



**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.india@sembcorp.com

Website: www.sembcorpenergyindia.com

SEIL P1/APPCB/BZA/2021/006

28<sup>th</sup> September 2021

To  
The Member Secretary  
Andhra Pradesh Pollution Control Board  
D. No. 33-26-14 D/2, Near Sunrise Hospital  
Pushpa Hotel Centre, Chelamavari Street  
Kasturibaipet  
Vijayawada- 520010.

Sub.: **Submission of Environment Statement for the year 2020-21 of Sembcorp Energy India Limited Project-1 (formerly known as Thermal Powertech Corporation India Limited-TPCIL), Nellore.**

Ref: CFO order issued to TPCIL vide Ref: APPCB/VJA/NLR/930/HO/CFO/2018 dated 23.03.2018 valid till 30.11.2021.

Dear Sir,

This has reference to captioned subject and the cited reference. Please find enclosed herewith Environment Statement of Sembcorp Energy India Limited Project-1 (formerly known as Thermal Powertech Corporation India Limited- TPCIL), Nellore for the year 2020-21 duly filled in Form V.

Thanking you,

Yours faithfully,  
For M/s. Sembcorp Energy India Limited

**Pavan Kumar Rao V**

Head HSE- SEIL

Encl: Environment Statement in Form-V along with Annexures

Copy To: The Regional Officer, APPCB, Nellore

# **ENVIRONMENTAL STATEMENT FOR THE YEAR 2020-21**

*Of*

**2x660 MW  
Super Critical Coal Based Thermal Power Plant**

*At*

***Painampuram & Nelaturu villages  
Muthukur Mandal  
SPSR Nellore District  
Andhra Pradesh***

*Submitted By*

---

***Sembcorp Energy India Limited Project-1***  
***(Formerly known as Thermal Powertech Corporation India Ltd)***  
***SPSR NELLORE, ANDHRA PRADESH***

*September 2021*

FORM V  
(See Rule 14)

Environmental Statement Report for the financial year ending the 31<sup>st</sup> March 2021

**PART- A**

- (i) Name and address of the Owner/Occupier of the Industry, Operation or process : Mr. Ramesh Raman  
Plant Manager  
Sembcorp Energy India Limited  
Project-1  
(Formerly known as Thermal Powertech Corporation India Ltd)  
Pyanampuram / Nelaturu Village  
Muthukur Mandal, SPSR Nellore  
524 344  
0861-3052311  
0861-3052309
- (ii) Industry Category : -  
(Coal based thermal power plant)
- (iii) Production capacity : 1320 MW (2X660 MW)
- (iv) Year of Establishment : 2015
- (V) Date of the last Environmental statement Submitted : 15<sup>th</sup> May 2020

**PART- B**

Water and Raw Material consumption

1. Water Consumption, m<sup>3</sup>/d:

- Plant Process : 15,645 m<sup>3</sup>/Day  
Cooling : 146640 m<sup>3</sup>/Day  
Domestic : 53 m<sup>3</sup>/Day

Name of Product	Process Water Consumption per Unit of Product Output	
	During the Previous Financial Year (2019-20)	During the Current Financial Year (2020-21)
Electricity	0.585 m <sup>3</sup> /MWH (Excl. Cooling Tower makeup) 6.0 m <sup>3</sup> /MWH (Incl. Cooling Tower makeup)	0.64 m <sup>3</sup> /MWH (Excl. Cooling Tower makeup) 6.6 m <sup>3</sup> /MWH (Incl. Cooling Tower makeup)

## 2. Raw Material Consumption

Name of Products	Name of Raw Materials	Unit	Consumption of raw material per unit of output	
			During the Previous Financial year (2019-20)	During the current Financial year (2020-21)
Electricity	Coal	MT/MWH	0.57	0.59
	Fuel Oil	ML/KWH	0.05	0.17

\*Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw material used.

### PART- C

Pollution Discharged to Environment/Unit of Output  
(Parameters as specified in the consent issued)

(i) Pollution	Quantity of pollutants discharged	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
a) Water	Please refer Annexure-I (Effluent Water Quality Monitoring third party reports)		
b) Air	Please refer Annexure-II (Stack Emission Monitoring third party reports)		

### PART- D

#### Hazardous Wastes

(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

#### (a) From Process:

S.No.	Hazardous Wastes	Total Quantity	
		During the Previous Financial year (2019-20)	During the Current Financial year (2020-21)
1	Expired Paints/ Paint Waste/ Empty Paint Cans	-	0
2	Expired Chemicals/ Chemical Waste/ Empty Chemical	-	0.10 MT
3	Spent Ion Exchange Resins	-	7.50 MT
4	Oil Soaked or Chemicals coated Cotton waste	-	0
5	Used Oil Filters/ Damaged Filters	-	0
6	ETP Sludge/ Oil Sludge	-	0
7	Used Lubricant Oil	25 MT	45.48 MT
8	Waste Oil from DG Sets	-	0
9	Aerosol Cans	-	0.07 MT
10	Used Empty Chemical Jar/	-	0

	Bottles		
11	Used Empty PVC oil sample Bottles	-	0.03 Kg
12	Used Grease	-	-
13	Lead Acid Batteries	-	154 No's
14	E-Waste	1.266 MT	2.433 MT

**PART- E**  
**Solid Wastes**

**(b) From pollution control facilities:**

S.No.	Solid Wates	Total Quantity (MT)	
		During the Previous Financial year (2019-20)	During the Current Financial year (2020-21)
1	Ash (Fly Ash+ Bottom Ash)	12,26,543	13,39,535

**(C)**

**(1) Quantity recycled or re-utilized with in the plant:**

S.No.	Solid Wates	Total Quantity (MT)	
		During the Previous Financial year (2019-20)	During the Current Financial year (2020-21)
1	Ash (Fly Ash+ Bottom Ash)	70,136	3,24,355

**(2) Sold:**

S.No.	Solid Wates	Total Quantity (MT)	
		During the Previous Financial year (2019-20)	During the Current Financial year (2020-21)
1	Ash (Fly Ash+ Bottom Ash)	9,00,880	10,65,368

**(3) Disposed:**

S.No.	Solid Wates	Total Quantity (MT)	
		During the Previous Financial year (2019-20)	During the Current Financial year (2020-21)
1	Ash (Fly Ash+ Bottom Ash)	-	-

## PART- F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

### **Characteristics of Solid Wastes**

#### **Fly Ash**

Parameter	Unit	Fly Ash
Chromium (as Cr <sup>+6</sup> )	mg/kg	BDL (DL:1.0)
Chloride (as Cl)	%(w/w)	0.01
Arsenic (as As)	mg/kg	ND (DL:0.5)
Selenium (as Se)	mg/kg	ND (DL:0.5)
Lead (as Pb)	%(w/w)	0.0059
Mercury (as Hg)	mg/kg	ND (DL:0.1)
1,4-Dioxane	mg/kg	BDL (DL: 1.0)

### **Disposal practice of Solid Waste:**

(a) Disposal Practice of Hazardous Waste:

S.No.	Name of Hazardous Waste	Disposal Practice
1	Expired Paints/ Paint Waste/ Empty Paint Cans	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
2	Expired Chemicals/ Chemical Waste/ Empty Chemical	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
3	Spent Ion Exchange Resins	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
4	Oil Soaked or Chemicals coated Cotton waste	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
5	Used Oil Filters/ Damaged Filters	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
6	ETP Sludge/ Oil Sludge	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
7	Used Lubricant Oil	Disposal to Authorized recyclers/ Reprocessors/ Incinerators/ Pre-processors
8	Waste Oil from DG Sets	Disposal to Authorized recyclers/ Reprocessors/ Incinerators/ Pre-processors
9	Aerosol Cans	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
10	Used Empty Chemical Jar/ Bottles	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
11	Used Empty PVC oil sample Bottles	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
12	Used Grease	Disposal to Authorized recyclers/ Reprocessors/ Incinerators
13	Lead Acid Batteries	Return to manufacturers/dealers on buyback basis/ Authorized recyclers
14	E-Waste	Authorized recyclers/ Reprocessors

(b) Disposal Practice of Solid Waste:

S.No.	Name of Solid Waste	Disposal Practice
1	Ash (Fly Ash+ Bottom Ash)	Utilization in Cement/ AAC blocks/ Brick Industry/ RMC/ Export to other countries/ Disposal in Ash pond/ Filling of Low lying Areas

**PART- G**

Impact of the pollution control measures on conservation of natural resources and on the cost of production.

- Bulk chemical storage areas are having dykes to handle any chemical leakages and avoid contamination to the ground.

**Energy Conservation Initiatives**

1. Replacement of existing lighting system with Energy efficient LED bulbs- 85 KW
2. Through Prudent O&M Practices like below the energy savings are up to 12 Kcal/Kwh
  - a) Overhauling of Turbines
  - b) Improvement of Turbine Efficiency
  - c) Condenser Tube cleaning
  - d) Enhancement of Heat energy drain passing valves and thermal insulations
3. Through Prudent O&M Practices like below savings of up to 1000 KW
  - a) Due to Boiler sides improvement during overhauling
  - b) Corrocoating of CW & ACW pumps
  - c) Water resistant coating on Fire hydrant pumps
4. Heat rate reduction of Approx. 5 Kcal/Kwh because of SPARK (Smart Performance Analysis for Real-time KPI) – Online cloud based performance monitoring system implemented to improve performance by tracking critical parameters like THR, Boiler Efficiency, GHR, Equipment performance and their loss breakups/gaps etc.,) and to control the various controllable losses on real time.
5. Boiler Computational Fluid Dynamics (CFD) modelling developed to analyze boiler performance and resulting in optimized performance.
  - Field log sheets replaced by Mobile app in order to digitalize in our internal operations. This enhances reduction in paper consumption.
  - A total of about Rs. 28 Lakh is spent on Environment monitoring, Waste disposal, Maintenance of Pollution Control Monitoring equipment like CEMS, CAAQMS & EQMS for the financial year 2020–21.
  - Regular monitoring of Ambient Air Quality, Stack emissions and Effluent quality have been taken up to evaluate the efficiency of the pollution control systems and control measures. Both CEMS, CAAQMS & EQMS are connected to APPCB / CPCB websites and data is being transmitted on real time basis.

## PART- H

Additional measures/ investment proposal for environmental protection including abatement of pollution, prevention of pollution



### Capital investment on Energy conservation equipment

- a) Installation of additional Thermo Couples in Final Super Heater (FSH) incurred a cost of Rs. 1,00,000,00
- SEIL has erected the structural platform for container stuffing (jumbo bags stuffing into container) for export purpose of Ash.
  - SEIL has hired two JCBs for free loading of pond ash to supply customers.
  - Bulk shipment and Break Bulk shipment done to USA around 70,000 MT (44K MT +26K MT)
  - Exploring the international markets.
  - Finding other modes of transportation of fly ash to the customers. (one Rake sent to Cement factory at Kerala around 3000 MT)
  - R&D study conducted on boiler tube failure reduction, chemical regime improvement and Oxide growth & exfoliation reduction by M/s Structural Integrity Associates Incorporation, USA, cost incurred around Rs. 23,11,000.
  - 407 acres of massive tree plantation done inside as well as outside of the Plant premises. Lawns/ gardens also are developed inside the plant premises to enhance aesthetics.
  - Conocarpus plantation is done all around the coal stack area to suppress the wind borne coal dust.
  - Upgraded DFDS System installed for dust suppression
  - All internal roads are either concreted or black topped to reduce the fugitive dust emission inside the plant premises.
  - Rainwater harvesting ponds are constructed in the site.
  - Good Housekeeping practices and 5S system has been implemented in the company by deploying approx. 200 No. of manpower.

## PART- I

Any other particulars for improving the quality of environment

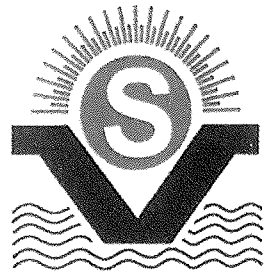
- Sembcorp Energy India Limited certified with ISO 9001:2015 (QMS), ISO 14001:2015 (EMS) & ISO 45001:2018 (OHS)
- More than **450 acres** of Greenbelt development completed inside & all along the periphery of the plant boundary
- World Environment Day celebrated to build up environmental awareness among employees and community

  
  
Pavan Kumar Rao  
Head-HSE  
On Behalf of Plant Head

Mr. Ramesh Raman  
Plant Manager  
Sembcorp Energy India Limited  
Date: 28-09-2021



# ANNEXURE- I



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/20-04/011

Dated: 20-05-2020

**ISSUED TO** : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

**DESCRIPTION OF SAMPLE** : MARINE WATER

**DATE OF COLLECTION** : April'20 – (21/01/2021)

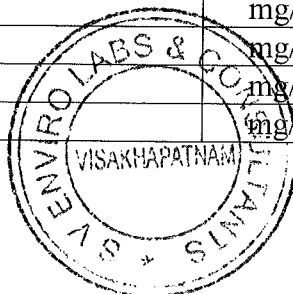
**DATE OF RECEIPT** : April'20 – (22/01/2021)

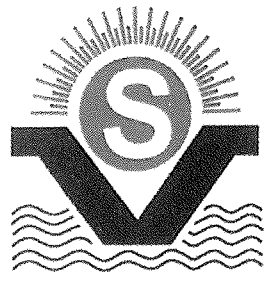
**SOURCE OF COLLECTION** : MARINE OUTLET

**SAMPLE COLLECTED BY** : SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam

## TEST REPORT

S.No	Parameter	Unit	Result	Standards
1.	pH	-	7.45	6.5-8.0
2.	Temperature Intake	°C	32.8	Shall not exceed 5°C above the receiving temperature
3.	Temperature Outfall	°C	34.7	
4.	Electrical Conductivity	ms/cm	39086	-
5.	Turbidity	NTU	5.7	-
6.	Total Dissolved Solids	mg/l	23452	-
7.	Total Suspended Solids	mg/l	92	100
8.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	769	-
9.	P-Alkalinity as CaCO <sub>3</sub>	mg/l	Nil	-
10.	Total Hardness as CaCO <sub>3</sub>	mg/l	7295	-
11.	Calcium as Ca	mg/l	1338	-
12.	Magnesium as Mg	mg/l	960	-
13.	Chlorides as Cl	mg/l	13024	-
14.	Fluorides as F	mg/l	0.83	-
15.	Nitrates as NO <sub>3</sub>	mg/l	1.92	-
16.	Sulphates as SO <sub>4</sub>	mg/l	992	-
17.	Silica as SiO <sub>2</sub>	mg/l	0.66	-





# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012

& Laboratory www.svenviolabs.com, Ph:0891-2755528, Cell: +91 9440338628

info@svenviolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET

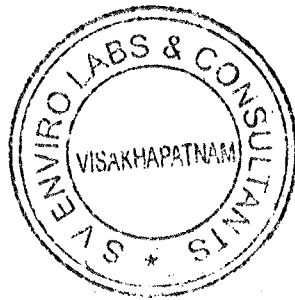


18.	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	<0.005	-
19.	Sodium as Na	mg/l	6224	-
20.	Potassium as K	mg/l	242	-
21.	Carbonates as CaCO <sub>3</sub>	mg/l	Nil	-
22.	Bicarbonates as CaCO <sub>3</sub>	mg/l	769	-
23.	Iron as Fe	mg/l	3.3	-
24.	Copper as Cu	mg/l	0.72	-
25.	Manganese as Mn	mg/l	0.40	-
26.	Zinc as Zn	mg/l	0.71	-
27.	Boron as B	mg/l	0.02	-
28.	Selenium as Se	mg/l	< 0.005	-
29.	Cadmium as Cd	mg/l	<0.001	2.0
30.	Cyanide as CN	mg/l	<0.01	-
31.	Lead as Pb	mg/l	<0.01	2.0
32.	Mercury as Hg	mg/l	<0.001	0.01
33.	Hexavalent Chromium as Cr <sup>+6</sup>	mg/l	<0.001	1.0
34.	Total Arsenic as As	mg/l	<0.01	0.2
35.	Chemical Oxygen Demand-COD	mg/l	70.2	250
36.	Bio-Chemical Oxygen Demand (27°C @ 3days)-BOD	mg/l	28.0	100
37.	Oil & Grease	mg/l	<1.0	20

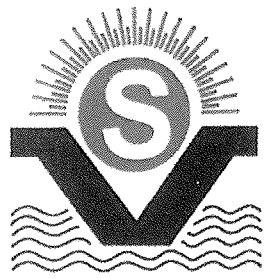
Note: As per the above report, all the parameters are analyzed as per APHA, 23<sup>rd</sup> Ed, 2017.

4. J. K.

CHECKED BY



For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenviolabs.com, Ph:0891-275528, Cell: +91 9440338628  
info@svenviolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/20-04/012

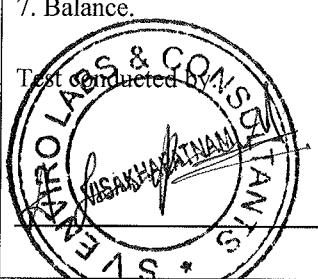
Dated: 20-05-2020

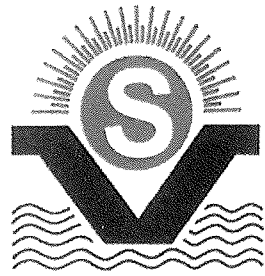
ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

SAMPLE PARTICULARS : MARINE WATER

SOURCE OF COLLECTION : MARINE OUTFALL

DATE OF COLLECTION : 21-04-2020

STATIC ACUTE TOXICITY DATA SHEET			
SAMPLE PARTICULARS : GUARD POND EFFLUENT SAMPLE			
TEST SPECIES	SOURCE OF ORGANISM	LENGTH & WEIGHT (For fish)	
Zebra Fish	Through vendors.	1.Length <u>4.6 (cm)</u> 2.Weight <u>3.8(gm)</u>	1.Fish were not fed <u>yes</u> 2.Temperature range in aquaria <u>25°c</u>
REFERENCE TEST DATA			
Start Date :24-04-2020 End Date : 28-04-2020			
COMMENTS:			
The test species was undergone toxicity test for about 96hrs. RESULT: 100% survival of fish was noticed			
INSTRUMENTS USED:			
. pH meter. 2. D.O meter. 3. Thermometer. 4. Glass aquarium. 5. Low flow pump. 6.Aerator 7. Balance.			
Test conducted by 			



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/20-04/013

Dated: 20-05-2020

**ISSUED TO** : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

**DESCRIPTION OF SAMPLE** : WASTE WATER

**DATE OF COLLECTION** : April'20 – (21/04/2020)

**DATE OF RECEIPT** : April'20 – (24/04/2020)

**SOURCE OF COLLECTION** : ASH POND OUTLET

**SAMPLE COLLECTED BY** : SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam

## TEST REPORT

S.No	Parameter	Unit	Result	Acceptable Limit	Permissible Limit
1.	pH	-	7.63	6.5-8.0	No Relaxation
2.	Color	Hazen	1.6	5	15
3.	Odor	-	Agreeable	Agreeable	Agreeable
4.	Electrical Conductivity	ms/cm		-	--
5.	Turbidity	NTU	1.2	1.0	5
6.	Total Dissolved Solids	mg/l	598	500	2000
7.	Total Suspended Solids	mg/l	13	1000	-
8.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	202	200	600
9.	P-Alkalinity as CaCO <sub>3</sub>	mg/l	Nil	-	-
10.	Total Hardness as CaCO <sub>3</sub>	mg/l	226	200	600
11.	Calcium as Ca	mg/l	60.3	75	200
12.	Magnesium as Mg	mg/l	18.1	30	100
13.	Chlorides as Cl	mg/l	182	250	1000
14.	Fluorides as F	mg/l	0.56	1.0	1.5
15.	Nitrates as NO <sub>3</sub>	mg/l	0.68	45	No Relaxation
16.	Sulphates as SO <sub>4</sub>	mg/l	78.9	200	-
17.	Silica as SiO <sub>2</sub>	mg/l	0.33	0.05	-
18.	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	<0.001	0.001	0.002
19.	Sodium as Na	mg/l	89	-	-
20.	Potassium as K	mg/l	0.62	-	-

# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

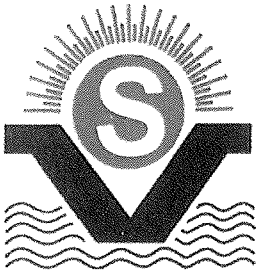
Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012

& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628

info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

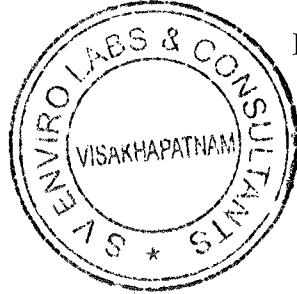
Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



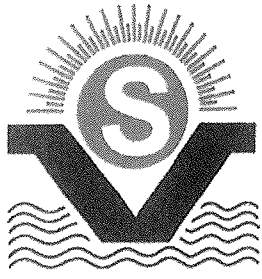
21.	Iron as Fe	mg/l	2.08	0.3	No Relaxation
22.	Copper as Cu	mg/l	0.64	0.05	1.5
23.	Manganese as Mn	mg/l	0.35	0.1	0.3
24.	Zinc as Zn	mg/l	0.61	5	15
25.	Boron as B	mg/l	0.04	0.5	1.0
26.	Selenium as Se	mg/l	< 0.005	0.01	No Relaxation
27.	Cadmium as Cd	mg/l	<0.001	0.003	No Relaxation
28.	Cyanide as CN	mg/l	<0.01	0.05	No Relaxation
29.	Lead as Pb	mg/l	<0.01	0.01	No Relaxation
30.	Mercury as Hg	mg/l	<0.001	0.001	No Relaxation
31.	Hexavalent Chromium as Cr <sup>+6</sup>	mg/l	<0.001	0.005	1.0
32.	Total Arsenic as As	mg/l	<0.01	-	0.2
33.	Phosphate as PO <sub>4</sub>	mg/l	0.54	-	-

Note: As per the above report, all the parameters are analyzed as per APHA, 23<sup>rd</sup> Ed, 2017.

  
CHECKED BY



  
For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-01/26

Dated: 12-02-2021

**ISSUED TO** : **M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.**

**DESCRIPTION OF SAMPLE** : **TREATED EFFLUENT**

**DATE OF COLLECTION** : **January'21 – (21/01/2021)**

**DATE OF RECEIPT** : **January'21 – (22/01/2021)**

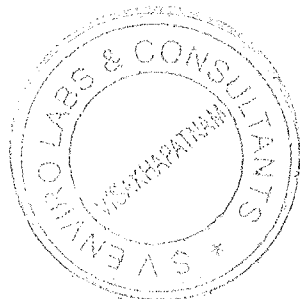
**SOURCE OF COLLECTION** : **ETP OUTLET**

**SAMPLE COLLECTED BY** : **SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam**

## TEST REPORT

S. No.	Parameters	Units	Results	Method	Standard
1.	pH at 25°C	-	7.58	APHA 23 <sup>rd</sup> Ed,2017, 4500 H+B	5.5-9.0
2.	Total Dissolved Solids – TDS	mg/l	1510	APHA 23 <sup>rd</sup> Ed,2017, 2540 C	2100
3.	Total Suspended Solids – TSS	mg/l	60	APHA 23 <sup>rd</sup> Ed,2017, 2540 D	200
4.	Chemical Oxygen Demand – COD	mg/l	172	APHA 23 <sup>rd</sup> Ed,2017, 5220 B	250
5.	Bio chemical Oxygen Demand – BOD 3days at 27°C	mg/l	51	IS: 3025 (Part- 44)-1993, reaffirmed 2009	100
6.	Oil & Grease	mg/l	1.9	APHA 23 <sup>rd</sup> Ed,2017, 5520 B	10

  
CHECKED BY



  
For SV ENVIRO LABS & CONSULTANTS

# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenviolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenviolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-01/011

Dated: 12-02-2021

ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

DESCRIPTION OF SAMPLE : MARINE WATER

DATE OF COLLECTION : January'21 – (21/01/2021)

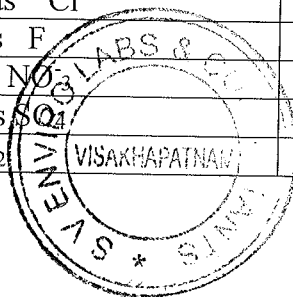
DATE OF RECEIPT : January'21 – (22/01/2021)

SOURCE OF COLLECTION : MARINE OUTLET

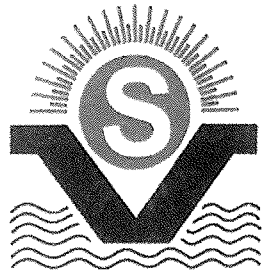
SAMPLE COLLECTED BY : SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam

## TEST REPORT

S.No	Parameter	Unit	Result	Standards
1.	pH	-	7.39	6.5-8.0
2.	Temperature Intake	°C	32.5	Shall not exceed 5°C above the receiving temperature
3.	Temperature Outfall	°C	34.4	
4.	Electrical Conductivity	ms/cm	39712	-
5.	Turbidity	NTU	5.4	-
6.	Total Dissolved Solids	mg/l	23025	-
7.	Total Suspended Solids	mg/l	90	100
8.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	710	-
9.	P-Alkalinity as CaCO <sub>3</sub>	mg/l	Nil	-
10.	Total Hardness as CaCO <sub>3</sub>	mg/l	7103	-
11.	Calcium as Ca	mg/l	1286	-
12.	Magnesium as Mg	mg/l	945	-
13.	Chlorides as Cl	mg/l	12862	-
14.	Fluorides as F	mg/l	0.81	-
15.	Nitrates as NO <sub>3</sub>	mg/l	1.38	-
16.	Sulphates as SO <sub>4</sub>	mg/l	945	-
17.	Silica as SiO <sub>2</sub>	mg/l	0.62	-







# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET

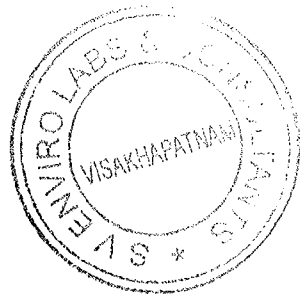


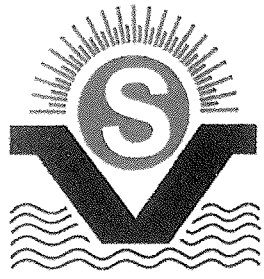
18.	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	<0.005	-
19.	Sodium as Na	mg/l	6128	-
20.	Potassium as K	mg/l	230	-
21.	Carbonates as CaCO <sub>3</sub>	mg/l	Nil	-
22.	Bicarbonates as CaCO <sub>3</sub>	mg/l	710	-
23.	Iron as Fe	mg/l	3.1	-
24.	Copper as Cu	mg/l	0.69	-
25.	Manganese as Mn	mg/l	0.38	-
26.	Zinc as Zn	mg/l	0.69	-
27.	Boron as B	mg/l	0.03	-
28.	Selenium as Se	mg/l	< 0.005	-
29.	Cadmium as Cd	mg/l	<0.001	2.0
30.	Cyanide as CN	mg/l	<0.01	-
31.	Lead as Pb	mg/l	<0.01	2.0
32.	Mercury as Hg	mg/l	<0.001	0.01
33.	Hexavalent Chromium as Cr <sup>+6</sup>	mg/l	<0.001	1.0
34.	Total Arsenic as As	mg/l	<0.01	0.2
35.	Chemical Oxygen Demand-COD	mg/l	76.4	250
36.	Bio-Chemical Oxygen Demand (27 <sup>o</sup> C @ 3days)-BOD	mg/l	30	100
37.	Oil & Grease	mg/l	<1.0	20

Note: As per the above report, all the parameters are analyzed as per APHA, 23<sup>rd</sup> Ed, 2017.

*Saurey*  
CHECKED BY:

*J.R.*  
For SV ENVIRO LABS & CONSULTANTS





# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-275528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-01/012

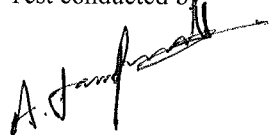
Dated: 12-02-2021

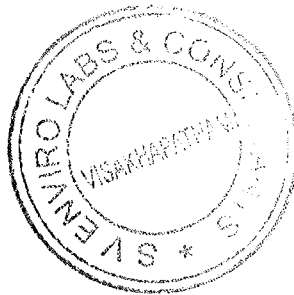
ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

SAMPLE PARTICULARS : MARINE WATER

SOURCE OF COLLECTION : MARINE OUTFALL

DATE OF COLLECTION : 21-01-2021

STATIC ACUTE TOXICITY DATA SHEET			
SAMPLE PARTICULARS : GUARD POND EFFLUENT SAMPLE			
TEST SPECIES	SOURCE OF ORGANISM	LENGTH & WEIGHT (For fish)	
Zebra Fish	Through vendors.	1.Length <u>4.6 (cm)</u> 2.Weight <u>3.8(gm)</u>	1.Fish were not fed <u>yes</u> 2.Temperature range in aquaria <u>25°c</u>
REFERENCE TEST DATA			
Start Date :25-01-2021 End Date : 29-01-2021			
COMMENTS:			
The test species was undergone toxicity test for about 96hrs. RESULT: 100% survival of fish was noticed			
INSTRUMENTS USED:			
. pH meter. 2. D.O meter. 3. Thermometer. 4. Glass aquarium. 5. Low flow pump. 6.Aerator 7. Balance.			
Test conducted by: 			





# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-01/013

Dated: 12-02-2021

**ISSUED TO** : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

**DESCRIPTION OF SAMPLE** : WASTE WATER

**DATE OF COLLECTION** : January'21 – (21/01/2021)

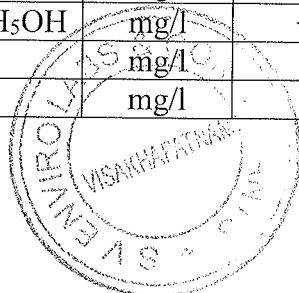
**DATE OF RECEIPT** : January'21 – (22/01/2021)

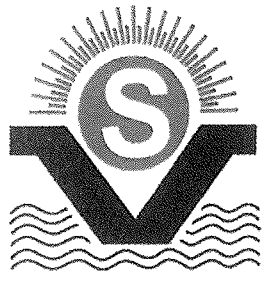
**SOURCE OF COLLECTION** : ASH POND OUTLET

**SAMPLE COLLECTED BY** : SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam

## TEST REPORT

S.No	Parameter	Unit	Result	Acceptable Limit	Permissible Limit
1.	pH	-	7.68	6.5-8.0	No Relaxation
2.	Color	Hazen	1.4	5	15
3.	Odor	-	Agreeable	Agreeable	Agreeable
4.	Electrical Conductivity	ms/cm	956	-	--
5.	Turbidity	NTU	1.1	1.0	5
6.	Total Dissolved Solids	mg/l	536	500	2000
7.	Total Suspended Solids	mg/l	10	1000	-
8.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	192	200	600
9.	P-Alkalinity as CaCO <sub>3</sub>	mg/l	Nil	-	-
10.	Total Hardness as CaCO <sub>3</sub>	mg/l	211	200	600
11.	Calcium as Ca	mg/l	57.8	75	200
12.	Magnesium as Mg	mg/l	16.2	30	100
13.	Chlorides as Cl	mg/l	174	250	1000
14.	Fluorides as F	mg/l	0.55	1.0	1.5
15.	Nitrates as NO <sub>3</sub>	mg/l	0.62	45	No Relaxation
16.	Sulphates as SO <sub>4</sub>	mg/l	76.4	200	-
17.	Silica as SiO <sub>2</sub>	mg/l	0.32	0.05	-
18.	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	<0.001	0.001	0.002
19.	Sodium as Na	mg/l	86	-	-
20.	Potassium as K	mg/l	0.58	-	-





# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

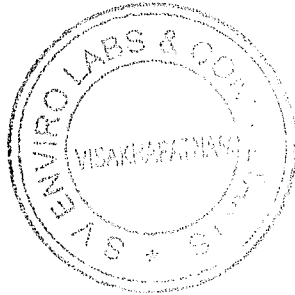
Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



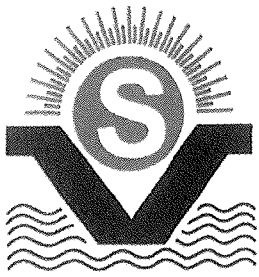
21.	Iron as Fe	mg/l	1.98	0.3	No Relaxation
22.	Copper as Cu	mg/l	0.61	0.05	1.5
23.	Manganese as Mn	mg/l	0.32	0.1	0.3
24.	Zinc as Zn	mg/l	0.58	5	15
25.	Boron as B	mg/l	0.03	0.5	1.0
26.	Selenium as Se	mg/l	< 0.005	0.01	No Relaxation
27.	Cadmium as Cd	mg/l	<0.001	0.003	No Relaxation
28.	Cyanide as CN	mg/l	<0.01	0.05	No Relaxation
29.	Lead as Pb	mg/l	<0.01	0.01	No Relaxation
30.	Mercury as Hg	mg/l	<0.001	0.001	No Relaxation
31.	Hexavalent Chromium as Cr <sup>+6</sup>	mg/l	<0.001	0.005	1.0
32.	Total Arsenic as As	mg/l	<0.01	-	0.2
33.	Phosphate as PO <sub>4</sub>	mg/l	0.49	-	-

Note: As per the above report, all the parameters are analyzed as per APHA, 23<sup>rd</sup> Ed, 2017.

*Saamey*  
CHECKED BY:



*J. R.*  
For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-03/26

Dated: 30-03-2021

**ISSUED TO** : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

**DESCRIPTION OF SAMPLE** : TREATED EFFLUENT

**DATE OF COLLECTION** : March'21 – (18/03/2021)

**DATE OF RECEIPT** : March'21 – (18/03/2021)

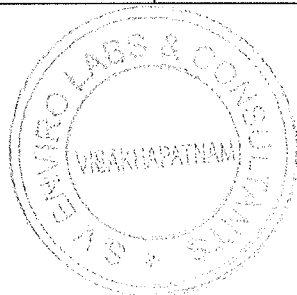
**SOURCE OF COLLECTION** : ETP OUTLET

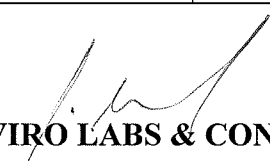
**SAMPLE COLLECTED BY** : SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam

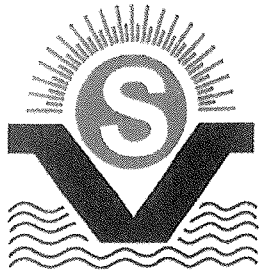
## TEST REPORT

S. No.	Parameters	Units	Results	Method	Standard
1.	pH at 25°C	-	7.69	APHA 23 <sup>rd</sup> Ed,2017, 4500 H+B	5.5-9.0
2.	Total Dissolved Solids – TDS	mg/l	1598	APHA 23 <sup>rd</sup> Ed,2017, 2540 C	2100
3.	Total Suspended Solids – TSS	mg/l	52	APHA 23 <sup>rd</sup> Ed,2017, 2540 D	200
4.	Chemical Oxygen Demand – COD	mg/l	160	APHA 23 <sup>rd</sup> Ed,2017, 5220 B	250
5.	Bio chemical Oxygen Demand – BOD 3days at 27°C	mg/l	47	IS: 3025 (Part- 44)-1993, reaffirmed 2009	100
6.	Oil & Grease	mg/l	1.5	APHA 23 <sup>rd</sup> Ed,2017, 5520 B	10

  
CHECKED BY



  
For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-03/011

Dated: 30-03-2021

**ISSUED TO** : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

**DESCRIPTION OF SAMPLE** : MARINE WATER

**DATE OF COLLECTION** : March'21 – (18/03/2021)

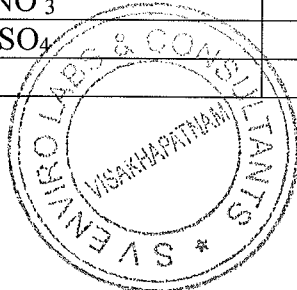
**DATE OF RECEIPT** : March'21 – (19/03/2021)

**SOURCE OF COLLECTION** : MARINE OUTLET

**SAMPLE COLLECTED BY** : SV ENVIRO LABS & CONSULTANTS,  
Visakhapatnam

## TEST REPORT

S.No	Parameter	Unit	Result	Standards
1.	pH	-	7.49	6.5-8.0
2.	Temperature Intake	°C	32.7	Shall not exceed 5°C above the receiving temperature
3.	Temperature Outfall	°C	34.5	
4.	Electrical Conductivity	ms/cm	39321	-
5.	Turbidity	NTU	5.2	-
6.	Total Dissolved Solids	mg/l	22689	-
7.	Total Suspended Solids	mg/l	84	100
8.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	694	-
9.	P-Alkalinity as CaCO <sub>3</sub>	mg/l	Nil	-
10.	Total Hardness as CaCO <sub>3</sub>	mg/l	6880	-
11.	Calcium as Ca	mg/l	1231	-
12.	Magnesium as Mg	mg/l	924	-
13.	Chlorides as Cl	mg/l	12628	-
14.	Fluorides as F	mg/l	0.80	-
15.	Nitrates as NO <sub>3</sub>	mg/l	1.36	-
16.	Sulphates as SO <sub>4</sub>	mg/l	935	-
17.	Silica as SiO <sub>2</sub>	mg/l	0.60	-





# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

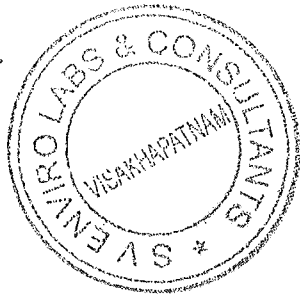
Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



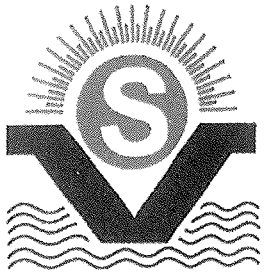
18.	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	<0.005	-
19.	Sodium as Na	mg/l	5963	-
20.	Potassium as K	mg/l	218	-
21.	Carbonates as CaCO <sub>3</sub>	mg/l	Nil	-
22.	Bicarbonates as CaCO <sub>3</sub>	mg/l	694	-
23.	Iron as Fe	mg/l	2.8	-
24.	Copper as Cu	mg/l	0.67	-
25.	Manganese as Mn	mg/l	0.35	-
26.	Zinc as Zn	mg/l	0.68	-
27.	Boron as B	mg/l	0.02	-
28.	Selenium as Se	mg/l	< 0.005	-
29.	Cadmium as Cd	mg/l	<0.001	2.0
30.	Cyanide as CN	mg/l	<0.01	-
31.	Lead as Pb	mg/l	<0.01	2.0
32.	Mercury as Hg	mg/l	<0.001	0.01
33.	Hexavalent Chromium as Cr <sup>+6</sup>	mg/l	<0.001	1.0
34.	Total Arsenic as As	mg/l	<0.01	0.2
35.	Chemical Oxygen Demand-COD	mg/l	70.6	250
36.	Bio-Chemical Oxygen Demand (27 <sup>o</sup> C @ 3days)-BOD	mg/l	28.0	100
37.	Oil & Grease	mg/l	<1.0	20

Note: As per the above report, all the parameters are analyzed as per APHA, 23<sup>rd</sup> Ed, 2017.

  
CHECKED BY



  
For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-03/012


Dated: 30-03-2021

ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V), Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

SAMPLE PARTICULARS : MARINE WATER

SOURCE OF COLLECTION : MARINE OUTFALL

DATE OF COLLECTION : 21-03-2021

STATIC ACUTE TOXICITY DATA SHEET			
SAMPLE PARTICULARS : GUARD POND EFFLUENT SAMPLE			
TEST SPECIES	SOURCE OF ORGANISM	LENGTH & WEIGHT (For fish)	
Zebra Fish	Through vendors.	1.Length <u>4.6 (cm)</u> 2.Weight <u>3.8(gm)</u>	1.Fish were not fed <u>yes</u> 2.Temperature range in aquaria <u>25°c</u>
REFERENCE TEST DATA			
Start Date :19-03-2021			
End Date : 22-03-2021			
COMMENTS:			
The test species was undergone toxicity test for about 96hrs. RESULT: 100% survival of fish was noticed			
INSTRUMENTS USED:			
. pH meter. 2. D.O meter. 3. Thermometer. 4. Glass aquarium. 5. Low flow pump. 6.Aerator 7. Balance.			
Test conducted by:			
			





Right Choice

# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.

Certified by ISO 9001 : 2015 and  
OHSAS 18001 : 2007

## TEST REPORT

REF.NO: UEA/SEIL/R2/0420

Date: 24-04-20

### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
 Pyanampuram/Nelaturu (V),  
 Muthukur (M),  
 SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : S.T.P Outlet  
 Date of collection : 17-04-2020  
 Date of Analysis : 17-04-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.32	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	645	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	9.7	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	55	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	16.7	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	0.10	<1.0

*Analyst*  
Analyst

*T. Raju*  
Authorized Signatory



Right Choice

# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SEIL/R2/0520

Date: 26-05-20

### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : S.T.P Outlet  
Date of collection : 18-05-2020  
Date of Analysis : 18-05-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.41	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	652	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	10.3	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	50	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	15.6	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	1.1	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.6	--
8	Fecal Coilforms per 100ml	MPN/ 100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	0.11	<1.0

*M*  
Analyst

*T. Prabhakar*  
Authorized Signatory



# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SEIL/R2/0620

Date: 26-06-2020

### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 19-06-2020  
Date of Analysis : 19-06-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.41	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	645	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	9.7	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	61	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	18.8	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	0.11	<1.0

Analyst

T. Prishwan  
Authorized Signatory



### TEST REPORT

REF.NO: UEA/SGPL/R2/0720

Date: 21-07-2020

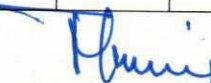
#### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 14-07-2020  
Date of Analysis : 14-07-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.30	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	598	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	7.6	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	52	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	14.9	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.8	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN-	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	0.09	<1.0

  
Analyst

  
Authorized Signatory



# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.

Certified by ISO 9001 : 2015 and  
OHSAS 18001 : 2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/0820

Date: 20-08-2020

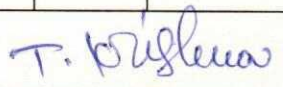
### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 13-08-2020  
Date of Analysis : 13-08-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.42	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	642	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	8.7	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	57	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	16.4	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/ 100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	0.09	<1.0

  
Analyst

  
Authorized Signatory



Right Choice

# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SEIL/R2/0920

Date: 25-09-2020

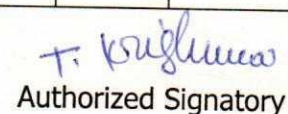
### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 18-09-2020  
Date of Analysis : 18-09-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.48	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	614	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	8.4	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	59	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	17.3	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	1.0	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/ 100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	0.11	<1.0

  
Analyst

  
Authorized Signatory



Right Choice

# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.

Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/1119

Date:22-10-2020

### WASTEWATER ANALYSIS

Name of the Industry & Address: **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : S.T.P Outlet  
Date of collection : 15-10-2020  
Date of Analysis : 15-10-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.48	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	621	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	9.4	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	65	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	17.8	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl <sup>-</sup> B	0.5	--
8	Fecal Coilforms per 100ml	MPN/ 100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN <sup>-</sup>	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	<0.1	<1.0

Analyst

Authorized Signatory



# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001 : 2015 and  
OHSAS 18001 : 2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/1120

Date: 19-11-2020

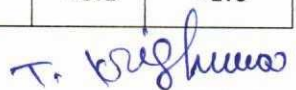
### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 12-11-2020  
Date of Analysis : 12-11-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.23	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	636	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	9.7	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	63	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	16.6	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.8	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	<0.1	<1.0

  
Analyst

  
Authorized Signatory





# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/1220

Date: 17-12-2020

### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 10-12-2020  
Date of Analysis : 10-12-2020

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.45	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	649	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	9.9	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	61	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	15.7	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	<0.1	<1.0

*AAA*  
Analyst

*T. Prishma*  
Authorized Signatory



# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001 : 2015 and  
OHSAS 18001 : 2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/0121

Date: 20-01-2021

### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 13-01-2021  
Date of Analysis : 13-01-2021

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.31	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	649	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	9.21	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	61	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	15.5	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl <sup>-</sup> B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN <sup>-</sup>	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	<0.1	<1.0

  
Analyst

  
Authorized Signatory



# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/0221

Date: 19-02-2021

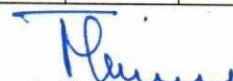
### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

Sample Particulars : STP Outlet  
Date of collection : 11-02-2021  
Date of Analysis : 11-02-2021

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.24	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	876	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	10.3	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	62	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	18.1	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.9	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	<0.1	<1.0

  
Analyst

  
Authorized Signatory



# UNIVERSAL ENVIRO ASSOCIATES

SINCE 1994

Recognised by NABL and  
MoEF & CC, GOI, New Delhi.  
Certified by ISO 9001:2015 and  
OHSAS 18001:2007

## TEST REPORT

REF.NO: UEA/SGPL/R2/0321

Date: 17-03-2021

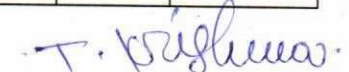
### WASTEWATER ANALYSIS

Name of the Industry & Address : **M/s. Sembcorp Energy India Ltd. (PROJECT-1),**  
Pyanampuram/Nelaturu (V),  
Muthukur (M),  
SPSR Nellore Dt., Andhra Pradesh.

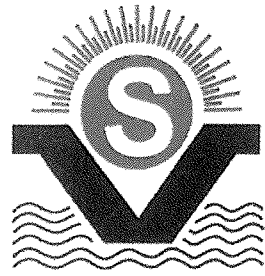
Sample Particulars : STP Outlet  
Date of collection : 10-03-2021  
Date of Analysis : 10-03-2021

S No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 23 <sup>rd</sup> Edition,2017, 4500 H+ B	7.24	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 C	865	2100
3	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Edition,2017, 2540 D	10.1	200
4	Chemical Oxygen Demand	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5220 B	39	250
5	Biochemical Oxygen Demand (27°C@ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	11.8	100
6	Oil & Grease	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 5520 B	0.8	10
7	Free Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 Cl-B	0.5	--
8	Fecal Coilforms per 100ml	MPN/100 ml	IS:1622:1981	Absent	--
9	Arsenic as As	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3114 As	BDL	<0.2
10	Cyanide as CN	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 4500 CN	BDL	<0.2
11	Total Copper	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Cu	BDL	<1.0
12	Total Iron	mg/L	APHA 23 <sup>rd</sup> Edition,2017: 3500 Fe	<0.1	<1.0

  
Analyst

  
Authorized Signatory

# ANNEXURE- II



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/20-04/10

Dated: 20-05-2020

ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V)  
Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

DESCRIPTION OF WORK : STACK MONITORING

MONTH OF MONITORING : April'20 – (21/04/2020)

PARAMETERS REQUIRED : PM, SO<sub>2</sub>, NO<sub>x</sub> and Hg

SAMPLE COLLECTED BY : SV ENVIRO LABS & CONSULTANTS, Visakhapatnam

Instrument Used	Stack Monitoring Kit	Flue Gas Analyser
Instrument Sl. Number	109-DTI-2018	054518373
Date of Calibration	12.07.2019	20.11.2019
Next Calibration Due	11.07.2020	21.11.2020

## TEST REPORT

S. No.	Parameters	Standards	Results	Methods	
<b>Details of the Source</b>					
1.	Stack attached to	-	UNIT-I (660 MW)	UNIT-II (660 MW)	
2.	Stack Diameter (m)	-	6.5	6.5	
3.	Stack Crossectional Area (sq.m)	-	33.16	33.16	
4.	Load of the Unit (MW)	-	630	630	
<b>Flue Gas Characteristics</b>					
5.	Time of Monitoring	-	10.00	11.45	
6.	Temperature (Kelvin)	-	432	436	IS:11255(P-1)1985
7.	Velocity (m/s)	-	24.2	28.3	IS:11255(P-1)1985
8.	Volumetric Flow Rate (Nm <sup>3</sup> /Hr)	-	1980068	2294291	IS:11255(P-1)1985
9.	CO in ppm	-	15.9	14.8	Flue Gas Analyzer
<b>Emission Rates</b>					
10.	Particulate Matter in mg/Nm <sup>3</sup>	50	32.3	35.1	IS:11255(P-1)1985
11.	Sulphur dioxide in mg/Nm <sup>3</sup>	-	946	811	IS:11255(P-II)1985
12.	Oxides of Nitrogen in mg/Nm <sup>3</sup>	-	369	388	IS:11255(P-7)2005
13.	Mercury as Hg in mg/Nm <sup>3</sup>	0.03	<0.01	<0.01	CPCB Guidelines

Note: The above results are corrected to 6% O<sub>2</sub>.

CHECKED BY



For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/20-09/10

Dated: 10-10-2020

ISSUED TO : M/s.SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V)  
Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

DESCRIPTION OF WORK : STACK MONITORING

MONTH OF MONITORING : September'20 – (19/09/2020 )

PARAMETERS REQUIRED : PM, SO<sub>2</sub>, NO<sub>x</sub> and Hg

SAMPLE COLLECTED BY : SV ENVIRO LABS & CONSULTANTS, Visakhapatnam

Instrument Used	Stack Monitoring Kit	Flue Gas Analyser
Instrument Sl. Number	109-DTI-2018	054518373
Date of Calibration	11.07.2020	21.11.2019
Next Calibration Due	10.07.2021	20.11.2020

### TEST REPORT

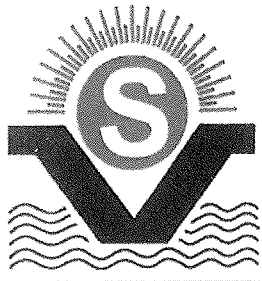
S. No.	Parameters	Standards	Results	Methods
<b>Details of the Source</b>				
1.	Stack attached to	-	UNIT-I (660 MW)	UNIT-II (660 MW)
2.	Stack Diameter (m)	-	6.5	6.5
3.	Stack Crosssectional Area (sq.m)	-	33.16	33.16
4.	Load of the Unit (MW)	-	630	630
<b>Flue Gas Characteristics</b>				
5.	Time of Monitoring	-	10.15	14.00
6.	Temperature (Kelvin)	-	420	426
7.	Velocity (m/s)	-	21.3	26.4
8.	Volumetric Flow Rate (Nm <sup>3</sup> /Hr)	-	1792138	2190324
9.	CO in ppm	-	14.4	13.6
<b>Emission Rates</b>				
10.	Particulate Matter in mg/Nm <sup>3</sup>	50	28.2	29.4
11.	Sulphur dioxide in mg/Nm <sup>3</sup>	-	886	732
12.	Oxides of Nitrogen in mg/Nm <sup>3</sup>	-	334	356
13.	Mercury as Hg in mg/Nm <sup>3</sup>	0.03	<0.01	<0.01

Note: The above results are corrected to 6% O<sub>2</sub>.

  
CHECKED BY



  
For SV ENVIRO LABS & CONSULTANTS



# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-275528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-01/10

Dated: 12-02-2021

ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V)  
Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

DESCRIPTION OF WORK : STACK MONITORING

MONTH OF MONITORING : January'21 – (21/01/2021)

PARAMETERS REQUIRED : PM, SO<sub>2</sub>, NO<sub>x</sub> and Hg

SAMPLE COLLECTED BY : SV ENVIRO LABS & CONSULTANTS, Visakhapatnam

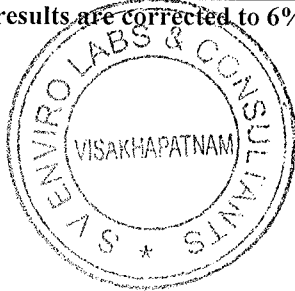
Instrument Used	Stack Monitoring Kit	Flue Gas Analyser
Instrument Sl. Number	109-DTI-2018	054518373
Date of Calibration	11.07.2020	19.11.2020
Next Calibration Due	10.07.2021	18.11.2021

## TEST REPORT

S. No.	Parameters	Standards	Results	Methods
Details of the Source				
1.	Stack attached to	-	UNIT-I (660 MW)	UNIT-II (660 MW)
2.	Stack Diameter (m)	-	6.5	6.5
3.	Stack Crosssectional Area (sq.m)	-	33.16	33.16
4.	Load of the Unit (MW)	-	630	630
Flue Gas Characteristics				
5.	Time of Monitoring	-	10.00	11.45
6.	Temperature (Kelvin)	-	426	430
7.	Velocity (m/s)	-	23.4	27.6
8.	Volumetric Flow Rate (Nm <sup>3</sup> /Hr)	-	1941578	2268763
9.	CO in ppm	-	15.2	14.3
Emission Rates				
10.	Particulate Matter in mg/Nm <sup>3</sup>	50	30.6	33.4
11.	Sulphur dioxide in mg/Nm <sup>3</sup>	-	925	790
12.	Oxides of Nitrogen in mg/Nm <sup>3</sup>	-	356	375
13.	Mercury as Hg in mg/Nm <sup>3</sup>	0.03	<0.01	<0.01

Note: The above results are corrected to 6% O<sub>2</sub>.

*Sauney*  
CHECKED BY



*Jes*  
For SV ENVIRO LABS & CONSULTANTS





# SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012  
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628  
info@svenvirolabs.com, svenviro\_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi, Accredited by : NABL & NABET



Ref. No: SVELC/SCEIL/21-03/10

Dated: 30-03-2021

ISSUED TO : M/s. SEMB CORP ENERGY INDIA LIMITED P-1,  
Painampuram (V)  
Muthukur (M),  
SPSR NELLORE DISTRICT,  
ANDHRA PRADESH.

DESCRIPTION OF WORK : STACK MONITORING

MONTH OF MONITORING : March'21 – (18/03/2021)

PARAMETERS REQUIRED : PM, SO<sub>2</sub>, NO<sub>x</sub> and Hg

SAMPLE COLLECTED BY : SV ENVIRO LABS & CONSULTANTS, Visakhapatnam

Instrument Used	Stack Monitoring Kit	Flue Gas Analyser
Instrument Sl. Number	109-DTI-2018	054518373
Date of Calibration	11.07.2020	19.11.2020
Next Calibration Due	10.07.2021	18.11.2021

## TEST REPORT

S. No.	Parameters	Standards	Results		Methods
<b>Details of the Source</b>					
1.	Stack attached to	-	UNIT-I (660 MW)	UNIT-II (660 MW)	-
2.	Stack Diameter (m)	-	6.5	6.5	-
3.	Stack Crossectional Area (sq.m)	-	33.16	33.16	-
4.	Load of the Unit (MW)	-	630	630	-
<b>Flue Gas Characteristics</b>					
5.	Time of Monitoring	-	10.15	12.00	-
6.	Temperature (Kelvin)	-	432	438	IS:11255(P-1)1985
7.	Velocity (m/s)	-	24.6	28.1	IS:11255(P-1)1985
8.	Volumetric Flow Rate (Nm <sup>3</sup> /Hr)	-	2012796	2267674	IS:11255(P-1)1985
9.	CO in ppm	-	15.6	14.7	Flue Gas Analyzer
<b>Emission Rates</b>					
10.	Particulate Matter in mg/Nm <sup>3</sup>	50	33.9	36.1	IS:11255(P-1)1985
11.	Sulphur dioxide in mg/Nm <sup>3</sup>	-	932	798	IS:11255(P-II)1985
12.	Oxides of Nitrogen in mg/Nm <sup>3</sup>	-	368	384	IS:11255(P-7)2005
13.	Mercury as Hg in mg/Nm <sup>3</sup>	0.03	<0.01	<0.01	CPCB Guidelines

Note: The above results are corrected to 6% O<sub>2</sub>.

  
CHECKED BY



  
For SV ENVIRO LABS & CONSULTANTS