299	Access routes for firefighting operations is available for areas having high fire load?	Yes	Complied
300	Whether building changes interferes with fire detection and / or fire suppression systems?	Fire alarm system provided	Complied
301	Whether building changes cause unreasonable fire loading / openings in the fire rated walls?	No	--
<b>Built in Safety in Electric Circuits and Equipment</b>			
302	Are the electrical equipment in areas where flammables mixture is likely to be present of flame-proof type?	Yes	-----.
303	Are lightning arrestors are provided to the buildings / structures storing flammable materials?	Yes	Complied.
304	Whether adequate bonding and grounding of electrical equipment / pipelines provided?	Yes	Complied
<b>Explosive Substances</b>			
305	Whether necessary license / approval	Not required	-----



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	taken from concerned statutory bodies?		
306	Whether systems for explosion suppression, high speed fire detection with deluge, sprinklers, explosion venting etc. are provided?	NA	
307	Whether explosion resistant walls or barricades are provided around explosive storage?	NA	
308	Whether explosive substance storage areas are restricted for entry?	NA	--
309	Whether only trained persons are handling explosive substances?	NA	--
310	Whether explosive substances are stored and transported in approved containers only?	NA	--
311	Whether electrical fixtures in areas handling explosives are explosion proof type?	NA	--
312	Whether adequate measures are taken to prevent any sources of ignition where explosive substances are handled?	NA	--
<b>Fire Safety in Handling Flammable and Explosive materials</b>			
313	Whether emergency procedure is available for control of leakage?	Covered in OSEP	Complied
314	Whether emergency measures are displayed locally in case of accidental spillage / leakage?	Yes & explained in telugu language during trainings.	--
315	Whether facility is provided for safe drainage of combustible or flammable liquids in case of leakages?	Yes, dyke facilities are amiable	--
316	Whether highly flammable liquids are stored under inert atmosphere?	Yes	--
317	Whether flammable storage tanks are provided with flame arrestors?	Yes	--
318	Whether suitable PPEs are provided?	Yes	--



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Fire Detection and Alarm System			
319	What type of fire detection and alarm system provided?	Yes	Complied
320	Whether all fire prone areas of the plant are covered with fire detection system?	Yes	Complied
321	Whether fire detection equipment and smoke alarms in good operating condition?	Yes	Complied
322	Whether the number of fire call points are adequate and free from obstruction?	Yes sufficient number of fire call points are arranged	Complied
323	Whether regular inspection / maintenance / testing of fire detection and alarm system carried out and records maintained	Yes , third party inspections carried.	Complied
324	Whether emergency power supplies are provided to fire detection and fire alarm system?	Yes, Ups backup provided	Complied
325	Whether smoke detectors are located considering ventilation pattern?	Yes	Complied
326	Whether annunciation of fire is local or in the control room or in both places?	Provided emergency telephone numbers.	Complied
327	Whether any atmospheric monitoring is carried out for explosive mixture of gases or vapours?	Detection system is in place	Complied
328	Whether fire panel is constantly attended?	Yes	Complied
Passive and Active Fire Protection System			
329	What are the passive fire protection measures available? (barriers, doors, dampers etc.)	Fire dampers are provided to AHU system.	Complied
330	Are the areas requiring fire barriers identified?	NA	--
331	Whether the fire barrier provided is of adequate ratings?	NA	--
332	Whether ventilation ducts in	Yes	--



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	flammable areas have been provided with isolation dampers of suitable fire rating?		
333	Whether sprinklers / deluge are installed wherever necessary?	Yes	
334	Whether regular inspection / maintenance / testing of fire protection system carried out and records maintained?	Yes , inspection records are available	Complied
<b>Fixed Fire Extinguishing System</b>			
335	What are the sources of firewater and whether they are dedicated to the fire extinguishing system?	Yes , fire hydrant tank available	Complied
336	Whether the capacity of dedicated water reservoir is adequate to supply to hydrants for minimum 2 h? Whether un-interrupted power supply is provided to the firewater pumps?	Capacity available	Complied
337	Whether the extinguishing medium selected is appropriate to the class of fire (water, gaseous, foam, dry powder)?	Yes	Complied
338	Whether fire hydrants layout is available?	Yes	Complied
339	Whether additional (over minimum requirement) fire hoses, nozzles are available?	Yes	Available in fire station / CCR
340	Whether the hydrants lines are kept pressurized?	Yes , maintained 6.5 to 7 Kg pressure.	Complied
341	Whether regular inspection / maintenance / testing of fixed fire extinguishing systems carried out and records maintained?	Yes	Complied
<b>Portable Fire Extinguishing System</b>			
342	Whether suitable type and numbers of fire extinguishers provided?	Yes , provided as per the requirement	Complied
343	Whether suitable type and numbers	Yes , provided as per the	Complied



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	of fire extinguishers provided?	requirement	
344	Whether fire extinguishers periodically inspected, tested, refilled and records maintained?	Yes, once in three months third party inspections being carried.	Complied
345	Whether defective / unchecked fire extinguishers present at site?	No	--
346	Whether additional fire extinguishers are available?	Yes 120 each plant available	Complied
<b>Fire Fighting Equipment and Facilities</b>			
347	Whether fire tenders (water / foam) are available?	Water & foam is available	Complied
348	Whether the fire-fighting system and equipment approved, tested and maintained as per relevant standard?	Yes	Complied
349	Whether the SCBA / fire suit provided to fire fighting team for immediate action?	Yes	Complied
350	What is system for maintenance / recharge of SCBA?	Yes	Complied
351	Is proper access available for firefighting equipment?	Yes	Complied
352	Whether fire hose cabinets are in good condition, easily visible, and accessible?	Yes	Complied
353	Whether drill tower is available? Are fire personnel carrying out regular fire drill?	Yes ,	Complied
354	What is the communication facility at fire station? Is it adequate?	Dedicated telephone, intercom, walkie talkie available	Complied
<b>Fire Drill</b>			
355	Whether mock fire drills are conducted? What is the frequency of drills?	Mock drill are being conducted once six months & fire drills are also being conducted once in month	Complied
356	Whether fire drills are also performed in night shift	Yes	Complied
357	Whether feedback of fire drill is	Yes	Complied



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	documented?		
358	What is the system of mutual-aid scheme?	Yes	With Port, APGENCO
<b>Fire Fighting Training</b>			
359	Whether there is a system of providing firefighting training to plant personnel?	Yes , conducted	Complied
360	What is the frequency and duration of such training? Whether training records are maintained?	As per schedule and 1 hour	Complied
360	Whether fire squads are identified for different areas for first-aid fire fighting and rescue, and suitably trained?	Yes	Complied
361	Are all personnel conversant with the fire prevention and protection measures? Whether the fire staff are sent for refresher / advanced training courses?	Yes	Complied
<b>Static Electricity and Lightning</b>			
362	Whether all vessels and pipes are provided with suitable bonding and grounding?	Yes ,earthing continuity given by provided earth jumpers.	Complied
363	Whether arrangement has been made for grounding the tanker containing flammable liquid during loading / unloading?	Yes , provided	Complied
364	Whether spark resistant tools are provided?	Yes.	Complied
365	Whether lightning protection is provided and is adequate?	Yes	Complied
366	Whether antistatic clothing, hand gloves and footwear are provided?	Yes	Complied
<b>Pressure Relief System</b>			
367	Whether the listing of all 'pressure plants' [as defined under <i>Factories Act</i> ] has been done?	Yes	Complied



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INDUSTRIAL HYGIENE / OCCUPATIONAL HEALTH			
Ventilation, Illumination, Noise, Vibration, Heat stress and Non-ionizing Radiations			
	<i>Ventilation</i>		
368	Whether any ventilation study has been carried out?	Yes all buildings	Complied
369	Whether natural ventilation is adequate or not?	Yes	-----
370	Whether dust / fumes / hot air is generated in the process?	No	-----
371	Is there any exhaust ventilation system in any section of the plant? Is periodic / preventive maintenance of ventilation system carried out and record is maintained?	Yes	Complied
372	Does any ventilation system re-circulate the exhausted air in work areas?	Yes	Complied
373	Is the work environment assessed and monitored for chemical and physical hazards?	Yes	Complied
374	Whether PPE are provided to workers exposed to dust / fumes and gases?	yes	Complied
<i>Illumination</i>			
375	Whether illumination study has been carried out for the assessment of illumination level?	Yes	Complied
376	Is there any system of periodical cleaning and replacing the light fittings / lamps in order to ensure that they give the intended illumination levels?	Complied as per PM schedule	Complied
377	Are the workers subject to periodic optometry tests and records maintained?	Complied	Complied
378	Are emergency lighting available at	Yes	Complied



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	first aid center.		
<b>Noise</b>			
379	Whether any noise study conducted?	Yes	Complied
380	Are there any machines / processes generating high-noise?	No	-----
381	Whether engineering and administrative controls been implemented to reduce noise exposure below the permissible limits?	Yes	Complied
382	Is there a system of subjecting all those employees to periodic audiometric test who work in highlevel noise areas?	Yes (identified employees) and all for every year	Complied
383	Whether the workers are made aware of the ill effects of high noise? Whether ear muffs / plugs are provided and used?	Yes	Complied
<b>Vibration</b>			
384	Are there equipment which contribute excess level of vibrations and whether they are identified?	No such equipment	Complied
385	Whether any vibration study has been carried out?	Yes	Complied
386	Are the measures taken to combat vibration to acceptable levels?	Yes	Complied
387	What is the frequency for measurements of vibration?	Once six months	Complied
388	Are the records of measurements and maintenance of equipment / system maintained?	Yes	Complied
<b>Heat Stress / Cold stress (Extremes of Temperature)</b>			
389	Are there sources from equipment increasing the heat load in work places?	NA	--
390	Whether evaluation of heat stress is carried out?	NA	--



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391	Whether natural ventilation is adequate to minimize the heat stress in work environment?	Yes	--
392	Are resources available to deal with very hot or very cold conditions (drinking water, lined gloves, insulated boots)?	Sufficient drinking water is available in canteen & other places and PPEs	--
393	Do workers know the symptoms of heat cramps / heatstroke or frost bite / hypothermia?	Yes	Complied
394	Are the personal protective equipment suitable for reducing the effects of heat stress available?	yes	Complied
<b>Non-ionising Radiations</b>			
395	Does the work involve likely exposure to non-ionising radiations (ultraviolet, infrared, radiofrequency, microwaves, lasers, etc.)	NA	--
396	Whether risk assessment have been done for all work areas involving presence of non-ionising radiations?	NA	--
397	Are the work areas displayed with relevant safety signs?	NA	--
398	Are the employees aware about the hazards of non-ionising radiations?	NA	--
399	Does written procedures exists for working in non-ionising radiations?	NA	--
400	Is the work environment monitored periodically for physical hazards and control measures initiated whenever deviation from permissible values is observed?	NA	--
421	Whether suitable personal protective equipment are provided to workers exposed to non-ionising radiations?	NA	--
<b>Work Place Monitoring for Hazardous Chemicals</b>			
422	Whether the dust, fumes, smoke aerosols and mist are monitored as	Yes	Complied



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	per statute and records maintained?		
423	What are the types of detectors used for monitoring concentration of hazardous chemicals?	Yes	Complied
424	Is any alarm system installed for any leakage of hazardous chemicals?	Yes	Complied
425	Are antidotes available for toxic chemicals?	Yes	Complied
426	Are control measures initiated whenever deviation from permissible values is observed?	yes	-----
<b>First Aid Facilities and Occupational Health Centre (OHC)</b>			
427	Are adequate numbers of first aid boxes provided? Give location details?	Yes, enough number of first aid trainers are available	Complied
428	Are qualified / trained first aiders available in each shift?	Yes	Complied
429	How many qualified / trained first aiders are available at each plant / department?	first aid trainers are available	Complied
430	How many persons are trained / given refresher training in first aid in a year?	53 Refresher training program to be conducted	--
431	Whether occupational health center is provided?	OHC /First aid center is available	Yes
432	Does OHC confirm the provisions of the existing statutes?	Yes	Complied
434	Are the Medical Attendants / Doctors available in each shift?	Yes available	Complied
435	What facilities are available for transportation of the injured to hospital?	Ambulance is available	Complied
436	Are the names of the trained first aiders displayed?	Yes	Complied
437	Are the name of nearest hospitals and its telephone number available in OHC?	Yes	Complied.
438	Does the plant have any special	No	--



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	preventive medicine program?		
439	Is ambulance posted in proper place and is it available whenever required?	Yes, round the clock	Complied
440	Are sufficient numbers of anti-dotes available in case of any emergency?	Yes	Complied
441	Are fire safety measures provided in first aid centre?	Yes	Complied
442	Are emergency lighting arrangements available at first aid centre?	Yes	Complied
<b>Periodic Medical Examination</b>			
443	Whether the periodical medical examination of employees, required under relevant statute is carried out?	Yes	Complied
444	Whether it is ensured that contractors employee are medically examined during pre-employment as well as during the course of employment?	Yes	Complied
445	During the periodical medical examination of the workers, are they examined as per the hazardous process in which they work? (First schedule of <i>The Factories Act, 1948</i> )	Yes	Complied
446	Are the records of all such examination maintained?	Yes	Complied
<b>Personal Protective Equipment and Emergency Equipment</b>			
447	Whether list of required PPE for each hazardous activity is available?	Yes, PPE boxes are arranged	Complied
448	Whether feedback from workers obtained during selection of PPE?	Yes , taking their concern also	Complied
449	Have the workers been trained in proper use of PPE including BA sets?	Yes	Complied
450	What is the system of procurement, inspection, issue, maintenance and replacement of PPE?	As & when requirement PPE are being issued to all employees & contract employees. Sufficient stocks maintained.	Complied



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451	Whether qualitative and quantitative fit-check for respirators is ensured prior to use?	Yes	Complied
452	What are the arrangements for safe custody and storage of PPE?	PPE boxes & individual lockers.	Complied
453	Are the contractor's workers provided with the required PPE?	Yes	Complied
454	Do the PPE conform to any standard?	IS standard PPEs only using.	Complied
455	Are sufficient eye wash fountains and safety showers available?	Yes	Complied
456	Whether appropriate respiratory protective devices are available in accordance to the hazard potential?	Yes	Complied
457	Are the staff members trained in the right uses of respiratory protective devices?	Yes	Complied
<b>Occupational Diseases</b>			
458	Whether pre-employment medical checkup data available?	Yes	Complied
459	During the medical checkup, is any person found having occupational diseases mentioned in 3 <sup>rd</sup> schedule of <i>The Factories Act, 1948</i> ?	No case available	Complied
460	Whether the medical practitioner informed the Chief Inspector of Factories about the occurrence of the occupational disease?	Whenever any case arises. Still no such case is raised	Complied
<b>ACCIDENT/INCIDENT REPORTING, INVESTIGATION AND ANALYSIS</b>			
<b>Accident Reporting and Database Management</b>			
470	What is the procedure for accident / incident / dangerous occurrence reporting?	Accident/Incident investigation procedure in place.	Complied
471	Whether the accident data for the last five years for reportable and non-reportable accidents are available?	Yes	Complied



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Accident Investigation			
472	Are all the accidents investigated?	Yes	Complied
474	Whether accident investigation procedure is documented?	Yes	Complied
475	Whether accident investigation reports are submitted to top management?	Yes	Complied
476	How are the findings from accident investigation reports communicated to workers?	04	
Analysis of Accidents			
477	Whether accident analysis is done as per IS 3786?	No LTI. Noted	
478	Whether root causes of accidents are analysed?	Yes	Complied
479	Is the accident statistics effectively utilized? If yes, how?	Yes. Tacking system implemented	Complied
480	What nature of injuries occurred during the last five years?	Only Minor FAC	-----
Implementation of Recommendations			
481	How does the management ensure implementation of the recommendations to avoid recurrence of accidents and incidents?	Recommendations are implemented and tracking system available	
Reporting and Investigation of Near-miss Incidents			
482	Are all near-miss incidents reported and investigated?	Yes	Complied
483	Is there any system of classifying and analyzing the near-miss incidents?	Yes	Complied
EMERGENCY PREPAREDNESS			
	<b>Site Specific Details</b>		
484	Are the site area maps (including layout, access roads and assembly points) available in control room / emergency control centre?	Yes	Complied
Duties and Responsibilities of Key Personnel			



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485	Is the hierarchy of emergency response personnel right from site emergency controller downward, and alternative officials identified?	Covered in OSEP & imparted training to all key personnel.	Complied
486	Are the duties and responsibilities assigned to the designated officials during emergency, both during and outside normal working hours clearly identified and understood by them?	Yes, Covered in OSEP & imparted training to all key personnel.	Complied
<b>Identification of Emergencies and Accident Scenario</b>			
487	Are the possible accident scenarios leading to emergency identified and known to the operating personnel?	Identified & listed in OSEP	Complied
488	Are approved emergency preparedness plans (onsite and off-site) in place?	Yes	Complied
<b>Declaration and Termination of Emergency</b>			
489	Is the list of designated officials who are to be communicated about declaration and termination of emergency available in the control room / emergency control centre?	Yes, list available in ECC room	Complied
490	Are the methods of communication (siren, public address system etc.) for declaration and termination of an emergency known to all the workers?	Yes, explained during training programs	Complied
<b>Resources-evacuation/ Transport</b>			
491	Are the following resources (equipment, personnel and procedures) required to handle emergency available?	Yes	Complied
492	1) Communications, 2) Public announcement systems 3) Monitoring of hazardous releases into the environment, 4) Emergency shelters at the	Electrical operated emergency siren provided  Emergency exits clearly marked with direction	Complied



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	<p>facility,</p> <p>5) Emergency exits with proper illumination, with uninterrupted power supply ,</p> <p>6) Direction for emergency exit / escape route marked in haulage / Alleyways,</p> <p>7) Transport for evacuation of plant personnel,</p> <p>8) Medical care including administration of antidotes, and</p> <p>9) Security / maintenance of law and order.</p>	<p>Ambulance is available for emergency transport</p> <p>OHC &amp; male nurse is available for first aid</p> <p>Security officer &amp; along with their staff controlling the local law order.</p>	
<b>Communication Facilities</b>			
493	Does the emergency control centre have direct communication links with the fire station and the plant control room?	Emergency telephone numbers& separate telephone is available and walkie talkie	Complied
494	Are there adequate alarm points from which an emergency alarm can be raised?	Yes	Complied
495	Is there infrastructure available for ensuring backup electric power supply for communication links where required	DG sets & Ups backup available for emergency handling.	Complied
<b>Medical Care</b>			
496	Is the procedure for emergency medical care available?	Yes	Complied
497	Whether the system has been tested at regular frequency through mock drill / exercises for its adequacy?	Yes, conducted mock drills.	Complied
498	Does the system of periodic replacement of antidotes and medicines required in emergency exist?	Yes	Complied
<b>Updation of Emergency Plan</b>			
499	Is the emergency plan updated based on the feedback from the periodic	Yes	Complied



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	drills / exercises?		
500	Are the contact details of all concerned officials kept updated in the emergency plan?	Yes,	Complied
<b>Periodic Drills / Exercises</b>			
501	Are mock-exercises conducted at stipulated intervals?	Yes, Mock drills are conducted in once in six months & fire drills are to be conducted in once in month	Complied
502	Are the scenarios varied in the mock-exercises to ensure that all possible factors including meteorological conditions, affected plant personnel covered?	Scenarios taken from ERP, which are identified and tested in mock drill	Complied
503	Whether emergency preparedness Plans have been tested and reviewed at regular frequency through mock drill for its adequacy	Yes, reviewed once two years or any major emergency/ any facility change/ up-dations.	Complied
<b>Training of Plant Personnel</b>			
504	Are the plant personnel trained in handling emergency equipment?	Yes, fully trained	Complied
<b>Public Awareness Programmes</b>			
505	Are public awareness programs conducted for the people around the site regarding the actions to be taken in case of off-site emergency?	Yes	Complied
<b>Mutual-aid Programme</b>			
506	Are the types of accidents where external organizations would be involved in remedial actions identified? Are their responsibilities defined?	Yes	Complied
507	Is the plant responsible for rendering mutual aid assistance to any other external organizations? Does this assistance effect the plant's emergency preparedness?	Yes	Complied



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508	Whether the communication channels for mutual assistance identified and known with and between two organizations	Yes	Complied
<b>Emergency Control Centre</b>			
509	Is the emergency control center located beyond the effective distances of identified emergency scenarios?	Yes	Complied
510	If the emergency control center is located within the effect distance, is it suitably protected that it will be available in case of emergency?	Yes	Complied
<b>SAFETY INSPECTION</b>			
511	Are checklists available for inspections? For example availability of checklists like: Handling, Storage and Transportation of hazardous chemicals;	Yes	Complied
512	Electrical hazards;	Prepared	
513	Fire safety;	Prepared	
514	Hand and portable power tools	Prepared	
515	Machine hazards	Prepared	
516	Lifting equipment	Prepared	
517	Ladders and scaffolding	Prepared	
518	Environmental Monitoring	Prepared	
519	Civil structure	Prepared	
520	Housekeeping	Prepared	
521	Emergency equipment	Prepared	
522	Gas cylinder and other pressure vessels used / available in the organization	Yes	
<b>Safety Related Deficiency (SRD) Report</b>			
523	Are SRDs generated based on the area wise checklists?	Yes	



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524	What is the procedure for resolving the SRDs?	It is being discussed in O&M meeting and complied in target date	-----
525	Whether the procedure exists for notification and root cause analysis of non-conformities and action taken on them?	SOP available SAP notification and compliance	-----
<b>Safety Inspection Records</b>			
526	Are the safety inspection records maintained?	maintained	Complied
<b>Methodology and Inspection Team</b>			
527	Is there written procedure for safety inspection?	Yes	Complied
528	Whether safety inspection is carried out by a designated team?	Yes	Complied
529	What is the frequency of safety inspections? c) Is compliance of recommendations sent to top management?	Being done once as per the laid down procedures reports are available	Complied
530	Whether an inspection report is generated? d) Is compliance of recommendations reviewed by management?	Yes	Complied
531	Compliance of Recommendations safety committee?	available	Complied
532	To whom the recommendations are submitted e) Does top management follows-up the compliance?	Head-O&M and CEO	Complied
533	Are recommendations of safety inspections complied in time?	Being complied	Complied

