

SEIL Energy India Limited

(Formerly Sembcorp Energy India Limited)

CIN: U40103HR2008PLC095648

Regd. Office: 5th Floor, Tower C, Building No 8, DLF Cybercity, Gurgaon - 122002, Haryana, India Tel (91) 124 389 6700/01 Fax (91) 124 389 6710 E-mail: cs@seilenergy.com

SEIL P1/MoEF&CC/Chennai/2023/005 27th Nov. 2023

The Regional Director,

Regional Office (Southeastern Region), Ministry of Environment, Forest & Climate Change, 1st & 2nd Floor, HEPC Building, No. 34, Cathedral Garden Road, Nungambakkam, Chennai- 600034.

Sub: Submission of Half Yearly EC Compliance Report for the period Apr. to Sep. 2023

Ref: EC Letter No. J 13012/02/2009-IA. II (T), Dated: 04.11.2009, subsequent amendment

dated: 02.03.2015.

Respected Sir,

In compliance to the conditions of above reference, we are submitting herewith the Half Yearly EC compliance report for the period, April 2023 to September 2023 of SEIL Energy India Limited Project-1 (Formerly Sembcorp Energy India Limited) situated at Nellore, Andhra Pradesh.

Hope you find the above in order.

Thanking you,

Yours faithfully,

For M/s. SEIL Energy India Limited,

Pavan Kumar Rao V

Head HSE

Encl.: As Above

Copy To: 1. The Director, IA.I, MoEF&CC, New Delhi

2. The Joint Director, Scientist D, MoEF&CC, IRO, Vijayawada

3. The Regional Officer, APPCB, Nellore

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

EC COMPLIANCE FOR

SEIL Energy India Limited Project-1

(Formerly Sembcorp Energy India Limited)
Order No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015
For the Period

April 2023 to September 2023

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

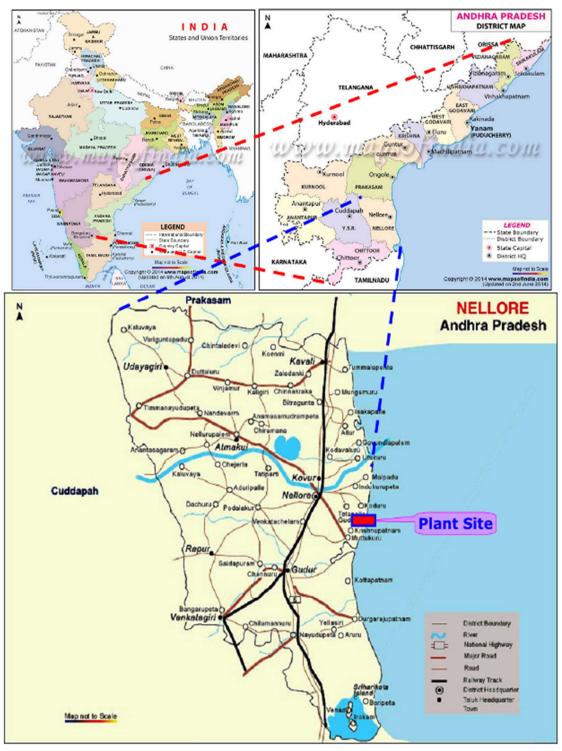
01. Background:

SEIL Energy India Ltd. Project-1 (Formerly Sembcorp Energy India Limited) is a leading independent thermal power plant situated in Nellore district of Andhra Pradesh. The capacity of the plant is 2x660 MW and is under operation since October 2015.

The location map and key map of project site are shown in **Figure-1** & **Figure-2** respectively. The 10 km radius topographical map around the project is shown in **Figure-3**. The latitude & longitude of North South extremes of Site are 80°08'35.956''E & 14°19'5.211''N and 80°09'16.325''E & 14°21'0.874''N respectively.

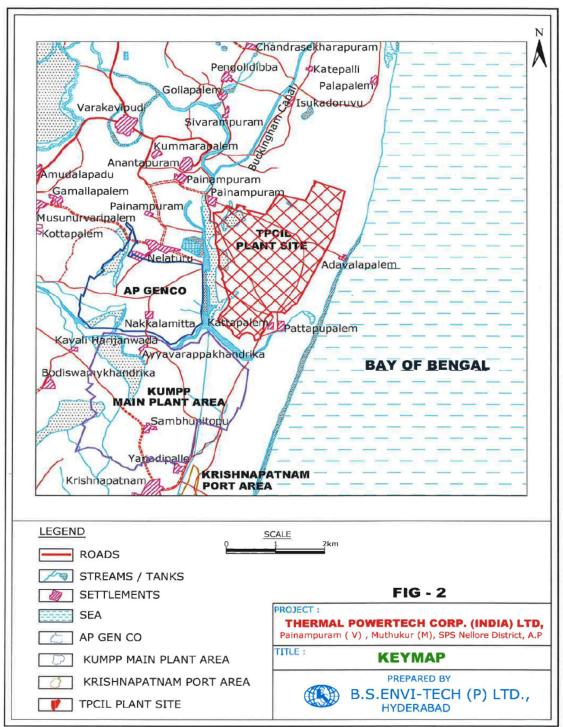
(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

Fig. - 1 (LOCATION MAP)



(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

Fig. - 2 (KEY MAP OF PROJECT SITE)



(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

HERMAL POWERTECH CORP. (INDIA) LTD, TOPOGRAPHICAL MAP SHOWING 10 KM RADIUS KRISHNAPATNAM PORT AREA PREPARED BY:
B.S.ENVI-TECH (P) LTD., KUMPP MAIN PLANT AREA PLANT SITE AP GENCO FOREST ROADS CANAL

Fig. - 3 (TOPOGRAPHICAL MAP OF 10 KM RADIUS AREA)

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

02. Statutory Approvals/Clearances:

The following statutory approvals and clearances were received for the Project:

S. No.	Authorization	Accorded By	Validity
1	Environment Clearance	Ministry of Environment Forest & Climate Change, Govt. of India	Granted with EC No. J13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015
2	CRZ Clearance	Ministry of Environment Forest & Climate Change, Govt. of India	Granted with F. No. 11-129/2010-IA.III. Dated: 5 th December, 2011
3	Combined Consent for Operation (CFO) & Hazardous Waste Authorization	Andhra Pradesh Pollution Control Board, Andhra Pradesh	Granted with Order No. Order No APPCB/ VJA/ NLR/ 930/HO/CFO/2016 Valid Till 16 th Nov. 2026

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

CONDITION WISE COMPLIANCE TO ACCORDED ENVIRONMENT CLEARANCE

S No.	Condition	Compliance Status
4. i	Status of implementation of 100% utilisation of Fly Ash generated shall be submitted to the Ministry within six months of operation of the plant.	Complying. Plant is achieving 100% fly ash utilization since September 2019. Annual Fly Ash utilization report for FY 22-23 is submitted to MoEF&CC vide letter no. SEILP1/MoEF&CC/Chennai/2023/002 dated 29th May 2023.
ii	Stacks of 275 m height (Bi-Flue for Stage -1 and Single Flue for Stage II) shall be provided with continuous online monitoring equipment for SOx, NOx and PM. Exit Velocity of flue gases shall not be less than 25 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.	Complying. One Bi-Flue gas chimney of 275 m height is provided along with continuous online emission monitoring equipment for measuring SOx, NOx and Particulate Matter. Mercury is being monitored on quarterly basis. Exit velocity of flue gas is well within prescribed norms. Stack Emission Monitoring Reports carried out by MoEF&CC approved vendor which is are attached as Annexure—I.
iii	Possibility for installation of combined intake with neighbouring Power Plants shall be examined and in the event of non-feasibility adequate justification shall be submitted within a period of six months.	Installation of combined intake with neighbouring Power Plant was not found feasible.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

SN	lo.	Condition	Compliance
iv		High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	Complying. Electrostatic Precipitators (ESPs) with more than 99.9% efficiency are installed to control the Particulate Matter Emission withing prescribed standards of 50 mg/Nm³.
V	7	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Complying. Bag filters are provided for coal crusher.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
		Dust Suppression systems has been
		provided at Transfer Points to further
		minimize fugitive dust.
		Additional water sprinklers have been
		provided to suppress fugitive emissions at
		coal yard.
		SEIL has also provided wind barriers with
		3-5 layers of thick Conocarpus trees (wind
		resistant plants) all around coal yard, which
		are designed to arrest spreading of fugitive
		dust emissions. (Photo attached).

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
		Fly ash is collected in dry form and stored in
		silos of 3x2000 cum capacity for disposal to
		various users. Unutilised fly ash is being
		disposed to the ash pond in lean slurry form.
vi	Fly ash shall be collected in dry form and storage facility (silos) shall be provided (as applicable). 100% fly ash utilisation shall be ensured from 4 th year onwards. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	Plant is achieving 100% fly ash utilization since September 2019. Annual Fly Ash utilization report for FY 22-23 is submitted to MoEF&CC vide letter no. SEILP1/MoEF&CC/Chennai/2023/002 dated 29th May 2023. SEIL has also installed and commissioned fly ash classification unit of 5 Lakh Tonne per annum within the site. Bottom Ash heavy metals analysis reports, Piezo Wells ground water quality reports & Ash Pond Effluent Quality Monitoring reports performed by MoEF&CC approved third Party are attached as Annexure- II, III & IV respectively.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
vii	Ash Pond shall be lined with HDP/LDP lining. Adequate safety measures shall also be implemented to protect the ash dyke from breached.	Complying. Ash pond is lined with impervious HDPE liner. HDPE sheet layer incide Ash Pond (11mm Tha) The dyke is designed, and adequate safety measures incorporated.
viii	Closed cycle cooling system with natural draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms.	Complying. Natural Draft Cooling Towers are installed at the site. ETP consists of Flash Mixer, Lamella Clarifier, Sludge Pit, Oil Water Separation Unit, Oil water collection tank and Central Monitoring Basin & Dosing system. It is used to treat the effluents to meet the prescribed norms. Analysis Reports attached as Annexure-V.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
		Complied.
ix	No ground water shall be extracted for the project work at any stage.	No ground water was extracted for the project work. Entire water requirement of the plant is being met from seawater.
X	Hydrogeological study of the area shall be reviewed annually and results to be submitted to the Ministry and concerned agency in the State Government. In case adverse impact on ground water quality and quantity is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.	Complying. Hydrogeological Study is being conducted annually and latest report submitted to statutory body on 26 th April 2023.
xi	Minimum required environmental flow suggested by the Competent Authority of the State Government shall be maintained in the Channel/rivers even in lean season.	Not applicable. Not applicable as SEIL is not extracting River/ canal water. Entire water requirement for plant operations is being met through seawater.
xii	The treated effluents conforming to the prescribed standards should be only discharged. Arrangement shall be made that effluents and storm water do not get mixed.	Complying. ETP and STP are in operation for treating wastewater generated in the plant to meet the prescribed standards. Treated water is being used for Dust suppression and Horticulture. Storm water system is adequately designed to avoid mixing with effluents and has separate disposal system. ETP treated effluent and Marine outfall water analysis report are attached as Annexure-V & VI.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
xiii	A sewage treatment plant shall be provided, and the treated sewage shall be used for raising greenbelt/plantation.	Complying. Sewage Treatment Plant (STP) is provided and operational for treating the domestic sewage generated. The treated domestic wastewater is used for greenbelt development. STP Treated effluent analysis reports are attached as Annexure-VII.
xiv	Rainwater harvesting should be adopted. Central Groundwater Authority/Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three moths from the date of clearance and details shall be furnished.	Complying. Approved Third party studies have carried out and rainwater harvesting pits are constructed and maintained along with the storm water drains. The rainwater from storm water drains is collected in RWH ponds.
xv	Adequate safety measures shall be provided in the plant area to check /minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Complying. The coal yard is provided with fire hydrant system and water sprinklers arrangement to control spontaneous combustion of coal. Photos provided in the report. Plant layout map with coal yard location is attached as Annexure-VIII.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
	Storage facilities for auxiliary liquid fuel such	Complying.
	as LDO and HFO/LSHS shall be made in the	SEIL has provided safe & secure storage
	plant areas in consultation with Department of	facilities for LDO and HFO.
xvi	Explosives, Nagpur. Sulphur content in the	These facilities are certified by the Chief
AVI	liquid fuel will not exceed 0.5%. Disaster	Controller of Explosives, Nagpur. Adequate
	Management plan shall be prepared to meet	firefighting systems are provided.
	any eventuality in case of an accident taking	Onsite Emergency Management Plan is in
	place due to storage of oil.	place to meet any eventuality.
	Regular monitoring of ground water in and	
	around the ash pond area including heavy	Complying.
	metals (Hg, Cr, As, Pb) shall be carried out,	Piezometer wells are provided around ash
	records maintained, and six-monthly reports	pond site.
xvii	shall be furnished to the regional office of this	Regular monitoring of ground water in and
	Ministry. The data so obtained should be	around the ash pond area is being carried
	compared with the baseline data so as to ensure	out. Piezo well Analysis Reports are
	that the ground water quality is not adversely	attached as Annexure-III.
	affected due to the Project.	
		Complying.
	Shelter Belt consisting of 3 tiers of plantation around the plant of 100 m width and adequate	SEIL is developing scientifically designed
		greenbelt with adequate tree density. Native
xviii		species have been chosen for plantation. An
	tree density shall be developed.	area of about 452 acres area is being
		brought under green cover in phased wise
		manner.
		Plantation photos attached in the report.
xix		Complied
	First Aid and sanitation arrangement shall be	Complied. Necessary facilities have been provided
	made for the drivers and other contract workers	during construction period.
AIX	during construction phase.	daring construction period.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

S No.	Condition	Compliance
		Complying.
XX	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area requisite personal protective equipment like earplugs /earmuffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc., shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	SEIL has ensured that the ambient noise level at the plant boundary shall comply with National ambient noise standards. Quarterly monitoring of noise level data is Complying to the standards. Workers are provided with adequate personal protective equipment. Necessary medical examinations are conducted, and records are being maintained. APPCB approved third party Noise Quality Monitoring Reports are attached as Annexure-IX.
xxi	Regular monitoring of ground level concentration of SOx, NOx, RSPM and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and the frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	Complied. Continuous AAQM stations (with online analysers) are provided at 4 locations. The data is continuously uploaded to CPCB & APPCB servers on real time basis. In addition, manual ambient air quality monitoring is carried out by engaging third party laboratory (approved by state PCB). The locations and monitoring are in consultation with PCB. MoEF&CC approved third party Ambient Air Quality Monitoring Reports are attached as Annexure-X.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
	A good action plan for R&R (if applicable)	
	with package for the project affected persons	
xxii	be submitted and implemented as per prevalent	Not Applicable
	R&R policy within three months from the date	
	of issue of this letter.	
xxiii	An amount of Rs.32.0 crores shall be earmarked as one-time capital cost for CSR programme. Subsequently a recurring expenditure of Rs.6.4 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	Complying. The details of CSR activities undertaken and planned along with Expenditure during April to September 23 is attached as Annexure- XI.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
xxiv	As part of CSR programme, the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc., can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs.	Complying. Company CSR Policy was prepared and executed based on Socio Economic study which was initially conducted.
XXV	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project	Complied during construction phase.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
	The Project proponent shall advertise in at least	
	two local newspapers widely circulated in the	
	region around the project, one of which shall	
	be in the vernacular language of the locality	
	concerned within seven days from the date of	Complied.
******	this clearance letter, informing that the project	Advertisements have been given in Telugu
xxvi	has been accorded environmental clearance	newspaper on dated: 04th July- 2009 and in
	and copies of clearance letter are available with	English newspaper on dated: 03 rd July 2009.
	the State Pollution Control Board/Committee	
	and may also be seen at the Website of the	
	Ministry of Environment and Forests at	
	http://envfor.nic.in.	
	A copy of the clearance letter shall be sent by	
	the proponent to concern Panchayat, Zilla	
	Parishad /Municipal corporation, urban local	Clearness letter was sent to conserved
	body and the local NGO, if any from whom	Clearance letter was sent to concerned
xxvii	suggestions/representations, if any, received	Panchayat, Zilla Parishad/ Municipal
	while processing the proposal. The Clearance	Corporation, urban local body. Clearance
	letter shall also be put on the website of the	letters are also uploaded in SEIL website.
	Company by the Proponent.	
		Complied.
xxviii	A dedicated Environment Management Cell	SEIL has established a dedicated
	with suitable qualified personnel shall be set up	Environment Management Cell with
	under the control of a Senior executive who	qualified personnel under the supervision of
	will report directly to the head of the	Head-HSE, who reports directly to the
	organization.	Station Head.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
		Complied.
xxix	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office	-
		Main Gate display of AAQ data Complying.
		Six Monthly EC compliance report is being
	the stipulated EC conditions including results	submitted to MOEF&CC, the respective
XXX	of monitored data to the respective Regional	Zonal office of CPCB and SPCB.
	Office of MOEF, the respective Zonal office of	EC compliance report for the period of Oct.
	CPCB and SPCB.	22 to Mar. 23 was submitted on 30 th May 23.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
	The Environment Statement for each financial	
	year ending 31st March in Form V as is	
	mandated to be submitted by the project	
	proponent to the concerned State Pollution	Complying.
	Control Board as prescribed under the	Environment Statement (Form-V) for FY
xxxi	Environment (Protection) Rules, 1986, as	22-23 has been submitted to APPCB (Ref.
	amended subsequently, shall also be put on the	No.: SEIL P1/APPCB/BZA/2023/005 dated
	website of the company along with the status	28 th September 2023.
	of compliance of EC conditions and shall also	
	be sent to the respective Regional Offices of	
	the Ministry.	
	The project proponent shall submit six monthly	
	reports on the status of the implementation of	Complying.
	the stipulated environmental safeguards to the	SEIL is submitting the six-monthly reports
	Ministry of Environment and Forests, its	on status of compliance and the monitored
	Regional Office, Central Pollution Control	data to the concerned regulatory authorities.
xxxii	Board and State Pollution Control Board. The	The reports are being uploaded company
XXXII	project proponent shall upload the status of	website periodically.
	compliance of the environmental clearance	https://seilenergy.com/AboutUs/Disclosure
	conditions on their website and update the	The same are also sent to regional office of
	same periodically and simultaneously send the	Ministry and APPCB by E-mail.
	same by e-mail to the Regional Office,	
	Ministry of Environment and Forests.	

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
		Noted. Being complied.
	Regional Office of the Ministry of	The compliance reports are uploaded in
	Environment and Forests will monitor the	company website.
	implementation of the stipulated conditions. A	https://seilenergy.com/AboutUs/Disclosure
	complete set of documents including	The environmental monitoring data which
	Environmental Impact Assessment Report and	includes Ambient Air Quality and stack
	Environment Management Plan along with the	emission data along with Hazardous waste
	additional information submitted from time to	data is being displayed at the main gate.
xxxiii	time shall be forwarded to the Regional Office	
	for their use during monitoring. Project	DONE DISTRICT POLITICAL SEGMENT OF THE SEGMENT OF T
	proponent will upload the compliance status in	and the state of t
	their website and update the same from time to	SEIL Invitors & Englands, sqs a
	time at least six-monthly basis. Criteria	Description of the second of t
	pollutants levels including NO _X (from Stack	MOLES Rijaseka Malanda ya Sakudiga Malanda ya Sakudiga Mi Antagawang Sakudi
	and ambient air) shall be displayed at the main	The state of the s
	gate of the power plant.	
	Separate funds shall be allocated for	Compleing
	implementation of environmental protection	Complying. Separate fund is allocated for
	measures along with item wise break up. These	Separate fund is allocated for Environmental protection measure and the funds are not diverted for any other works. Expenditure report is attached as Annexure-XII.
xxxiv	costs shall be included as part of the project	
	cost. The funds earmarked for the environment	
	protection measures shall not be diverted for	
	other purposes and year wise expenditure	Anneaute-Att.
	should be reported to the Ministry.	

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

	The project authorities shall inform the	
	Regional Office as well as the Ministry	
XXXV	regarding the date of financial closure and final	Complied
AAAV	approval of the Project by the concerned	Complica
	authorities and the dates of start of land	
	development work and commission of Plant.	

S No.	Condition	Compliance
xxxvi	Full cooperation shall be extended to the Scientists/Officers from the Ministry /Regional Office of the Ministry at Bangalore/CPCB/SPCB who should be monitoring the compliance of environmental status.	Noted for compliance.
xxxvii	Harnessing Solar Power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring reports.	Complying. Solar panels have been installed at canteen roof.
xxxviii	Long term study of radioactivity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analysed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Complying. Quarterly monitoring reports for heavy metal analysis in Coal is attached as Annexure-XIII.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
xxxix	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.	Complying. Stockpile Dust Suppression system around coal yards, Dry Fog dust suppression System along conveyor belts, Cyclone separators & bag filters at crusher house, Vacuum truck for road dust cleaning are implemented to avoid fugitive dust emissions and prevent the impact on agricultural or non-agricultural land.
xl	Space for FGD shall be provided for future installation as may be required.	Complying. Adequate space provision is available.
xli	No ground water shall be extracted for use in operation of the power plant even in lean season. No water bodies including natural drainage system in the area shall be distributed due to activities associated with the setting up / operation of the power plant.	Complying.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
S No.	Fly ash is not to be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close coordination	Compliance Complying.
xliii	with the State Pollution Control Board. Green belt shall also be developed around the ash pond over and above the green belt around the plant boundary.	Complying.
xliv	A Common Green Endowment Fund shall be created, and the interest earned out of it shall be used for the development and management of green cover of the area.	Complied. Separate fund centre has been earmarked for green belt development and maintenance.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
		Complied.
		CSR Committee has been formed and is working.
		CSR committee stake holder's meetings conducted
		at regular intervals.
		Community Eye Screening Programms C SEL SEL-Uper Community Spir Cateloup & Specials Distribution Programms Special Distribution Programms Speci
xlv	For proper and periodic monitoring of CSR activities, a CSR committee or a social audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external	
	agency. This evaluation shall be both concurrent and final.	PANDING OVER OF LIBRARY BOOKS, TELGRING LEARNING MATERIALS TO SCHOOLS 2 PPS - P JURUVARIPALEN
		CSSL SEIL ENTERPRENEURSHIP DOVELOPMENT CENTRE

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

S No.	Condition	Compliance
xlvi	An Environment Cell comprising of at least one expert in environment science / engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement / mitigation measures.	Complying. SEIL has established an Environment Management Cell with suitable qualified personnel under the supervision of Head-HSE, who reports directly to the Station Head. Services of Marine biologist & ecologist will be hired based on the requirement.
xlvii	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Complied. Environmental Policy has been incorporated as the QHSE Policy. QHSE Policy is attached as Annexure-XIV.
5	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.	Noted.
6	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the Power Plant.	Noted. The validity of EC is extended to 7 years by MoEF&CC. The 2x660 MW project has already commenced operations since 2015.

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

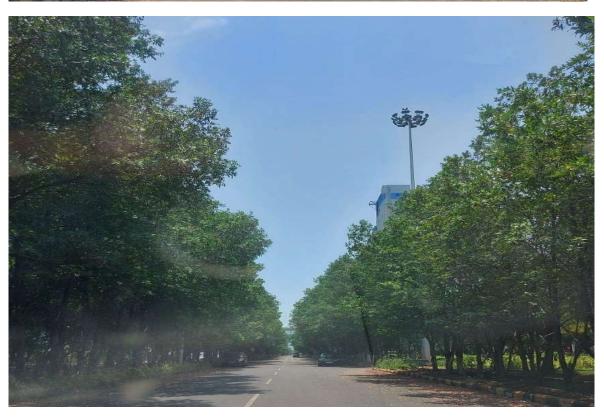
S No.	Condition	Compliance	
	Concealing factual data or submission of false		
	/fabricated data and failure to comply with any		
7	of the conditions mentioned above may result	Noted.	
,	in withdrawal of this clearance and attract	Tiorea.	
	action under the provisions of Environment		
	(Protection) Act 1986.		
	In case of any deviation or alteration in the		
	project proposed including coal transportation		
	system from those submitted to this Ministry		
8	for clearance, a fresh reference should be made	Noted.	
	to the Ministry to assess the adequacy of the	Tioted.	
	condition(s) imposed to add additional		
	environmental protection measures required, if		
	any		
	The above stipulations would be enforced		
	among others under the Water (Prevention and		
	Control of Pollution) Act 1974, the Air		
	(Prevention and Control of Pollution) Act,		
9	1981, the Environment (Protection) Act, 1986,	Noted.	
	and rules there under, Hazardous Wastes		
	(Management and Handling) Rules, 1989 and		
	its amendments, the Public Liability Insurance		
	Act, 1991 and its amendments.		
	Any appeal against this environmental		
	clearance shall lie with the National		
10	Environmental Appellate Authority, if	Noted.	
	preferred, within 30 days as prescribed under		
	Section 11 of National Environmental		
	Appellate Act, 1997.		

(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

GREEN BELT/ GREEN COVER DEVELOPMENT IN SITE





(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

GREEN COVER AROUND PERIPHERY



GREEN COVER ALONG THE PLANT ROADS



(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

GREEN COVER ALONG PIPE RACK & INTERNAL ROADS



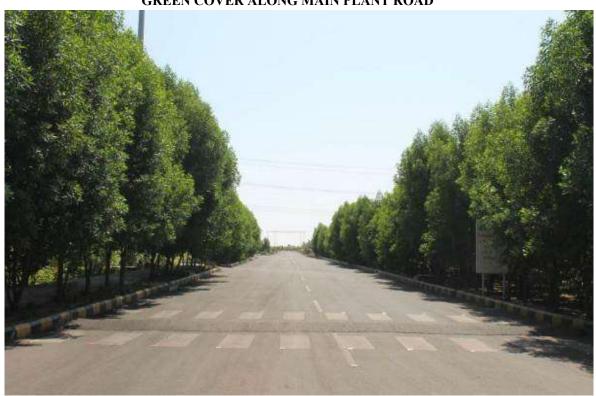
GREEN COVER INSIDE THE PLANT



(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

GREEN COVER ALONG MAIN PLANT ROAD





(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

COAL YARD WATER SPRINKLING



SPRINKLERS IN ASH POND



(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION INSIDE THE PLANT





(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

WIND BREAK PLANTATION AROUND COAL YARD



CONTINUOUS MONITORING OF DUST SUPPRESSION SYSTEM AT COAL YARD USING PTZ CAMERAS



(Formerly Sembcorp Energy India Limited), Painampuram & Nelaturu (V), Muthukur (M), SPSR Nellore (Dist.), Andhra Pradesh.

EC No. J 13012/02/2009-IA. II (T), Date: 04.11.2009 & 02.03.2015

DUST EXTRACTION SYSTEM AT TRANSFER POINTS



MAIN GATE DISPLAY BOARD - AMBIENT AIR QUALITY & EMISSIONS DATA DISPLAY





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-I

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Group: Atmospheric Pollution

Product: Stack Emission Monitoring- MAY 2023

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

Date of Monitoring: 24.05.2023 Sample Registration Date: 25.05.2023 Analysis Starting Date: 26.05.2023

Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

1. Time of Sampling ----:: 10:30 Hrs. to 11:30 Hrs.

00:60 Hrs. Time Duration (° C) **Ambient Temperature** 33.2 Flue gas Temperature (°C) 143 Velocity of the flue gas (m/sec) 25.1 6. C/s area of the duct (m^3) 33.20 7. Stack Diameter (m) 6.5

8. Flue gas Flow Rate (Nm³/Hr) : 2995171

S.NO	TEST PARAMETERS	TEST METHOD UNITS STANDARD	S RESULTS
1.	Particulate Matter (PM)	IS 11255 (part-1)1985 mg/Nm ³ <50	35.5
2.	Sulphur Dioxide (SO ₂)	IS 11255 (part-2)1985 mg/Nm ³ -	685
3.	Oxides of Nitrogen (NOx)	IS 11255 (part-7)1985 mg/Nm ³ 450	284
4.	Carbon Monoxide (CO)	NSPS Test Method-10 ppm -	1.5
5.	Mercury as Hg	State of California Air Resources Board, Method 10A mg/Nm³ 0.03	<0.01

Instrument Details:

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

Calibration Due : Sem-150/220 : 28.02.2024





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant) Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Group: Atmospheric Pollution
Product: Stack Emission Monitoring- MAY 2023

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

Date of Monitoring: 24.05.2023 Sample Registration Date: 25.05.2023 Analysis Starting Date: 26.05.2023

Analysis Completed Date: 29.05.2023 Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

TEST RESULT

1. Time of Sampling ----: 11:40 Hrs. to 12:30 Hrs.

2. Time Duration : 00:50 Hrs.

Ambient Temperature (° C) 33.1 Flue gas Temperature (°C): 143 Velocity of the flue gas (m/sec): 25.12 6. C/s area of the duct 33.20 (m^3) 7. Stack Diameter (m): 6.5 8. Flue gas Flow Rate (Nm³/Hr): 3002342

S.NO	TEST PARAMETERS	TEST METHOD UNITS STANDAR	DS RESULTS
1.	Particulate Matter (PM)	IS 11255 (part-1)1985 mg/Nm ³ <50	32.2
2.	Sulphur Dioxide (SO ₂)	IS 11255 (part-2)1985 mg/Nm ³ -	738
3.	Oxides of Nitrogen (NOx)	IS 11255 (part-7)1985 mg/Nm ³ 450	312
4.	Carbon Monoxide (CO)	NSPS Test Method-10 ppm -	1.2
5.	Mercury as Hg	State of California Air Resources Board, Method 10A mg/Nm³ 0.03	<0.01

Instrument Details:

Instrument : Stack Monitoring Kit
Make : Sree Scientific Equipment

Model / SI No : Sem-150/220206 Calibration Due : 28.02.2024





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-II

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT -1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Water

Product: Heavy Metal Analysis of Fly Ash- May 2023

Date of Monitoring: 24.05.2023
Sample Collected By: Ganesh

Sample Registration Date: 25.05.2023 Analysis Starting Date: 25.05.2023 Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S. No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARDS
1	Arsenic as As	USEPA-3050B Dec-1996 (Rev.2)	Ppm	0.32	5.0
2	Mercury as Hg	USEPA-3050B Dec-1996 (Rev.2)	Ppm	<0.05	0.2
3	Chromium as Cr	USEPA-3050B Dec-1996 (Rev.2)	Ppm	0.45	5.0
4	Lead as Pb	USEPA-3050B Dec-1996 (Rev.2)	Ppm	0.32	5.0

Note: USEPA- United States Environmental Protection Agency





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: Heavy Metal Analysis of Bottom Ash- May 2023

Date of Monitoring: 24.05.2023

Sample Collected By: Ganesh

Sample Registration Date: 25.05.2023
Analysis Starting Date: 25.05.2023
Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARDS
1.	Arsenic as As	USEPA-3050B Dec-19 <mark>96(Rev.2)</mark>	Ppm	0.32	5.0
2.	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	Ppm	<0.02	0.2
3.	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	ppm	0.57	5.0
4.	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	ppm	0.44	5.0

Note: USEPA- United States Environmental Protection Agency





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-III

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Water Product Water

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

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

Date of Monitoring: 24.05.2023

Sample Registration Date: 25.05.2023 Analysis Starting Date: 26.05.2023 Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

Sample Collected By: Ganesh

TEST RESULT

S.	TEST PARAMETERS	UNITS	UNITS TEST METHOD RESULTS STANDARDS AS PER IS:10500						
NO.	- J			PW-1	PW-2	ACCEPTABLE	PERMISSIBLE		
1	рН	//	IS3025(P-11)2021	6.8	7.3	6.5- 8.5	No Relaxation		
2	Color	Hazen	IS3025(P-04)2021	1.2	1.2	1.0	5.0		
3	Turbidity	NTU	IS3025(P-10)1984	0.3	0.5	1.0	5.0		
4	Electric Conductivity	μs/cm	IS3025(P-14)2013	1,044	1,245				
5	Temperature	°C		25.2	26.2	-			
6	Total Suspended Solids	mg/l	IS3025(P-17)1984	25	27				
7	Total Dissolved Solids	mg/l	IS3025(P-16)1984	723	872	500	2000		
8	Total Hardness as CaCO₃	mg/l	IS3025(P-2 <mark>3)1986</mark>	230	253	200	600		
9	Total Alkalinity as CaCO ₃	mg/l	IS3025(P-2 <mark>3)1986</mark>	163	181	200	600		
10	Calcium as Ca	mg/l	IS3025(P-4 <mark>0)19</mark> 91	46.4	52.2	75	200		
11	Magnesium as Mg	mg/l	IS3025(P-4 <mark>0)1991</mark>	25.3	26.4	30	100		
12	Free Residual Chlorine	mg/l	IS3025(P-26)1986	<0.1	<0.1	0.2	No Relaxation		
13	Boron as B	mg/l	IS3025(P-57)2021	<0.1	<0.1	0.5	1.0		
14	Calcium Hardness as CaCO ₃	mg/l	IS3025(P-40)1991	142	153				
15	Magnesium Hardness as CaCO3	mg/l	IS3025(P-40)1991	95	101				
16	Sodium as Na	mg/l	IS3025(P-45)1993	106	108				
17	Potassium as K	mg/l	IS3025(P-45)1993	12	11				
18	Chloride as Cl	mg/l	IS3025(P-32)1988	163	184	250	1000		

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

						STANDARDS AS PER	
S. NO.	TEST PARAMETERS	UNITS	TEST METHOD	RESI	JLTS	_	DS AS PER 0500
NO.				PW-1	PW-2	ACCEPTABLE	PERMISSIBLE
19	Sulphates as SO ₄	mg/l	IS3025(P-24)1986	72.1	84.1	200	400
20	Nitrates as NO ₃	mg/l	IS3025(P-34)1988	28.2	28.3	45	No Relaxation
21	Chemical Oxygen Demand	mg/l	IS3025(P-58)2006	<5.0	<5.0		-
22	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	IS3025(P-44)1993	<3.0	<3.0		
23	Iron as Fe	mg/l	IS3025(P-53)2003	0.07	0.12	<0.3	No Relaxation
24	Fluoride as F	mg/l	IS3025(P-60)2008	0.65	0.75	<1.0	<1.5
25	Copper as Cu	mg/l	IS3025(P-42)1992	<0.01	<0.01	<0.05	<1.5
26	Manganese as Mn	mg/l	IS3025(P-59)2006	<0.1	<0.1	<0.1	<0.3
27	Phenolic Compounds as C ₆ H ₅ OH	mg/l	IS3025(P-43)1992	<0.001	<0.001	<0.001	<0.002
28	Cadmium as Cd	mg/l	IS3025(P-41)1992	<0.001	<0.001	<0.003	No Relaxation
29	Mercury as Hg	mg/l	IS3025(P-48)1994	<0.001	<0.001	<0.001	No Relaxation
30	Selenium as Se	mg/l	IS3025(P-56)2003	<0.01	<0.01	<0.01	No Relaxation
31	Total Arsenic as As	mg/l	IS3025(P-37)1988	<0.01	<0.01	<0.01	<0.20
32	Cyanide as CN	mg/l	IS3025(P-27)1986	<0.01	<0.01	<0.05	No Relaxation
33	Lead as Pb	mg/l	IS3025(P-47)1994	<0.01	<0.01	<0.01	No Relaxation
34	Zinc as Zn	mg/l	IS3025(P-49)1994	<0.01	<0.01	<5.0	<15
35	Total Chromium as Cr ⁺⁶	mg/l	IS3025(P-52)2003	<0.01	<0.01	<0.05	<1.0
36	Aluminium as Al	mg/l	IS3025(P-55)2003	<0.01	<0.01	0.5	1.0
37	Pesticides	mg/l	As per STP	<0.01	<0.01		No Relaxation
38	Dissolved Oxygen	mg/l	IS3025(P-3 <mark>8)1989</mark>	4.6	5.9		
39	Oil & Grease	mg/l	IS3025(P-39)2021	<1.0	<1.0		
40	Phosphates as PO ₄	mg/l	IS3025(P-31)1998	<0.01	<0.01		
41	Percent Sodium	%	IS3025(P-45)1993	34.6	30.8		
42	E-Coli	Per/ 100ml	ISO 9308-1	Absent	Absent	Absent/ 100 ml	Absent/ 100 ml
43	Total Coliforms	Per/ 100ml	ISO 9308-1	Absent	Absent	Absent/ 100 ml	Absent/ 100 ml
44	Fecal Coliforms	MPN/ 100ml	IS-1622-1981	Absent	Absent		

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Water Product Water

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

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

Date of Monitoring: 24.05.2023

Sample Registration Date: 25.05.2023
Analysis Starting Date: 26.05.2023

Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002 Sample Collected By: Ganesh

TEST RESULT

S.	TEST PARAMETERS	UNITS TEST METHOD		RESI	JLTS	STANDARDS AS PER IS:10500	
NO.				PW-3	PW-4	ACCEPTABLE	PERMISSIBLE
1	рН	//	IS3025(P-11)2021	7.5	7.3	6.5- 8.5	No Relaxation
2	Color	Hazen	IS3025(P-04)2021	1.0	1.0	1.0	5.0
3	Turbidity	NTU	IS3025(P-10)1984	0.4	0.3	1.0	5.0
4	Electric Conductivity	μs/cm	IS3025(P-14)2013	1,204	1,251	1	-
5	Temperature	°C		26.2	25.3	-	
6	Total Suspended Solids	mg/l	IS3025(P-17)1984	24	34		
7	Total Dissolved Solids	mg/l	IS3025(P-16)1984	842	882	500	2000
8	Total Hardness as CaCO₃	mg/l	IS3025(P-2 <mark>3)1986</mark>	255	235	200	600
9	Total Alkalinity as CaCO ₃	mg/l	IS3025(P-2 <mark>3)1986</mark>	182	207	200	600
10	Calcium as Ca	mg/l	IS3025(P-4 <mark>0)1991</mark>	61	64	75	200
11	Magnesium as Mg	mg/l	IS3025(P-4 <mark>0)1991</mark>	22	23	30	100
12	Free Residual Chlorine	mg/l	IS3025(P-2 <mark>6)1986</mark>	<0.1	<0.1	0.2	No Relaxation
13	Boron as B	mg/l	IS3025(P-57)2021	0.1	0.2	0.5	1.0
14	Calcium Hardness as CaCO ₃	mg/l	IS3025(P-40)1991	153	144	-	-
15	Magnesium Hardness as CaCO3	mg/l	IS3025(P-40)1991	105	92		
16	Sodium as Na	mg/l	IS3025(P-45)1993	124	113		
17	Potassium as K	mg/l	IS3025(P-45)1993	22	13	-	
18	Chloride as Cl	mg/l	IS3025(P-32)1988	184	205	250	1000

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

S. NO.	TEST PARAMETERS	UNITS	TEST METHOD	RESI	JLTS		DS AS PER 0500
NO.				PW-3	PW-4	ACCEPTABLE	PERMISSIBLE
19	Sulphates as SO ₄	mg/l	IS3025(P-24)1986	91.4	93.1	200	400
20	Nitrates as NO₃	mg/l	IS3025(P-34)1988	25.1	24.3	45	No Relaxation
21	Chemical Oxygen Demand	mg/l T	JS3025(P-58)2006 EST REPORTS	<5.0	<5.0		
22	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	IS3025(P-44)1993	<3.0	<3.0		
23	Iron as Fe	mg/l	IS3025(P-53)2003	0.18	0.12	<0.3	No Relaxation
24	Fluoride as F	mg/l	IS3025(P-60)2008	0.70	0.66	<1.0	<1.5
25	Copper as Cu	mg/l	IS3025(P-42)1992	<0.01	<0.01	<0.05	<1.5
26	Manganese as Mn	mg/l	IS3025(P-59)2006	<0.1	<0.1	<0.1	<0.3
27	Phenolic Compounds as C ₆ H ₅ OH	mg/l	IS3025(P-43)1992	<0.001	<0.001	<0.001	<0.002
28	Cadmium as Cd	mg/l	IS3025(P-41)1992	<0.001	<0.001	<0.003	No Relaxation
29	Mercury as Hg	mg/l	IS3025(P-48)1994	<0.001	<0.001	<0.001	No Relaxation
30	Selenium as Se	mg/l	IS3025(P-56)2003	<0.01	<0.01	<0.01	No Relaxation
31	Total Arsenic as As	mg/l	IS3025(P-37)1988	<0.01	<0.01	<0.01	<0.20
32	Cyanide as CN	mg/l	IS3025(P-27)1986	<0.01	<0.01	<0.05	No Relaxation
33	Lead as Pb	mg/l	IS3025(P-47)1994	<0.01	<0.01	<0.01	No Relaxation
34	Zinc as Zn	mg/l	IS3025(P-49)1994	<0.01	<0.01	<5.0	<15
35	Total Chromium as Cr ⁺⁶	mg/l	IS3025(P-52)2003	<0.01	<0.01	<0.05	<1.0
36	Aluminium as Al	mg/l	IS3025(P-55)2003	<0.01	<0.01	0.5	1.0
37	Pesticides	mg/l	As per STP	<0.01	<0.01		No Relaxation
38	Dissolved Oxygen	mg/l	IS3025(P-3 <mark>8)19</mark> 89	5.4	5.7		
39	Oil & Grease	mg/l	IS3025(P-39)2021	<1.0	<1.0		
40	Phosphates as PO ₄	mg/l	IS3025(P-31)1998	<0.01	<0.01		
41	Percent Sodium	%	IS3025(P-45)1993	31.2	30.9		
42	E-Coli	Per/ 100ml	ISO 9308-1	Absent	Absent	Absent/ 100 ml	Absent/ 100 ml
43	Total Coliforms	Per/ 100ml	ISO 9308-1	Absent	Absent	Absent/ 100 ml	Absent/ 100 ml
44	Fecal Coliforms	MPN/ 100ml	IS-1622-1981	Absent	Absent		

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant) Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Water Product Water

Location-5: Piezo Well No-5- Water - North West Side (PW-5)

Date of Monitoring: 24.05.2023

Sample Registration Date: 25.05.2023 Analysis Starting Date: 26.05.2023 Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0003 Sample Collected By: Ganesh

TEST RESULT

S.	TEST PARAMETERS	UNITS	TEST METHOD	RESULTS	STANDARDS A	AS PER IS:10500
NO.				PW-5	ACCEPTABLE	PERMISSIBLE
1	рН	//	IS3025(P-11)2021	7.3	6.5- 8.5	No Relaxation
2	Color	Hazen	IS3025(P-04)2021	1.0	1.0	5.0
3	Turbidity	NTU	IS3025(P-10)1984	0.3	1.0	5.0
4	Electric Conductivity	μs/cm	IS3025(P-14)2013	1,251		
5	Temperature	°C		25.3		
6	Total Suspended Solids	mg/l	IS3025(P-17)1984	34		
7	Total Dissolved Solids	mg/l	IS3025(P-16)1984	882	500	2000
8	Total Hardness as CaCO₃	mg/l	IS3025(P-23)1986	235	200	600
9	Total Alkalinity as CaCO ₃	mg/l	IS3025(P-2 <mark>3)1986</mark>	207	200	600
10	Calcium as Ca	mg/l	IS3025(P-4 <mark>0)1991</mark>	64	75	200
11	Magnesium as Mg	mg/l	IS3025(P-4 <mark>0)1</mark> 991	23	30	100
12	Free Residual Chlorine	mg/l	IS3025(P-26)1986	<0.1	0.2	No Relaxation
13	Boron as B	mg/l	IS3025(P-57)2021	0.2	0.5	1.0
14	Calcium Hardness as CaCO ₃	mg/l	IS3025(P-40)1991	144		
15	Magnesium Hardness as CaCO ₃	mg/l	IS3025(P-40)1991	92		
16	Sodium as Na	mg/l	IS3025(P-45)1993	113		
17	Potassium as K	mg/l	IS3025(P-45)1993	13		
18	Chloride as Cl	mg/l	IS3025(P-32)1988	178	250	1000

K. S.L. al Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

S.	TEST PARAMETERS	UNITS	TEST METHOD	RESULTS	STANDARDS A	AS PER IS:10500
NO.				PW-5	ACCEPTABLE	PERMISSIBLE
19	Sulphates as SO ₄	mg/l	IS3025(P-24)1986	73.2	200	400
20	Nitrates as NO₃	mg/l	IS3025(P-34)1988	26.4	45	No Relaxation
21	Chemical Oxygen Demand	mg/l	IS3025(P-58)2006	<5.0	-	
22	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	IS3025(P-44)1993	<3.0		-
23	Iron as Fe	mg/l	IS3025(P-53)2003	0.18	<0.3	No Relaxation
24	Fluoride as F	mg/l	IS3025(P-60)2008	0.78	<1.0	<1.5
25	Copper as Cu	mg/l	IS3025(P-42)1992	<0.01	<0.05	<1.5
26	Manganese as Mn	mg/l	IS3025(P-59)2006	<0.1	<0.1	<0.3
27	Phenolic Compounds as C ₆ H₅OH	mg/l	IS3025(P-43)1992	<0.001	<0.001	<0.002
28	Cadmium as Cd	mg/l	IS3025(P-41)1992	<0.001	< 0.003	No Relaxation
29	Mercury as Hg	mg/l	IS3025(P-48)1994	<0.001	<0.001	No Relaxation
30	Selenium as Se	mg/l	IS3025(P-56)2003	<0.01	<0.01	No Relaxation
31	Total Arsenic as As	mg/l	IS3025(P-37)1988	<0.01	<0.01	<0.20
32	Cyanide as CN	mg/l	IS3025(P-27)1986	<0.01	<0.05	No Relaxation
33	Lead as Pb	mg/l	IS3025(P-47)1994	<0.01	<0.01	No Relaxation
34	Zinc as Zn	mg/l	IS3025(P-49)1994	<0.01	<5.0	<15
35	Total Chromium as Cr+6	mg/l	IS3025(P-52)2003	<0.01	<0.05	<1.0
36	Aluminium as Al	mg/l	IS3025(P-55)2003	<0.01	0.5	1.0
37	Pesticides	mg/l	As pe <mark>r STP</mark>	<0.01	//	No Relaxation
38	Dissolved Oxygen	mg/l	IS3025(P-38)1989	5.0		
39	Oil & Grease	mg/l	IS3025(P-39)2021	<1.0		
40	Phosphates as PO ₄	mg/l	IS3025(P-31)1998	<0.01	-1	-1
41	Percent Sodium	%	IS3025(P-45)1993	30.2		
42	E-Coli	Per/ 100ml	ISO 9308-1	Absent	Absent/ 100 ml	Absent/ 100 ml
43	Total Coliforms	Per/ 100ml	ISO 9308-1	Absent	Absent/ 100 ml	Absent/ 100 ml
44	Fecal Coliforms	MPN/ 100ml	IS-1622-1981	Absent		

K.S.Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-IV

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Waste water

Sample Location: Ash Pond Effluent Water

Date of Monitoring: 24.05.2023 Sample Collected By: Ganesh Sample Registration Date & NO: 25/05/2023

Analysis Starting Date: 25.05.2023

Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S.NO	TEST PARAMETERS	UNIT	TEST METHOD	RESULT	STANDARD
1.	рН		IS:3025(Part-11)1983	7.6	6.5-8.5
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	30	100
5.	Chemical Oxygen Demand (COD)	mg/l	IS:3025(Part-58)-2006	64	250
6.	Biochemical Oxygen Demand (BOD) (3 days at 27 °C)	mg/l	IS:3025(Part-44)-1993	23	100
7.	Oil & Grease	mg/l	IS:3025(Part-39)-1991	1.5	10
8.	Total Arsenic as As	mg/l	IS:3025(Part-37)-1988	<0.01	0.2
9.	Mercury as Hg	mg/l	IS:3025(Part-48)-1994	<0.001	0.01
10.	Lead as Pb	mg/l	IS:3025(Part-47)-1994	<0.01	2.0
11.	Cadmium as Cd	mg/l	IS:3025(Part-41)-1992	<0.001	2.0
12.	Hexavalent Chromium as Cr ⁶⁺	mg/l	IS:3025(Part-52)-2003	<0.001	1.0

IS-Indian Standard





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-V

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: ETP INLET

Date of Monitoring: 24.05.2023 Sample Collected By: Ganesh Sample Registration Date: 25.05.2023

Analysis Starting Date: 25.05.2023
Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS
1.	рН	IS:3025 (Part-11)1983		6.7
2.	Total Dissolved Solids	IS:3025 (Part-15)1984	mg/l	813
3.	Total Suspended Solids	IS:3025 (Part-15)1984	mg/l	70
4.	Chemical Oxygen Demand	IS:3025 (Part-58)-1986	mg/l	72
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025 (Part-44)-1993	mg/l	25
6.	Oil & Grease	IS:3025 (Part-39)-1991	mg/l	2.3

Note: IS- Indian Standard





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: ETP OUTLET (Treated Effluent)

Date of Monitoring: 24.05.2023 Sample Collected By: Ganesh Sample Registration Date: 25.05.2023

Analysis Starting Date: 25.05.2023
Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARD
1.	рН	IS:3025 (Part-11)1983		7.5	5.5-9.0
2.	Total Dissolved Solids	IS:3025 (Part-15)1984	mg/l	465	2100
3.	Total Suspended Solids	IS:3025 (Part-15)1984	mg/l	54	100
4.	Chemical Oxygen Demand	IS:3025 (Part-58)-1986	mg/l	46	250
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025 (Part-44)-1993	mg/l	18	100
6.	Oil & Grease	IS:3025 (Part-39)-1991	mg/l	<1.0	10

Note: IS- Indian Standard





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-VI

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: Marine Outfall Water Date of Sampling: 24.05.2023 Sample Collected By: Ganesh Sample Registration Date: 25.05.2023

Analysis Starting Date: 25.05.2023
Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S. NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARDS
1	рН	IS:3025(Part-11)1983		6.8	6.5-8.5
2	Temperature Intake		°C	25.2	Shall not exceed 5°C
3	Temperature Out Fall		°C	27.5	Receiving temperature
4	Electric Conductivity	IS: 3025:1964	μs/cm	28,357	
5	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	19,765	
6	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	68	100
7	Chemical Oxygen Demand	IS:3025(Part-58)-2006	mg/l	52	250
8	Biochemical Oxygen Demand (3 days at 27°C)	IS:3025(Part-44)-1993	mg/l	18	100
9	Oil & Grease	IS:3025(Part-39)- <mark>1991</mark>	mg/l	<1.0	10
10	Total Hardness as CaCO ₃	IS:3025(Part-21)-2012	mg/l	4,361	
11	Total Alkalinity as CaCO₃	IS:3025(Part-23)-2012	mg/l	757	
12	P- Alkalinity as CaCO₃	IS:3025(Part-13)-1964	mg/l	Nil	
13	Turbidity	IS:3025(Part-10)-2012	NTU	2.8	
14	Calcium as Ca	IS:3025(Part-40)-2012	mg/l	1,316	
15	Magnesium as Mg	IS:3025(Part-46)-2012	mg/l	272	
16	Sodium as Na	IS:3025(Part-45)1993	mg/l	678	





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

S. No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARDS
17	Potassium as K	IS:3025(Part-45)1993	mg/l	361	
18	Chloride as Cl	IS:3025(Part-32)-2012	mg/l	7,134	
19	Sulphates as SO ₄	IS:3025(Part-24)-2012	mg/l	780	
20	Nitrates as NO₃	IS:3025(Part-34)-2012	mg/l	40.1	
21	Carbonates as CO₃	IS:3025(Part-51)-2017	mg/l	Nil	
22	Bio Carbonates as HCO ₃	IS:3025(Part-51)-2017	mg/l	512	
23	Iron as Fe	IS:3025(Part-53)-2012	mg/l	1.1	
24	Flouride as F	IS:3025(Part-60)-2012	mg/l	1.5	
25	Copper as Cu	IS:3025(Part-42)-2012	mg/l	0.23	
26	Manganese as Mn	IS:3025(Part-59)-2012	mg/l	0.25	
27	Phenolic Compounds as C ₆ H₅OH	IS:3025(Part-43)-2012	mg/l	<0.005	
28	Cadmium as Cd	IS:3025(Part-41)-2012	mg/l	<0.005	2.0
29	Mercury as Hg	IS:3025(Part-48)-2012	mg/l	<0.001	0.01
30	Selinium as Se	IS:3025(Part-56)-2 <mark>012</mark>	mg/l	<0.005	
31	Arsenic as As	IS:3025(Part-37)-2012	mg/l	<0.01	0.2
32	Cyanide as CN	IS:3025(Part-27)-2012	mg/l	<0.01	
33	Lead as Pb	IS:3025(Part-47)-2012	mg/l	<0.01	2.0
34	Zinc as Zn	IS:3025(Part-49)-2012	mg/l	0.28	
35	Hexavalent Chromium as Cr ⁺⁶	IS:3025(Part-38)-1964	mg/l	<0.001	1.0
36	Boron as B	IS:3025(Part-57)-2012	mg/l	0.005	
37	Silica as SiO2	IS:3025(Part-35)-2019	mg/l	27.3	

Note: IS- Indian Standard





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: Marine Outfall Water
Date of Sampling: 24.05.2023

Sample Collected By: Ganesh

Sample Registration Date: 25.05.2023 Analysis Starting Date: 25.05.2023 Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

TEST RESULT

TEST SPECIES	SOURCE OF ORGANISM	LENGTH & WEIGHT (For Fish)	REMARKS
Zebra Fish	Through vendors	1. Length 4.3 cm 2. Weight 3.2 gm	1.Fish were not fed <u>Yes</u> 2. Temperature range in aquarium 25°C

REFERENCE TEST DATA

START DATE: 25.05.2023 END DATE: 29.05.2023

COMMENTS:

The test species was undergone toxicity for about 96 Hrs.

RESULT: 97% survival of fish was noticed

Method of Testing: As per M.L. Jackson & FAO -Food and Agriculture Organization







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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-VII

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Water

Product: STP INLET

Date of Monitoring: 24.05.2023

Sample Collected By: Ganesh

Sample Registration Date: 25.05.2023

Analysis Starting Date: 26.05.2023
Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S. NO.	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS
1	рН	IS:3025(Part-11)1983		7.9
2	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	743
3	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	75
4	Chemical Oxygen Demand	IS:3025(Part-58)-1986	mg/l	234
5	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025(Part-44)-1993	mg/l	43
6	Oil & Grease	IS:3025(Part-39)-1991	mg/l	1.8

Note: IS-Indian Standard





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Water

Product: STP OUTLET

Date of Monitoring: 24.05.2023 Sample Collected By: Ganesh Sample Registration Date: 25.05.2023

Analysis Starting Date: 26.05.2023
Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARD
1.	рН	IS:3025(Part-11)1983	/	7.3	5.5-9.0
2.	Total Dissolved Solids	IS:3025(Part-15)1984	mg/l	172	2100
3.	Total Suspended Solids	IS:3025(Part-15)1984	mg/l	30	100
4.	Chemical Oxygen Demand	IS:3025(Part-58)-1986	mg/l	67	250
5.	Biochemical Oxygen Demand (5 days at 20°C)	IS:3025(Part- <mark>44)-1</mark> 993	mg/l	16	100
6.	Oil & Grease	IS:3025(Part- <mark>39)-1991</mark>	mg/l	<1.0	10

Note: IS-Indian Standard



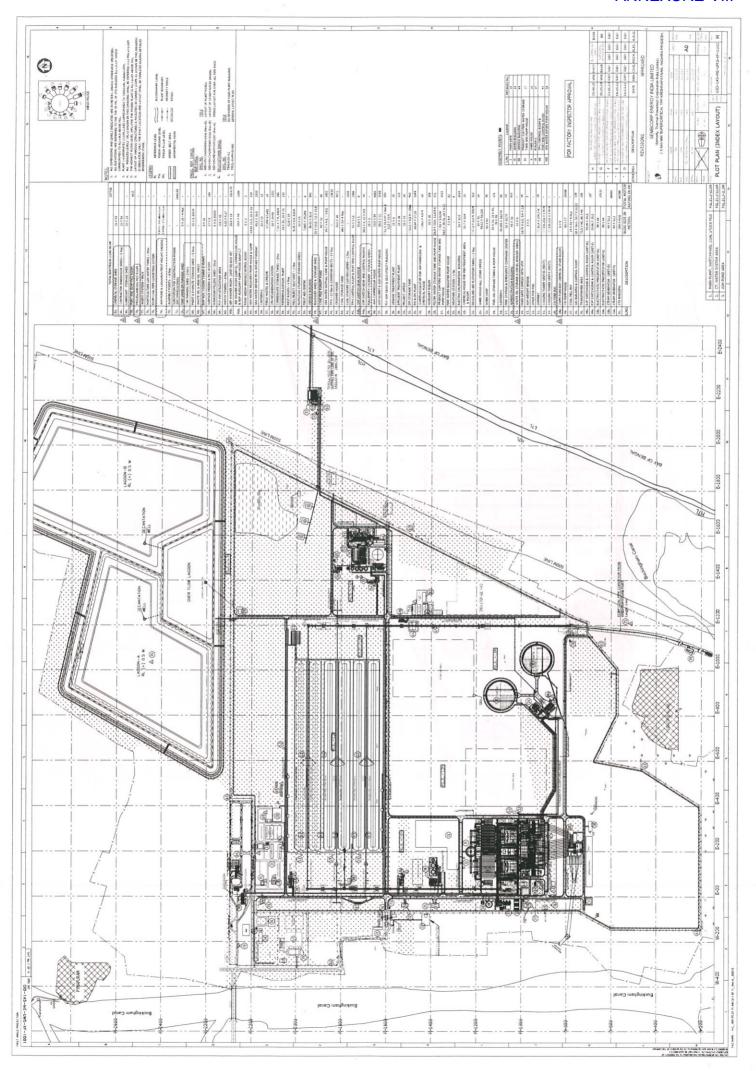




LABORATORY: Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035

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







Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-IX

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Sampling Location-1: Main Gate

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1		00:00	36.2
2		01:00	34.5
3		02:00	37.3
4		03:00	42.1
5		04:00	44.6
6		05:00	40.4
7		06:00	52.2
8	A .	07:00	56.5
9		08:00	58.3
10		09:00	54.6
11	24.05.2023	10:00	56.1
12		11:00	55.4
13		12:00	53.7
14		13:00	58.1
15	N .	14:00	52.6
16		15:00	54.3
17		16:00	57.5
18		17:00	55.2
19		18:00	53.4
20		19:00	47.1
21		20:00	49.3
22		21:00	46.7
23		22:00	43.5
24		23:00	45.1

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: 28.02.2024





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant) Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Sampling Location-2: BTG Area

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1		00:00	36.5
2		01:00	42.3
3		02:00	44.4
4		03:00	47.2
5		04:00	45.3
6		05:00	40.6
7		06:00	45.1
8		07:00	52.5
9		08:00	55.3
10		09:00	53.0
11	24.05.2023	10:00	54.6
12		11:00	56.5
13		12:00	54.2
14		13:00	51.6
15		14:00	55.7
16		15:00	53.3
17		16:00	52.4
18		17:00	51.7
19		18:00	46.5
20		19:00	44.1
21		20:00	48.6
22		21:00	45.0
23		22:00	41.7
24		23:00	43.4

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: 28.02.2024

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Sampling Location-3: Coal Handling Plant

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0003

TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1		00:00	45.1
2		01:00	42.5
3		02:00	46.4
4		03:00	43.6
5		04:00	48.1
6		05:00	44.5
7		06:00	52.3
8		07:00	48.8
9		08:00	55.4
10		09:00	51.3
11	24.05.2023	10:00	59.7
12		11:00	55.1
13		12:00	65.3
14		13:00	63.9
15		14:00	60.2
16		15:00	54.7
17		16:00	56.4
18		17:00	55.2
19		18:00	57.7
20		19:00	53.4
21		20:00	51.5
22		21:00	44.4
23		22:00	42.8
24		23:00	40.2

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: 28.02.2024





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant) Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Sampling Location-4: Pattapupalem Village

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0004

TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1		00:00	33.1
2		01:00	31.3
3		02:00	35.7
4		03:00	32.5
5		04:00	31.4
6		05:00	36.6
7		06:00	37.5
8		07:00	39.8
9		08:00	36.4
10		09:00	42.1
11	24.05.2023	10:00	40.4
12		11:00	43.1
13		12:00	46.7
14		13:00	41.3
15		14:00	43.5
16		15:00	45.8
17		16:00	47.9
18		17:00	46.6
19		18:00	44.1
20		19:00	46.3
21	The state of the s	20:00	44.5
22		21:00	47.2
23		22:00	43.6
24		23:00	37.4

<u>CPCB Standard:</u> 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: 11180097641 Calibration Due: 28.02.2024

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant) Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Sampling Location-5: Painampuram Village

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0005

TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1		00:00	35.7
2		01:00	33.6
3		02:00	35.2
4		03:00	34.4
5		04:00	37.5
6		05:00	39.4
7		06:00	35.7
8	- 1	07:00	42.9
9		08:00	45.4
10		09:00	44.8
11	24.05.2023	10:00	48.3
12		11:00	46.1
13		12:00	42.6
14		13:00	43.2
15	N .	14:00	45.4
16		15:00	43.0
17		16:00	46.4
18		17:00	45.7
19		18:00	47.5
20		19:00	44.6
21		20:00	42.7
22		21:00	39.4
23		22:00	31.6
24		23:00	35.2

<u>CPCB Standard:</u> 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: 11180097642 Calibration Due: 28.02.2024

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant) Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Sampling Location-6: Nelaturu Village

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0006

TEST RESULT

S. NO	DATE	TIME (Hrs.)	dB (A)
1		00:00	35.2
2		01:00	33.5
3		02:00	35.3
4		03:00	36.4
5		04:00	34.6
6		05:00	37.2
7		06:00	35.4
8		07:00	37.7
9		08:00	42.1
10		09:00	45.3
11	24.05.2023	10:00	43.5
12		11:00	44.7
13		12:00	47.3
14		13:00	45.1
15		14:00	48.4
16		15:00	41.9
17		16:00	43.7
18		17:00	49.5
19		18:00	42.1
20		19:00	43.7
21		20:00	37.0
22		21:00	40.8
23		22:00	35.6
24		23:00	38.2

<u>CPCB Standard:</u> 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: 11180097643 Calibration Due: 28.02.2024

K. S. Lad Verified by



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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Group: Atmospheric Pollution

Product: Noise Monitoring (24 Hrs.)- MAY 2023

Date of Sampling: 24-05-2023

Sample Registration Date: 25.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0007

TEST RESULT

Particulars	Main Gate dB (A)	BTG Area dB (A)	Coal Handling Plant dB (A)	Pattapupalem Village dB (A)					
		(6 AM-10 PM) < 75 e: (10 PM-6 AM) < 70			: (6 AM-10 PM) <55 e: (10 PM-6 AM) < 4				
Minimum	34.5	36.5	40.2	31.3	31.6	33.6			
Maximum	58.3	56.5	65.3	47.9	48.3	49.5			
Average	49.4	48.4	51.6	40.6	41.1	40.6			





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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-X

ISSUED TO:

M/S. SEIL ENERGY INDIA LIMITED PROJECT -1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram/ Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Atmospheric Pollution

Product: Ambient Air

Location-1: Fire Station (Plant)

Sample Registration No :305/05/2023

Sample Registration Date:31.05.2023

Issue Date:05.06.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

Sample collected person details: S. Ganesh

TEST RESULT

				- 17 / A		- //	A					
Date Of	μg/m³				mg/m³	μg/m³				ng/m³		
Sampling	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	СО	Pb	O ₃	NH ₃	C ₆ H ₆	BaP	As	Ni
01.05.2023	33.5	24.7	7.2	7.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.05.2023	28.1	19.5	7.7	6.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.05.2023	32.3	27.3	7.5	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.05.2023	25.0	23.7	8.6	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
15.05.2023	32.4	25.3	7.4	7.0	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
16.05.2023	35.3	22.6	7.2	7.3	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
22.05.2023	31.7	24.4	7.4	6.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.05.2023	28.6	23.2	7.1	7.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
29.05.2023	23.2	19.1	8.2	6.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
30.05.2023	27.8	26.1	7.8	7.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	23.2	19.1	7.1	6.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	35.3	27.3	8.6	8.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	29.7	23.5	7.6	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	34.9	27.0	8.5	8.4	<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	20

Instruments Details:

Instrument : Fine Particulate sampler Model/SI NO : AAQ510 / 220830

Make : SSE (Shree Scientific Equipment)

Calibration Due: 28.02.2024

Verified by

Instruments Details:

Instrument : Respirable Dust sampler
Model/SI NO : APM-460 NL/381-DTG-2007

Make : Envirotech Calibration Due : 28.02.2024

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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT -1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram/ Nelaturu (V), Muthukur(M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Atmospheric Pollution

Product: Ambient Air

Location-2: Pattapupalem village

Sample Registration No :305/05/2023

Sample Registration Date:31.05.2023

Issue Date :05.06.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0002

Sample collected person details: S. Ganesh

TEST RESULT

Date Of		μg/ı	m³		mg/m³		μg/	m³			ng/m³	
Sampling	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	СО	Pb	O ₃	NH ₃	C ₆ H ₆	BaP	As	Ni
01.05.2023	35.1	23.5	7.4	7.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.05.2023	33.4	25.3	7.7	7.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.05.2023	24.7	19.7	7.3	7.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.05.2023	35.6	21.4	8.0	7.6	<1. <mark>5</mark>	<0.04	<5	<5	<2	<0.5	<1	<10
15.05.2023	37.9	22.3	7.6	8.3	<1.5	<0.04	< 5	<5	<2	<0.5	<1	<10
16.05.2023	32.5	20.8	7.8	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
22.05.2023	30.2	26.6	8.0	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.05.2023	29.3	24.8	8.2	7.3	<1. <mark>5</mark>	<0.04	<5	<5	<2	<0.5	<1	<10
29.05.2023	21.2	20.2	7.9	6.1	<1. <mark>5</mark>	<0.04	< 5	<5	<2	<0.5	<1	<10
30.05.2023	36.8	27.9	8.5	7.2	<1. <mark>5</mark>	<0.04	<5	<5	<2	<0.5	<1	<10
Min	21.2	19.7	7.3	6.1	<1. <mark>5</mark>	<0.04	<5	<5	<2	<0.5	<1	<10
Max	37.9	27.9	8.5	8.3	<1. <mark>5</mark>	<0.04	< 5	<5	<2	<0.5	<1	<10
Avg.	31.6	23.2	7.8	7.3	<1.5	<0.04	< 5	<5	<2	<0.5	<1	<10
98 Percentile	37.7	27.7	8.4	8.2	<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	20

Instruments Details:

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220831

Make : SSE (Shree Scientific Equipment)

Calibration Due: 28.02.2024

Verified by

Instruments Details:

Instrument : Respirable Dust sampler

Model/SI NO : AAQM-60/220518

Make : SSE (Shree Scientific Equipment)

Calibration Due: 28.02.2024

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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT -1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram/ Nelaturu (V), Muthukur(M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Atmospheric Pollution

Product: Ambient Air

Location-3: Painampuram Village

Sample Registration No: 305/05/2023

Sample Registration Date: 31.05.2023

Issue Date: 05.06.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0003

Sample collected person details: S. Ganesh

TEST RESULT

				7 /								
Date Of	μg/m³			mg/m³	μg/m³				ng/m³			
Sampling	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	СО	Pb	O ₃	NH ₃	C ₆ H ₆	BaP	As	Ni
01.05.2023	35.3	22.5	7.0	6.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
02.05.2023	37.5	25.7	7.2	6.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
08.05.2023	26.6	20.4	7.5	7.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
09.05.2023	33.7	28.8	8.3	7.6	<1.5	< 0.04	<5	<5	<2	<0.5	<1	<10
15.05.2023	36.4	17.2	7.7	7.0	<1.5	<0.04	<5	< 5	<2	<0.5	<1	<10
16.05.2023	31.9	21.3	7.3	7.3	<1.5	< 0.04	<5	<5	<2	<0.5	<1	<10
22.05.2023	34.5	26.6	6.8	6.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
23.05.2023	38.2	24.1	7.1	6.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
29.05.2023	26.4	23.9	8.0	6.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
30.05.2023	28.3	18.1	7.6	7.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Min	26.4	17.2	6.8	6.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Max	38.2	28.8	8.3	7.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
Avg.	32.8	22.8	7.4	6.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10
98 Percentile	38.1	28.4	8.2	7.6	<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	20

Instruments Details:

Verified by

Instrument : Fine Particulate sampler

Model/SI NO : AAQ510 / 220732

Make : SSE (Shree Scientific Equipment)

Calibration Due: 28.02.2024

VIZAG NO STATE OF STA

Instruments Details:

Instrument : Respirable Dust sampler Model/SI NO : APM-460 NL/503-DTG-2008

Make : Envirotech Calibration Due : 28.02.2024

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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT -1

(2x660 MW Coal Based Thermal Power Plant)

Near Pynampuram/ Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) -524344.

Discipline: Chemical

Group: Atmospheric Pollution

Product: Ambient Air

Location-4: Nelaturu Village

Sample Registration No: 305/05/2023

Sample Registration Date: 31.05.2023

Issue Date: 05.06.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0004

Sample collected person details: S. Ganesh

TEST RESULT

				7 /									
Date Of	μg/m³				mg/m³	/ <	μg/m³				ng/m³		
Sampling	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	СО	Pb	O ₃	NH ₃	C ₆ H ₆	BaP	As	Ni	
01.05.2023	31.3	22.5	7.4	6.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
02.05.2023	35.5	25.4	7.0	6.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
08.05.2023	32.7	20.2	7.8	7.2	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
09.05.2023	25.4	27.6	8.5	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
15.05.2023	31.3	21.2	7.4	7.0	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
16.05.2023	30.6	23.4	7.9	6.6	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
22.05.2023	38.2	21.5	7.3	6.3	<1.5	< 0.04	<5	<5	<2	<0.5	<1	<10	
23.05.2023	24.6	15.6	6.5	7.4	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
29.05.2023	30.8	21.7	6.9	6.8	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
30.05.2023	31.1	25.1	8.5	7.1	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
Min	24.6	22.5	7.4	6.7	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
Max	38.2	27.6	8.5	7.5	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
Avg.	31.1	22.4	7.5	6.9	<1.5	<0.04	<5	<5	<2	<0.5	<1	<10	
98 Percentile	37.7	27.2	8.5	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 : AAM-510 /1593 DTF2015

Make : Envirotech

Calibration Due: 28.02.2024

Verified by



Instruments Details:

Instrument : Respirable Dust sampler Model/SI NO : APQ-600 NL/220517

Make : SSE (Shree Scientific Equipment)

Calibration Due: 28.02.2024

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





Accredited by MoEF & Accredited by NABL (TC-9903)

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

SUMMARY OF AMBIENT AIR QUALITY- MAY 2023

Pollutants	Description	Unit	Fire Station	Pattapupalem	Painampuram	Nelaturu
			(Plant)-1	Village-2	Village-3	Village-4
	Minimum		23.2	21.2	26.4	24.6
	Maximum		35.3	37.9	38.2	38.2
PM ₁₀	Average		29.7	31.6	32.8	31.1
	98 Percentile		34.9	37.7	38.1	37.7
	Minimum		19.1	19.7	17.2	22.5
	Maximum		27.3	27.9	28.8	27.6
PM _{2.5}	Average		23.5	23.2	22.8	22.4
	98 Percentile		27.0	27.7	28.4	27.2
	Minimum		7.1	7.3	6.8	7.4
	Maximum	μg/m³	8.6	8.5	8.3	8.5
SO ₂	Average		7.6	7.8	7.4	7.5
	98 Percentile		8.5	8.4	8.2	8.5
	Minimum		6.2	6.1	6.2	6.7
NO _x	Maximum		8.6	8.3	7.6	7.5
	Average		7.1	7.3	6.9	6.9
	98 Percentile		8.4	8.2	7.6	7.5

K. S. Lad Verified by



Authorized by Managing Director

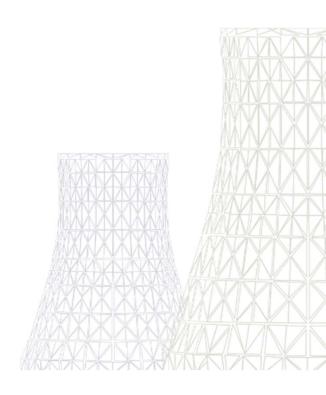
LABORATORY: Plot No 142/1, Eruvada Junction, Sabbavaram (M), Vizag - 531 035 **Web**: www.spectraenviro.com | **E-mail**: sepl.sjn@gmail.com | info@spectraenviro.com





CSR UPDATES

SEIL Energy India Limited APR TO SEPT 2023





CSR Expenditure FY 2023 -24

Amount in INR Mn

s no	Thematic Area	Half Yearly Expenditure (23-24)
1	Health	9.32
2	Education	10.56
3	Skill Development	1.50
4	Decarbonization	0.82
5	Rural Development	0.00
6	Admin Cost	-
	Grand Total	22.19



HEALTH

S No.	CSR Activity	Cumulative no. of beneficiaries
1	Mobile Medical Unit (MMU) - Consultation provided to 4544 villagers (Female-2427, Male-1605, Female Child-273, Male Child- 239).	4544 Patients
2	, and the second	3025 Community members
3		4644Screening and260Hearing aids to the needy
4	RO Water Plant - Isakadoruvu RO Plant shifted to New IVP site and started functioning . All Nine RO Plants in Community locations are being operated by providing safe drinking water to communities	94 Families
5	Apollo Telemedicine Center- Total beneficiaries : 3527, General consultations- 3527; Specialty Consultations - 165; Social Health Education Programmes -1107; Pharmacy -3659; Lab Investigations - 720; Non- Communicable Disease Screenings - 672 Beneficiaries.	3527Beneficiaries
6	Medical equipment to PHC and ESI Hospital- ECG, Medical Refrigerator Foetal Monitor, Fetal Monitor handed over to three PHCs(Muthukuru, Varigonda, Seetharam puram) and one ESI	3200 Patients

SEIL

HEALTH - PHOTOS



EYE CHECKUP CAMPS



SEIL SEIL ENERGYINDIA JINTA

AUDIOMETRY CAMPS





MEDICAL EQUIPMENT TO HOSPITALS



SEIL

HEALTH - PHOTOS



Telemedicine Center





Mobile Medical Van





Social Health Education and NCD Screening by ATNF





EDUCATION

S No.	CSR Activity	Cumulative no. of beneficiaries
1	Dropouts	240numbers students
2	 Education Intervention in 10 Government Schools Library Book kits each containing 87 books, 1 Bookshelf provided 78 Teaching Learning (TLM) materials Painting of subject matter in school & classrooms walls 1200 School children benefited through this initiative 	1200School children

SEIL

EDUCATION PROJECT - PHOTOS







VEHICLE SUPPORT



EDUCATION INTERVENTION IN GOVERNMENT SCHOOLS







SKILL DEVELOPMENT

S No.	CSR Activity	Cumulative no. of beneficiaries	
	IT Trainings:		
	• 190 no's, training completed		
	• Data Entry Operator – 152 no's		
	• Web Designing – 38 no's	400numbers	
1	Training for 210 numbers for youth in IT Related courses is in progress	students and 168	
'	Training Programs at SEDC	Community	
	Advanced Tailoring : 78 women	women	
	Self Employed Tailor(Jute Bag Stitching): 90 Women		
2	Electrical and Fire Safety trainings organized for 37 no's Aqua farmers from surrounding villages	37 numbers farmers from community	
	Fire Safety training and 5S Awareness Programme conducted for the benefit of Apollo Tele Medicine		
3	Center staff	- NA-	



SKILL DEVELOPMENT CENTER AND IT TRAININGS PHOTOS





SELF EMPLOYED TAILOR, ADVANCED TAILORING AND IT TRAININGS COURSES



SAFETY TRAINGS TO COMMUNITIES









S No.	CSR Activity		itive no. ficiaries
	• Development of 2nd phase of 40 acres and Maintenance of 1st phase of 40 acres are in progress	5500	Students
	• SEIL has undertaken plantation in 25 acres of barren land at Simhapuri University in Phase-2 Harith	and ⁻	Teaching
1	remaining 15 acres will be taken up at PG Center, Kavali	members	s in
	• Employee Volunteering Plantation drive was initiated at Vikram Simhapuri University. Around 50	Phase-1&	Phase-2
	employees of SEIL, 30 Numbers Students of NCC, University staff participated in the Programme	Projects	
2	70 numbers of 30 W Solar Street lights installed in the Nelaturupalem village	792 Fam	ilies
		Around	450
3	Vikram Simhapuri University, Nellore (100Kw),Indian Recross Society, Nellore (150Kw) Total 250 Kw of on	students	and 350
	grid Solar power installed on the institutions expected to save power bills of Rs. 25 lakhs every year		patients
		Around	450
4	Solar water heating systems installed at Indian Red cross Cancer Hospital(IRCS) -(4 no's) and VSU -(11 no's).	students	and 350
	Each Solar water heater has capacity of generating 500 lts of hot water. Total 15 number installed		s patients
5	Six veterinary camps organized -2688 livestock were treated in these camps, benefiting 262 farmers.		Livestock
			armers



ON GRID SOLAR

VIKRAM SIMHAPURI UNIVERSITY (VSU)





INDIAN REDCROSS SOCIETY









SOLAR PROJECTS





PROJECT HARITH



SEIL

VETERINARY CAMPS













ANNEXURE-XII

SEIL Project-1 Environment Expenditure			
S.No Area		Particulars	Expenses in Rs.
1		Operations (CHP)	2,21,89,600
2	СНР	Mechanical Maintnenace	1,85,25,400
3		Electrical Maintnenace	10,30,500
4		Coal Yard Sprinklers	20,20,000
5		DFDS System	2,50,000
6	АНР	Operations	28,20,500
7		Mechanical Maintnenace	11,60,000
8		Electrical Maintnenace	28,80,600
9		C&I Maintenance	31,00,000
10	Others	Green Belt	90,82,000



SPECTRA ENVIROTECH PVT LTD

Accredited by MoEF & Accredited by NABL (TC-9903)

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

TEST REPORT

ANNEXURE-XIII

ISSUED TO:

M/s. SEIL ENERGY INDIA LIMITED PROJECT-1

(2x660 MW Coal Based Thermal Power Plant)
Near Pynampuram / Nelaturu (V), Muthukur (M),

SPSR Nellore (Dist.) - 524344.

Discipline: Chemical

Group: Water

Product: Heavy Metal Analysis of Coal- May 2023

Sample Location: Coal Feeder#1

Date of Monitoring: 24.05.2023

Sample Collected By: Ganesh

Sample Registration Date: 25.05.2023 Analysis Starting Date: 25.05.2023 Analysis Completed Date: 29.05.2023

Issue Date: 30.05.2023

Lab Ref: SEPL/ES/SEILEILP/05-23/0001

TEST RESULT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	STANDARDS
1	Arsenic as As	USEPA-3050B Dec-1996(Rev.2)	ppm	0.22	5.0
2	Mercury as Hg	USEPA-3050B Dec-1996(Rev.2)	ppm	<0.02	0.2
3	Chromium as Cr	USEPA-3050B Dec-1996(Rev.2)	ppm	1.28	5.0
4	Lead as Pb	USEPA-3050B Dec-1996(Rev.2)	ppm	0.36	5.0

Note: USEPA- United States Environmental Protection Agency





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





SEIL ENERGY INDIA LIMITED

QUALITY, OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT POLICY

QUALITY POLICY

SEIL Energy India Limited (SEIL) is committed to achieve and sustain world-class standard of quality in power generation and uninterrupted supply of power to customers by adopting, innovating, and continually improving the best industrial practices in Operation, Maintenance and Procurement at its power stations, while complying with all applicable standards and best practices.

OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT POLICY

SEIL considers HSE as its core value and is committed to:

- provide safe and healthy work environment and empower employees and stakeholders involved in its operations.
- provide a framework for setting HSE objectives to ensure zero harm and excellence in its operations and benchmark with the best of peer plants.
- ensure compliance to legal, regulatory, statutory norms, and standards pertaining to environment, occupational health, and safety.
- periodically assess and review the opportunities & risks and monitor HSE activities by providing adequate resources and mitigation measures.
- raise the HSE awareness and competency levels of employees and other stakeholders to deliver excellent HSE outcomes by providing necessary information, instructions, and supervision.
- the idea that all occupational illness, accidents, and environmental incidents are preventable.
- value Health, Safety, and Environment and at par with quality, operations, and cost.
- optimisation of use of natural resources, protect the environment and minimising emissions, effluents, and waste, thereby promoting sustainability.
- continually improve occupational Health, Wellbeing, Safety, and Environment Management Systems through systematic use of skills & technologies.
- foster a culture of active collaboration to achieve interdependent safety culture and wellbeing of stakeholders.
- Include compliance to safety systems and procedures as a condition of employment and include H&S performance for evaluation of employees and contractors.

This policy shall be widely communicated, reviewed periodically, and amended when necessary.

Raghav Trivedi Chief Executive Officer

May 23rd, 2023