



Sembcorp Energy India Limited
(Formerly Thermal Powertech Corporation India Ltd)
CIN: U40103TG2008PLC057031
Corp. 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
www.sembcorpenergyindia.com

SEIL P2 / APPCB / NLR / 086
19th June'2019

To
The Environmental Engineer
AP Pollution Control Board
Regional Office, Nellore.

Dear Sir

Sub: SEIL P2 Submission of Environment Statement (Form V) for the year 2018-19.
Ref: CFO order issued to SGPL vide Ref: APPCB/HO/UH-IV/CFO: VJA/Auto Renewal-1/2017 –
dated 29.01.2017.

Sir,

Please find enclosed herewith the "Environment Statement (Form V)" for the year 2018-19 from
M/s Sembcorp Energy India Limited [formerly Sembcorp Gayatri Power Limited] ,Nellore.

Thanking you

Yours Truly
For **M/s. Sembcorp Energy India Limited**

(Pavan Kumar Rao V)
Head HSE - SEIL

CC: The Member Secretary - APPCB, Vijayawada.

ENVIRONMENTAL STATEMENT FOR THE YEAR 2018 - 2019

Of

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

At

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

Submitted By

***Sembcorp Energy India Limited – Project 2
[formerly known as Sembcorp Gayatri Power Limited]
SPSR NELLORE, ANDHRA PRADESH***

May 2019

Environmental Statement Report 2018 - 2019 for Sembcorp Energy India Limited Project 2 (formerly known as Sembcorp Gayatri Power Limited.)

FORM - V
(See Rule 14)

Environmental Statement Report for the financial year ending the 31st March 2019.

PART-A

- | | | |
|--|---|---|
| (i) Name and address of the Owner/Occupier of the Industry, Operation or process | : | Mr. Ramesh Raman
Plant Manager
Sembcorp Gayatri Power Limited
Pyanampuram / Sivarampuram Village
Muthukur Mandal, SPSR Nellore
PIN- 524 344
0861-3051510
+917675040570 |
| (ii) Industry Category | : | Red Category – Hazardous
Coal based power plant |
| (iii) Production capacity | : | 1320 MW (2X660 MW) |
| (iv) Year of Establishment | : | Unit#1 (Nov, 16) & Unit#2 (Feb, 17) |
| (v) Date of the last environmental Audit report submitted. | : | Environment Statement [2017-18] submitted on 24.08.2018.
Unit#1 Started operation in Nov, 16
Unit#2 Started operation in Feb, 17. |

PART – B
WATER AND RAW MATERIAL CONSUMPTION

(i) Water consumption, m³/day : Please refer Annexure 4

RO-DM Plant : 3569345 cum for Total year of operations (2018-19)
Cooling Tower : 53339400 cum for Total year of operations (2018-19)
Domestic : 8400 cum for Total year of operations (2018-19)

Name of Product	Process water consumption per unit of product output	
	During the Previous Financial year (2017-2018)	During the current Financial year (2018-2019)
Electricity (9731.05 Million Units generated during 2018-19)	0.39 cum/MWH (excl. Cooling tower makeup) 5.88 cum/MWH (incl. Cooling tower makeup)	0.366 cum/MWH (excl. Cooling tower makeup) 5.84 cum/MWH (incl. Cooling tower makeup)

RAW MATERIAL CONSUMPTION:

Name of raw material	Name of Products	Consumption of raw material per unit of output (Tons/KWH, Lit. /KWH of Electricity)	
		During the Previous Financial year (2017-2018)	During the current Financial year (2018-2019)
Coal	Electricity	0.000534 Ton /kWh	0.0005026 Ton /kWh

PART – C

POLLUTION GENERATED
(Parameters as specified in the consent issued)

Pollution discharged to Environment/ Unit of output

(i) Pollutant	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
a) Water	Please refer Annexure 4A (Effluent Water Quality third party reports)		
b) Air	Please refer Annexure 4B (Stack Emissions Quality third party reports)		

PART – D
HAZARDOUS WASTES

(As specified under Hazardous wastes / management and handling rules, 1989)

Hazardous Wastes	Total Quantity	
	During the Previous Financial year (2017-2018)	During the current Financial year (2018-2019)
(a) From process	31.4 KL	19 KL

(b) From pollution control facility	--	--
(c) Quantity recycled or Re-utilized	31.4 KL	19 KL

Waste oil generated in the process will be given to APPCB authorized waste recycler. [Hazardous Waste Returns submitted to APPCB / CPCB attached as Annexure – 5.

PART-E

SOLID WASTES

Solid Wastes	Total Quantity	
	During the current Financial year (2017-2018)	During the current Financial year (2018-2019)
(a) From process	Ash – 434262 MT	Ash – 579705 MT
(b) From pollution control facility	--	--
(c) Quantity recycled or Re-utilized	229028 MT of ash is sent to outside vendors for utilization	400258.57 MT of ash is sent to outside vendors for utilization

SEIL P2 [formerly SGPL] Statutory Compliance Report to CPCB on Annual Fly Ash Utilization data (01.04.2018 to 31.03.2019) is attached as Annexure – 6.

PART – F

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

Hazardous waste generated during 2018-19 is **19 KL** of waste/used oil.
Total ash generated during 2018-19 is **579705 MT**.

The generated waste oil is handedover to APPCB authorized waste recyclers (SGPL tied-up third party) after having adequate quantity of it. The waste oil is recycled through APPCB approved Hazardous Waste Handler to **M/s. Vijay Lubricants, Kondapalli (V), Ibrahimpatnam (M), Krishna District, Andhra Pradesh** for re-processing/reuse.

PART – G

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

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 on the overall emissions from stack and ambient air. Also we have carried out annual hydrogeological study and revised CRZ mapping.

A total of about **Rs. 23, 02,978/-** is spent on Revised CRZ Mapping, Socio-economic survey for fishermen community, monitoring of pollution control equipment & environmental monitoring for the financial year 2018 – 2019.

PART – H

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

1. 300 nos. of Water sprinklers at coal storage yards & dust suppression (DS), Dry Fog Dust Suppression (DFDS) systems arrangement are in service in the coal handling area to control the fugitive dust emission in the plant.
2. Internal roads are completed to reduce the fugitive dust emission inside the plant premises.
3. 315 acres of massive tree plantation is completed inside as well as outside of the Plant premises. Also lawns/ gardens are developed inside of the plant premises wherever the open space is available to improve the plant beautification.
4. 09 nos. of Rainwater harvesting ponds are in service.
5. Housekeeping is taking on top priority and engaged about **200 no. of manpower** for maintaining neat and clean environment in the plant premises.

PART – I

Miscellaneous

Any other particulars for improving environment protection and abatement of pollution. More than **315 acres** of Greenbelt development completed inside & all along the periphery of the plant boundary.

World Environment Day and Vanamahotsavam celebrated at SEIL P2 and planted almost 5,000 plants within the plant premises.



Mr. Ramesh Raman
Plant Manager
Sembcorp Energy India Limited Project 2
[formerly Sembcorp Gayatri Power Limited]
Pyanampuram / Sivarampuram Villages
Muthukur Mandal, SPSR Nellore
PIN- 524 344
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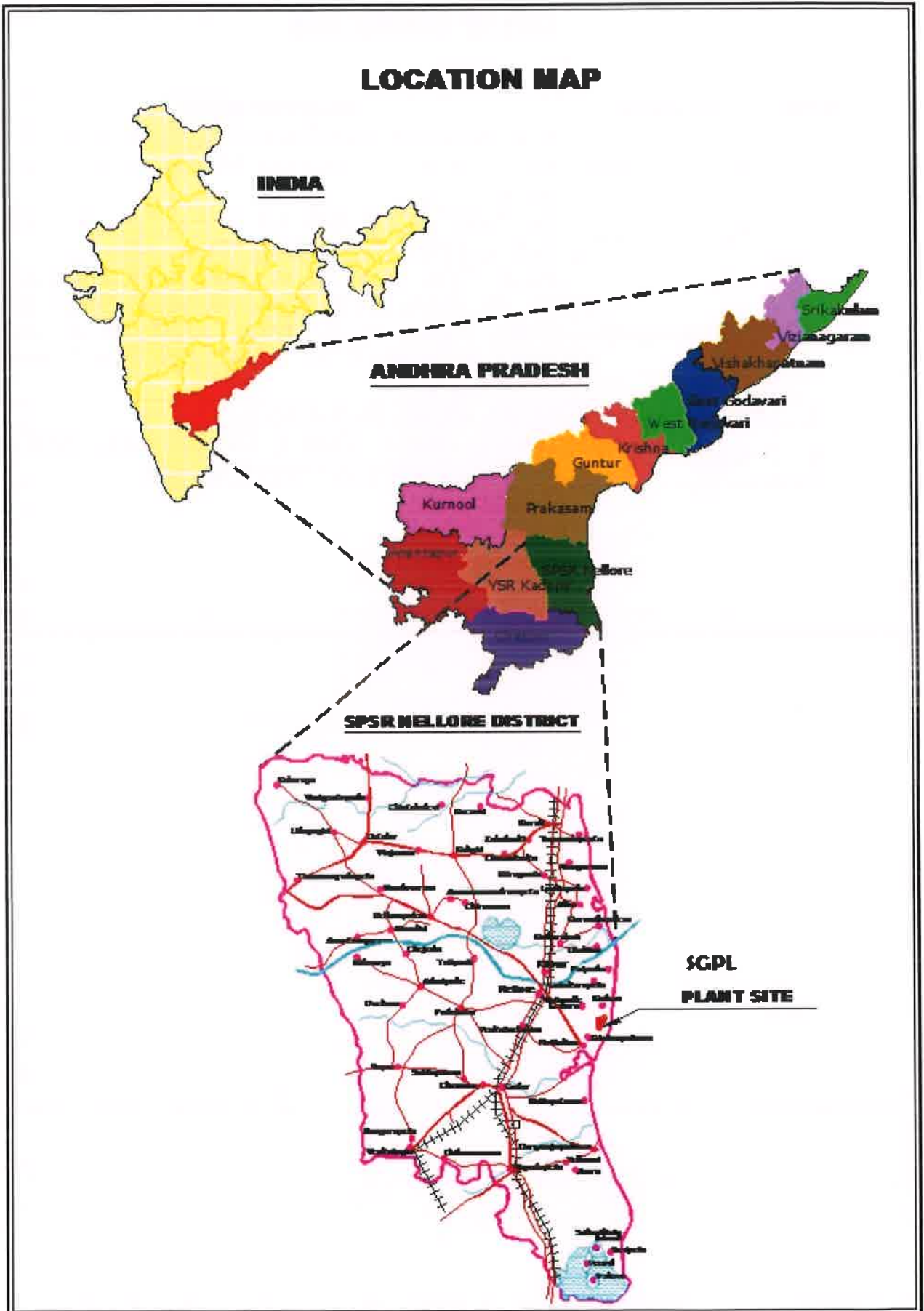
ANNEXURES

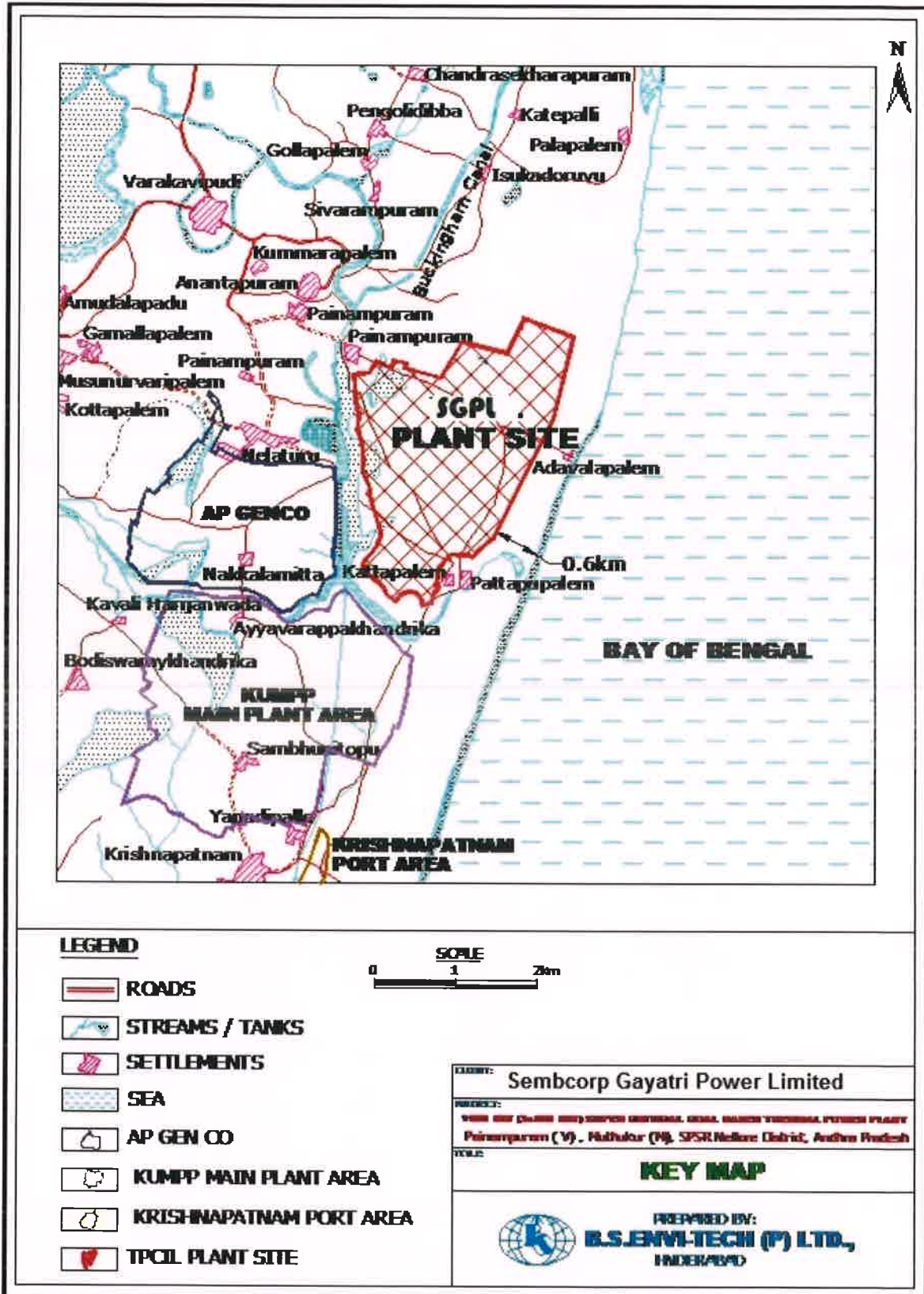
ANNEXURE-1

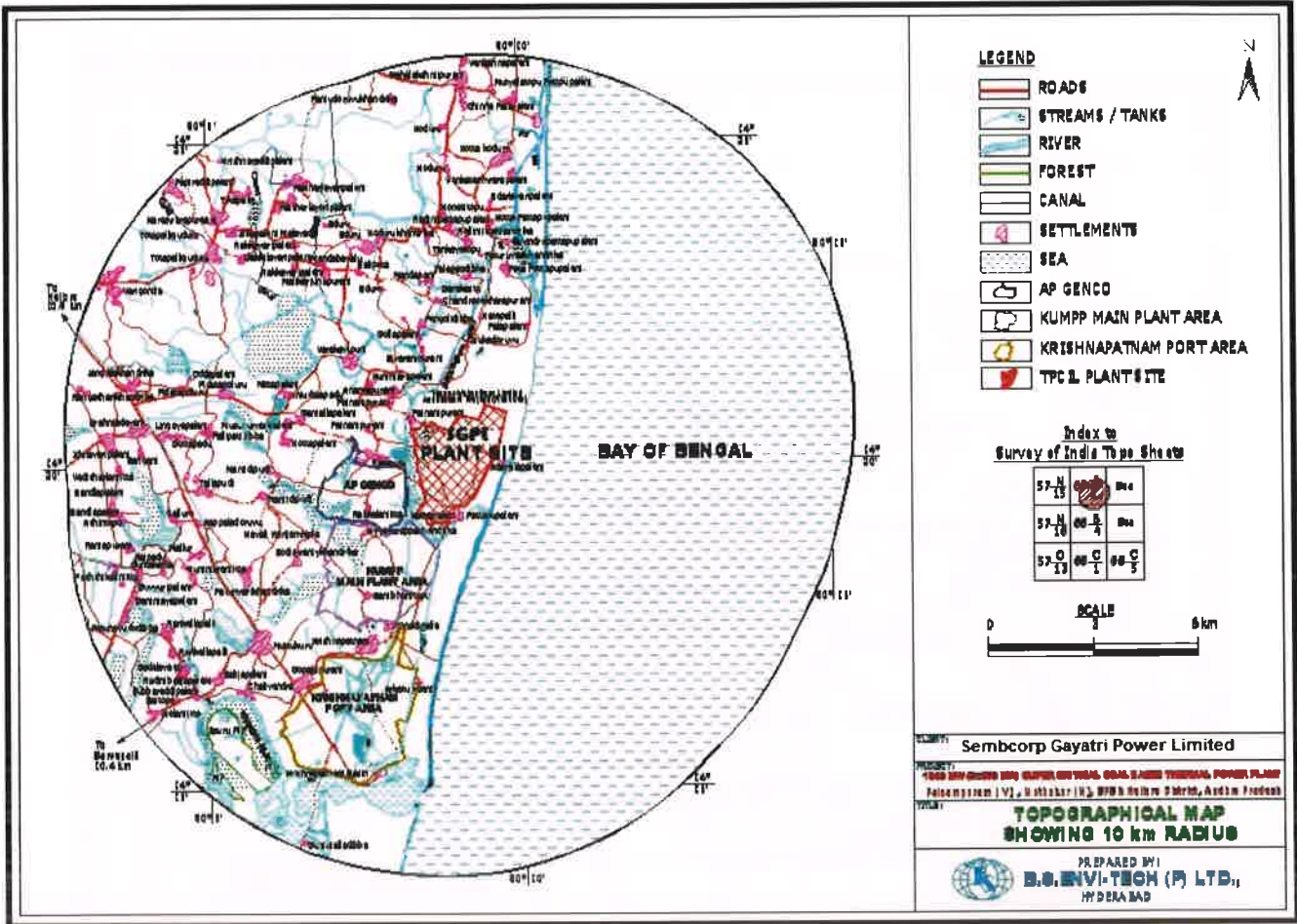
LIST OF SURVEY NOS

S.No	VILLAGE	SURVEY NO(s)
1	Ananthavaram	1/1,1/2,1/3,2,3,5,6,7,8,9,10/1,10/2,10/3, 1 to 10, 12/2A1,12/2A,13/1,14/1,15/1,25,12/1 & 16/1
2	Painampuram	321,322/1,307/1,308/1,310/2-1, 311/1, 312/1, 313/1, 314/1, 315 to 320, 321/1, 323/1.
3	Varakavipudi	16/2, 17/A, 17/B, 18/A, 19/A, 19/B, 22/A, 22/B, 23, 24, 26/A, 26/B, 27/A, 29, 30/A, 30/B, 30/C, 30/D, 31/A, 31/B, 32/A, 32/B, 34/A, 34/B, 34/C, 34/D, 36/C, 37/3, 39/1, 39/3, 40, 1494/A, 1513 A & B.
4	Sivaramapuram	82, 83, 84, 85, 86-2 & 86-3.
5	Eduru Bit - 2	1493-1, 1506-1, 1508-2, 1509-2, 1511, 1513 A & B, 1494/1, 1494/2, 1494/A & 1502.

LOCATION MAP

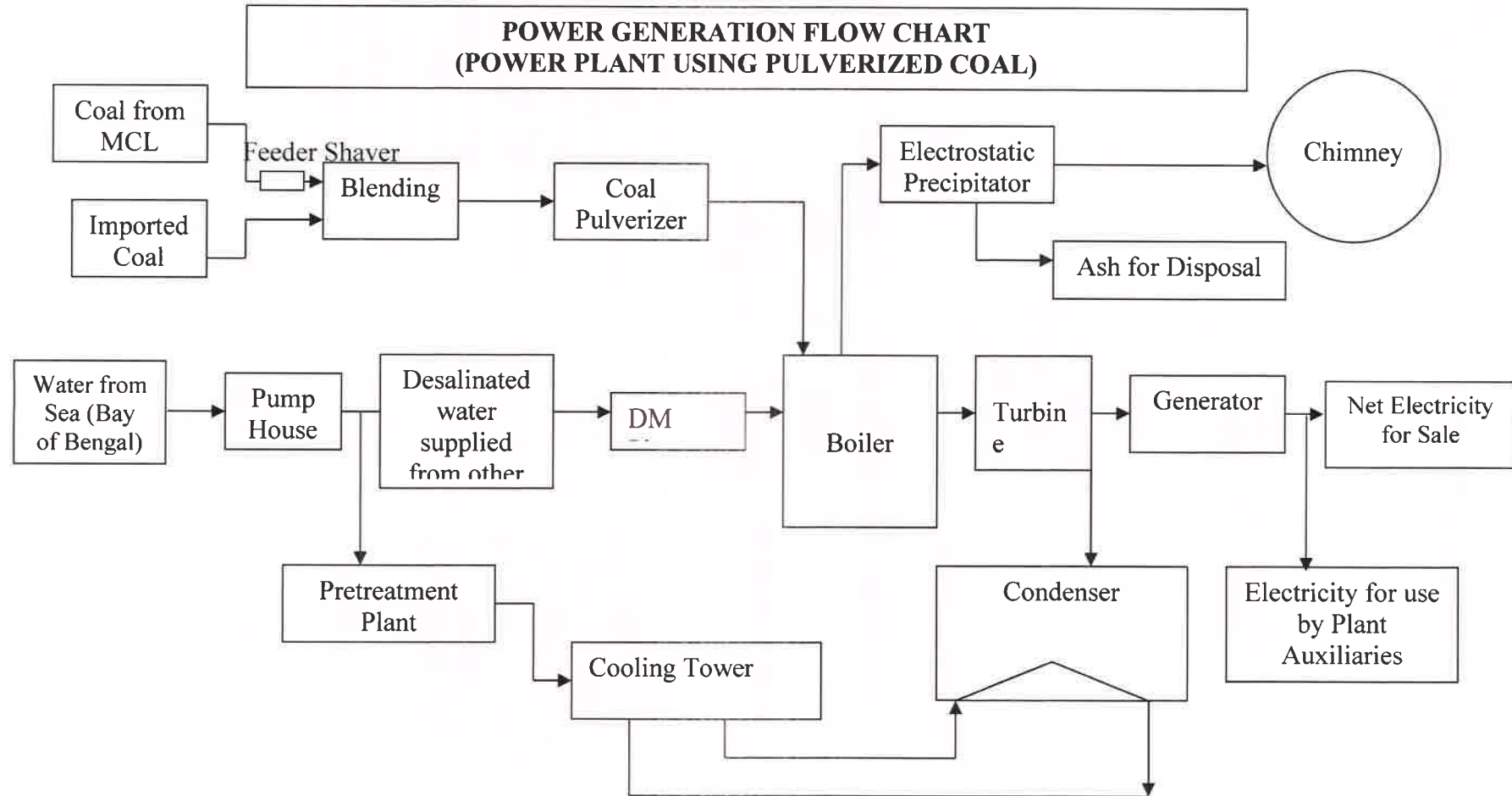






ANNEXURE - 2B

THE FLOW CHART SHOWING THE POWER PLANT OPERATIONS



ANNEXURE - 4**WATER CONSUMPTION AND WASTEWATER DETAILS**

Sr. No.	Purpose	Total Quantity in (cum/day)	As per CFO Permitted Water Consumption Quantity (m3/day)
1	For cooling tower make up (saline water)	146135	273728
2	Non Cooling water (RO First pass)	9779	39712
	Clarifier		
	Filtration		
	Desal Reject		
	Miscellaneous services		
	Domestic - Plant		
	RO Second Pass		
	DM Plant		
	Boiler Feed		
	Total Water drawl	1,55,914	3,13,440

WASTEWATER GENERATION AND DISPOSAL DETAILS

Outlet. No.	Outlet description	Total Discharge Quantity (m3/day)	Max. Daily Discharge as per CFO (m3/day)	Point of Disposal
1	Cooling Tower blowdown	128140	242720	To sea through marine outfall after treatment and compliance of marine discharge standards. (Attached APPCB approved third party effluent monitoring reports)
2	Clarifier blow down			
3	Filter Back wash			
4	First Pass RO Reject			
5	DM Plant regeneration	0	149	211 m3 /day ETP treated water is reused for Green belt development / CHP dust suppression after treatment and compliance of on land for irrigation standards. (Attached APPCB approved third party effluent monitoring reports)
6	Boiler Blow down			
7	Domestic (Plant)			
	Total Wastewater	128140	242869	

Annexure 4A
[Effluent Water Quality third party reports]



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104 & 105, Libra Enclave, RTC 'X' Roads, Musheerabad, Hyderabad-500 020.
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TEST REPORT

REF.NO: UEA/SEIL/R3/0319

Date: 08-04-2019

WASTE WATER ANALYSIS

Name of the Industry & Address : **M/s. SembCorp Energy India Limited, Project 2**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : E.T.P Outlet
Date of collection : 26-03-2019 (Sampling time: 10:20 a.m)
Date of Analysis : 27-03-2019

S. No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 22 nd Edition,2012, 4500 H+ B	7.99	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 22 nd Edition,2012, 2540 C	1,516	2,100
3	Total Suspended Solids	mg/L	APHA 22 nd Edition,2012, 2540 D	60.5	200
4	Chemical Oxygen Demand	mg/L	APHA 22 nd Edition,2012: 5220 B	139	250
5	Bio Chemical Oxygen Demand	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	42.3	100
6	Oil & Grease	mg/L	APHA 22 nd Edition,2012: 5520 B	1.7	10


Analyst


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CLIMATE EVERY DAY
LIVE THOSE



CONSERVE WATER
LIVE LIFE



GOOD THOUGHTS
GOOD LIFE
GOOD ENVIRONMENT
GOOD WORLD



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TEST REPORT

REF.NO: UEA/SEIL/R5/0319

Date: 08-04-2019

WATER ANALYSIS

Name of the Industry & Address: **M/s. SembCorp Energy India Limited, Project 2**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Marine Outlet
Date of collection : 26-03-2019 (Sampling time: 10:10 a.m)
Date of Analysis : 27-03-2019

S. No	Parameter	Units	Method	Result	Standards
1	pH	---	APHA 4500 H ⁺ B	7.82	6.5-8.0
2	Temperature (°C) Intake	°C		33.5	Shall not exceed 5 °C above the receiving temp.
	Temperature (°C) Outfall	°C		38.2	
3	Electrical Conductivity	ms/cm	APHA 2510 B	41,616	---
4	Total Dissolved Solids	mg/L	APHA 2540 C	23,829	---
5	Total Hardness as CaCO ₃	mg/L	APHA 2340 C	6,352	---
6	Chloride as Cl	mg/L	APHA 4500 Cl ⁻ B	13,612	---
7	Magnesium as Mg	mg/L	APHA 3500 Mg B	792	---
8	Nitrate as NO ₃	mg/L	APHA 4500 NO ₃ ⁻ B	0.39	---
9	Fluoride as F	mg/L	APHA 4500 F D	0.97	---
10	Silica as SiO ₂	mg/L	APHA 4500 SiO ₂ C	0.59	---
11	Calcium as Ca	mg/L	APHA 3500 Ca B	1,126	---
12	Turbidity	NTU	APHA 2130 B	7.3	---
13	Iron as Fe	mg/L	APHA 3500 Fe B	2.1	---
14	Copper as Cu	mg/L	APHA 311 B	0.79	---
15	Manganese as Mn	mg/L	IS: 3025 (Part-59) 2012	0.35	---
16	Phenolic compounds as C ₆ H ₅ OH	mg/L	IS: 3025 (Part-43) 2012	Nil	---
17	Mercury as Hg	mg/L	IS: 3025 (Part-48) 2012	Nil	0.01
18	Cadmium as Cd	mg/L	APHA 3111 B	Nil	2.0
19	Selenium as Se	mg/L	APHA 311 B	Nil	---

Cont...

DONATE EYES
LIVE TRACE



PLANT A TREE
SAVE THE PLANET

COOPERATION
SAVE LIFE



SAVE WATER



MAKE CHANGES



GOOD THOUGHTS
GOOD LIFE
GOOD ENVIRONMENT
GOOD WORLD



Go Green
EACH ONE FOR A BETTER EARTH

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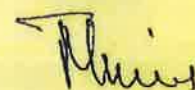
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TEST REPORT

S. No	Parameter	Units	Method	Result	Standards
20	Arsenic as As	mg/L	APHA-3500-As ₂	Nil	0.2
21	Cyanide as CN	mg/L	APHA 4500 CN ⁻ C, E	Nil	---
22	Lead as Pb	mg/L	APHA 3111 B	0.09	2.0
23	Zinc as Zn	mg/L	APHA 3111 B	0.59	---
24	Sulphate as SO ₄	mg/L	APHA 4500 SO ₄ ⁻² E	987	---
25	Hexavalent Chromium as Cr ⁺⁶	mg/L	APHA 3500 Cr B	Nil	1.0
26	Boron as B	mg/L	IS: 3025 (Part-57) 2012	0.01	---
27	Total alkalinity as CaCO ₃	mg/L	APHA 2320 B	902	---
28	Potassium as K	mg/L	APHA 3500 K B	8.5	---
29	Sodium as Na	mg/L	APHA 3500 Na B	46.5	---
30	P-Alkalinity as CaCO ₃	mg/L	APHA 2320 B	Nil	---
31	Total Suspended Solids	mg/L	IS: 3025(Part-15)1984	86.1	100
32	Carbonates as CO ₃	mg/L	IS: 3025 1964	90.5	---
33	Bio Carbonates as HCO ₃	mg/L	IS: 3025 1964	404	---
34	Chemical Oxygen Demand	mg/L	APHA 22nd Edition, 2012: 5220 B	115	250
35	Bio Chemical Oxygen Demand (27 °C @ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	45.1	100
36	Oil & Grease	mg/L	APHA 22nd Edition, 2012: 5520 B	1.8	20


Analyst


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TEST REPORT

REF.NO: UEA/SGPL/R9/0319

Date: 08-04-2019

WATER ANALYSIS - BIO – ASSAY TEST RESULTS

Name of the Industry & Address: **M/s. SembCorp Energy India Limited, Project 2**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample particulars : Marine Out fall
Test reports : 96 hours Static Fish Bioassay Test;
Protocol: IS 6582-1971 (re approved 1992);
Date of Collection : 26-03-2019
Date of Experiment : Started on : 27-03-2019
Completed on : 02-03-2019

FISH PARTICULARS:

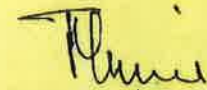
Test Species : Puntius sophore; Size: 2.5 to 3.0 cm
Type of test : 96 hours Static Fish Bioassay
Quality of Effluent : pH: 7.82 DO: 5.2 mg/l.

OBSERAVATIONS:

%Conc. (V/V)	No. of Fish (No's)	Mortality Record				Symptoms of Toxicity
		Time in Hours				
		24	48	72	96	
Control	20	0	0	0	0	No symptoms of Toxicity were observed
Test (100%)	20	0	0	0	0	No symptoms of Toxicity were observed

Remarks: Survival of fish at 100% concentration of treated effluent after 96 hours of exposure is 100%.


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Ph: 040-27833361, e-mail: uea123@gmail.com, website: www.universalenviro.in

TEST REPORT

REF.NO: UEA/SEIL/R3/1118

Date: 21-11-2018

WASTE WATER ANALYSIS

Name of the Industry & Address : **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : E.T.P Outlet
Date of collection : 08-11-2018 (Sampling time: 04:40 p.m)
Date of Analysis : 10-11-2018

S. No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 22 nd Edition,2012, 4500 H+ B	7.91	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 22 nd Edition,2012, 2540 C	1,412	2,100
3	Total Suspended Solids	mg/L	APHA 22 nd Edition,2012, 2540 D	58.3	200
4	Chemical Oxygen Demand	mg/L	APHA 22 nd Edition,2012: 5220 B	136	250
5	Bio Chemical Oxygen Demand	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	40.2	100
6	Oil & Grease	mg/L	APHA 22 nd Edition,2012: 5520 B	1.5	10

T. Kishore
Analyst

Hemant
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TEST REPORT

REF.NO: UEA/SEIL/R5/1118

Date: 21-11-2018

WATER ANALYSIS

Name of the Industry & Address: **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Marine Outlet
Date of collection : 08-11-2018 (Sampling time: 04:00 p.m)
Date of Analysis : 10-11-2018

S. No	Parameter	Units	Method	Result	Standards
1	pH	---	APHA 4500 H ⁺ B	7.71	6.5-8.0
2	Temperature (°C) Intake	°C		30.4	Shall not exceed 5 °C above the receiving temp.
	Temperature (°C) Outfall	°C		34.9	
3	Electrical Conductivity	ms/cm	APHA 2510 B	41,159	---
4	Total Dissolved Solids	mg/L	APHA 2540 C	23,516	---
5	Total Hardness as CaCO ₃	mg/L	APHA 2340 C	6,126	---
6	Chloride as Cl	mg/L	APHA 4500 Cl ⁻ B	13,259	---
7	Magnesium as Mg	mg/L	APHA 3500 Mg B	846	---
8	Nitrate as NO ₃	mg/L	APHA 4500 NO ₃ ⁻ B	0.37	---
9	Fluoride as F	mg/L	APHA 4500 F D	0.95	---
10	Silica as SiO ₂	mg/L	APHA 4500 SiO ₂ C	0.57	---
11	Calcium as Ca	mg/L	APHA 3500 Ca B	1,096	---
12	Turbidity	NTU	APHA 2130 B	7.1	---
13	Iron as Fe	mg/L	APHA 3500 Fe B	1.9	---
14	Copper as Cu	mg/L	APHA 311 B	0.77	---
15	Manganese as Mn	mg/L	IS: 3025 (Part-59) 2012	0.31	---
16	Phenolic compounds as C ₆ H ₅ OH	mg/L	IS: 3025 (Part-43) 2012	Nil	---
17	Mercury as Hg	mg/L	IS: 3025 (Part-48) 2012	Nil	0.01
18	Cadmium as Cd	mg/L	APHA 3111 B	Nil	2.0
19	Selenium as Se	mg/L	APHA 311 B	Nil	---

Cont...



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TEST REPORT

S. No	Parameter	Units	Method	Result	Standards
20	Arsenic as As	mg/L	APHA-3500-As	Nil	0.2
21	Cyanide as CN	mg/L	APHA 4500 CN C, E	Nil	---
22	Lead as Pb	mg/L	APHA 3111 B	0.08	2.0
23	Zinc as Zn	mg/L	APHA 3111 B	0.58	---
24	Sulphate as SO ₄	mg/L	APHA 4500 SO ₄ ⁻² E	996	---
25	Hexavalent Chromium as Cr ⁺⁶	mg/L	APHA 3500 Cr B	Nil	1.0
26	Boron as B	mg/L	IS: 3025 (Part-57) 2012	0.01	---
27	Total alkalinity as CaCO ₃	mg/L	APHA 2320 B	916	---
28	Potassium as K	mg/L	APHA 3500 K B	8.3	---
29	Sodium as Na	mg/L	APHA 3500 Na B	47.9	---
30	P-Alkalinity as CaCO ₃	mg/L	APHA 2320 B	Nil	---
31	Total Suspended Solids	mg/L	IS: 3025(Part-15)1984	87.9	100
32	Carbonates as CO ₃	mg/L	IS: 3025 1964	93.6	---
33	Bio Carbonates as HCO ₃	mg/L	IS: 3025 1964	411	---
34	Chemical Oxygen Demand	mg/L	APHA 22nd Edition,2012: 5220 B	129	250
35	Bio Chemical Oxygen Demand (27 °C @ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	47.6	100
36	Oil & Grease	mg/L	APHA 22nd Edition,2012: 5520 B	1.9	20

T. Kishore
Analyst

[Signature]
Authorized Signatory

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DONATE BLOOD
SAVE LIFE



SAVE WATER



SAVE ENERGY



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TEST REPORT

REF.NO: UEA/SGPL/R9/1118

Date: 21-11-2018

WATER ANALYSIS - BIO – ASSAY TEST RESULTS

Name of the Industry & Address: **M/s. Sembcorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample particulars : Marine Out fall
Test reports : 96 hours Static Fish Bioassay Test;
Protocol: IS 6582-1971 (re approved 1992);
Date of Collection : 08-11-2018
Date of Experiment : Started on : 10-11-2018
Completed on : 15-11-2018

FISH PARTICULARS:

Test Species : Puntius sophore; Size: 2.5 to 3.0 cm
Type of test : 96 hours Static Fish Bioassay
Quality of Effluent : pH: 7.71 DO: 5.3 mg/l.

OBSERAVATIONS:

%Conc. (V/V)	No. of Fish (No's)	Mortality Record				Symptoms of Toxicity
		Time in Hours				
		24	48	72	96	
Control	20	0	0	0	0	No symptoms of Toxicity were observed
Test (100%)	20	0	0	0	0	No symptoms of Toxicity were observed

Remarks: Survival of fish at 100% concentration of treated effluent after 96 hours of exposure is 100%.

T. Vijay
Analyst

[Signature]
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TEST REPORT

REF.NO: UEA/SEIL/R3/0818

Date: 25-08-2018

WASTE WATER ANALYSIS

Name of the Industry & Address : **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : E.T.P Outlet
Date of collection : 14-08-2018 (Sampling time: 03:30 p.m)
Date of Analysis : 16-08-2018

S. No	Parameter	Units	Method	Result	Standards
1	pH @ 25.0°C	---	APHA 22 nd Edition, 2012, 4500 H+ B	7.85	5.5-9.0
2	Total Dissolved Solids	mg/L	APHA 22 nd Edition, 2012, 2540 C	1,396	2,100
3	Total Suspended Solids	mg/L	APHA 22 nd Edition, 2012, 2540 D	56.9	200
4	Chemical Oxygen Demand	mg/L	APHA 22 nd Edition, 2012: 5220 B	129	250
5	Bio Chemical Oxygen Demand	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	38.2	100
6	Oil & Grease	mg/L	APHA 22 nd Edition, 2012: 5520 B	1.3	10

T. Prigle
Analyst

Hain
Authorized Signatory



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TEST REPORT

REF.NO: UEA/SEIL/R5/0818

Date: 25-08-2018

WATER ANALYSIS

Name of the Industry & Address: **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Marine Outlet
Date of collection : 14-08-2018 (Sampling time: 03:45 p.m)
Date of Analysis : 16-08-2018

S. No	Parameter	Units	Method	Result	Standards
1	pH	---	APHA 4500 H ⁺ B	7.62	6.5-8.0
2	Temperature (°C) Intake	°C		32.3	Shall not exceed 5 °C above the receiving temp.
	Temperature (°C) Outfall	°C		36.1	
3	Electrical Conductivity	ms/cm	APHA 2510 B	42,100	---
4	Total Dissolved Solids	mg/L	APHA 2540 C	24,123	---
5	Total Hardness as CaCO ₃	mg/L	APHA 2340 C	5,896	---
6	Chloride as Cl	mg/L	APHA 4500 Cl ⁻ B	12,961	---
7	Magnesium as Mg	mg/L	APHA 3500 Mg B	816	---
8	Nitrate as NO ₃	mg/L	APHA 4500 NO ₃ ⁻ B	0.31	---
9	Fluoride as F	mg/L	APHA 4500 F D	0.90	---
10	Silica as SiO ₂	mg/L	APHA 4500 SiO ₂ C	0.51	---
11	Calcium as Ca	mg/L	APHA 3500 Ca B	1,121	---
12	Turbidity	NTU	APHA 2130 B	6.9	---
13	Iron as Fe	mg/L	APHA 3500 Fe B	1.8	---
14	Copper as Cu	mg/L	APHA 311 B	0.73	---
15	Manganese as Mn	mg/L	IS: 3025 (Part-59) 2012	0.28	---
16	Phenolic compounds as C ₆ H ₅ OH	mg/L	IS: 3025 (Part-43) 2012	Nil	---
17	Mercury as Hg	mg/L	IS: 3025 (Part-48) 2012	Nil	0.01
18	Cadmium as Cd	mg/L	APHA 3111 B	Nil	2.0
19	Selenium as Se	mg/L	APHA 311 B	Nil	---

Cont..



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TEST REPORT

S. No	Parameter	Units	Method	Result	Standards
20	Arsenic as As	mg/L	APHA-3500-As	Nil	0.2
21	Cyanide as CN	mg/L	APHA 4500 CN C, E	Nil	---
22	Lead as Pb	mg/L	APHA 3111 B	0.07	2.0
23	Zinc as Zn	mg/L	APHA 3111 B	0.51	---
24	Sulphate as SO ₄	mg/L	APHA 4500 SO ₄ -2 E	989	---
25	Hexavalent Chromium as Cr ⁺⁶	mg/L	APHA 3500 Cr B	Nil	1.0
26	Boron as B	mg/L	IS: 3025 (Part-57) 2012	0.01	---
27	Total alkalinity as CaCO ₃	mg/L	APHA 2320 B	906	---
28	Potassium as K	mg/L	APHA 3500 K B	8.2	---
29	Sodium as Na	mg/L	APHA 3500 Na B	45.9	---
30	P-Alkalinity as CaCO ₃	mg/L	APHA 2320 B	Nil	---
31	Total Suspended Solids	mg/L	IS: 3025(Part-15)1984	86.3	100
32	Carbonates as CO ₃	mg/L	IS: 3025 1964	92.3	---
33	Bio Carbonates as HCO ₃	mg/L	IS: 3025 1964	406	---
34	Chemical Oxygen Demand	mg/L	APHA 22nd Edition, 2012: 5220 B	140.7	250
35	Bio Chemical Oxygen Demand (27 °C @ 3 Days)	mg/L	IS: 3025 (Part-44)-1993, reaffirmed 2009	43.5	100
36	Oil & Grease	mg/L	APHA 22nd Edition, 2012: 5520 B	2.6	20

T. Prigle
Analyst

Thiruv
Authorized Signatory



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TEST REPORT

REF.NO: UEA/SGPL/R9/0818

Date: 25-08-2018

WATER ANALYSIS - BIO – ASSAY TEST RESULTS

Name of the Industry & Address : **M/s. Sembcorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample particulars : Marine Out fall
Test reports : 96 hours Static Fish Bioassay Test;
Protocol: IS 6582-1971 (re approved 1992);
Date of Collection : 14-08-2018
Date of Experiment : Started on : 16-08-2018
Completed on : 21-08-2018

FISH PARTICULARS:

Test Species : Puntius sophore; Size: 2.5 to 3.0 cm
Type of test : 96 hours Static Fish Bioassay
Quality of Effluent : pH: 7.62 DO: 5.2 mg/l.

OBSERAVATIONS:

%Conc. (V/V)	No. of Fish (No's)	Mortality Record				Symptoms of Toxicity
		Time in Hours				
		24	48	72	96	
Control	20	0	0	0	0	No symptoms of Toxicity were observed
Test (100%)	20	0	0	0	0	No symptoms of Toxicity were observed

Remarks: Survival of fish at 100% concentration of treated effluent after 96 hours of exposure is 100%.

T. Prasad
Analyst

Prasad
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Annexure 4B

[Stack Emissions Quality third party reports]



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TEST REPORT

REF.NO: UEA/SEIL/R1/0319

Date: 08-04-2019

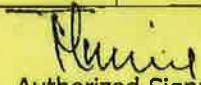
STACK EMISSION DATA

Name of the Industry & Address: **M/s. SembCorp Energy India Limited, Project 2**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Stack attached to 660 MW Power Plant Boiler-1 (Unit # I)
Date of sampling : 26-03-2019 (Sampling time: 11:30 a.m to 12:30 p.m)

S.No	Parameter	Method	Unit	Result	Standard
1	Stack Diameter	---	m	6.9	---
2	Load of the Unit	---	MW	650	---
3	Stack Cross Sectional Area	---	m ²	37.37	---
4	Flue Gas Temperature	IS:11255 (Part - III),2008	°C	119	---
5	Flue Exit Velocity	IS:11255 (Part - III),2008	m/sec	117	---
6	Flow Rate	IS:11255 (Part - III),2008	Nm ³ /hr	16,92,829	---
7	Particulate Matter	IS:11255 (Part - I),1985: Reaffirmed 2003	mg/Nm ³	30.6	50
8	Sulphur Dioxide	IS:11255 (Part - II),1985: Reaffirmed 2003	mg/Nm ³	717	---
9	Oxides of Nitrogen	IS:11255 (Part - VII),2005: Reaffirmed 2012	mg/Nm ³	329	---
10	Carbon Monoxide	NSPS test method, Method - 10	ppm	12.5	---
11	Mercury as Hg	State of California Air Resources Board, Method 10A	mg/Nm ³	0.01	0.03


Analyst


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TEST REPORT

REF.NO: UEA/SEIL/R2/0319

Date: 08-04-2019

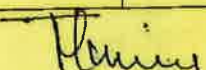
STACK EMISSION DATA

Name of the Industry & Address : **M/s. SembCorp Energy India Limited, Project 2**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Stack attached to 660 MW Power Plant Boiler-2 (Unit # II)
Date of sampling : 26-03-2019 (Sampling time: 12:00 p.m to 12:30 p.m)

S.No	Parameter	Method	Unit	Result	Standard
1	Stack Diameter	--	m	6.9	---
2	Load of the Unit	---	MW	660	---
3	Stack Cross Sectional Area	--	m ²	37.37	---
4	Flue Gas Temperature	IS:11255 (Part - III),2008	°C	132	---
5	Flue Exit Velocity	IS:11255 (Part - III),2008	m/sec	17.3	---
6	Flow Rate	IS:11255 (Part - III),2008	Nm ³ /hr	16,99,916	---
7	Particulate Matter	IS:11255 (Part - I),1985: Reaffirmed 2003	mg/Nm ³	33.5	50
8	Sulphur Dioxide	IS:11255 (Part - II),1985: Reaffirmed 2003	mg/Nm ³	752	---
9	Oxides of Nitrogen	IS:11255 (Part - VII),2005: Reaffirmed 2012	mg/Nm ³	329	---
10	Carbon Monoxide	NSPS test method, Method - 10	ppm	8.6	---
11	Mercury as Hg	State of California Air Resources Board, Method 10A	mg/Nm ³	0.01	0.03


Analyst


Authorized Signatory

STACK KIT MODLE/SR/NO: SEA-90/001009, NEXT CALIBRATION ON: 02/07/19.

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TEST REPORT

REF.NO: UEA/SEIL/R1/1118

Date: 21-11-2018

STACK EMISSION DATA

Name of the Industry & Address : **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Stack attached to 660 MW Power Plant Boiler-1 (Unit # I)
Date of sampling : 08-11-2018 (Sampling time: 12:00 p.m to 01:00 p.m)

S.No	Parameter	Method	Unit	Result	Standard
1	Stack Diameter	---	m	6.9	---
2	Load of the Unit	---	MW	450	---
3	Stack Cross Sectional Area	---	m ²	37.37	---
4	Flue Gas Temperature	IS:11255 (Part – III),2008	°C	121	---
5	Flue Exit Velocity	IS:11255 (Part – III),2008	m/sec	16.8	---
6	Flow Rate	IS:11255 (Part – III),2008	Nm ³ /hr	16,91,427	---
7	Particulate Matter	IS:11255 (Part – I),1985: Reaffirmed 2003	mg/Nm ³	29.6	50
8	Sulphur Dioxide	IS:11255 (Part – II),1985: Reaffirmed 2003	mg/Nm ³	682	---
9	Oxides of Nitrogen	IS:11255 (Part – VII),2005: Reaffirmed 2012	mg/Nm ³	317	---
10	Carbon Monoxide	NSPS test method, Method - 10	ppm	7.0	---
11	Mercury as Hg	State of California Air Resources Board, Method 10A	mg/Nm ³	0.01	0.03

T. Kishore
Analyst

[Signature]
Authorized Signatory

STACK KIT MODLE/SR/NO: SEA-90/001009, NEXT CALIBRATION ON: 02/07/19.

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LIVE TWICE



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TEST REPORT

REF.NO: UEA/SEIL/R2/1118

Date: 21-11-2018

STACK EMISSION DATA

Name of the Industry & Address: **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Stack attached to 660 MW Power Plant Boiler-2 (Unit # II)
Date of sampling : 08-11-2018 (Sampling time: 11:00 a.m to 12:00 p.m)

S.No	Parameter	Method	Unit	Result	Standard
1	Stack Diameter	--	m	6.9	---
2	Load of the Unit	---	MW	550	---
3	Stack Cross Sectional Area	--	m ²	37.37	---
4	Flue Gas Temperature	IS:11255 (Part - III),2008	°C	129	---
5	Flue Exit Velocity	IS:11255 (Part - III),2008	m/sec	17.2	---
6	Flow Rate	IS:11255 (Part - III),2008	Nm ³ /hr	16,99,207	---
7	Particulate Matter	IS:11255 (Part - I),1985: Reaffirmed 2003	mg/Nm ³	31.2	50
8	Sulphur Dioxide	IS:11255 (Part - II),1985: Reaffirmed 2003	mg/Nm ³	704	---
9	Oxides of Nitrogen	IS:11255 (Part - VII),2005: Reaffirmed 2012	mg/Nm ³	332	---
10	Carbon Monoxide	NSPS test method, Method - 10	ppm	8.0	---
11	Mercury as Hg	State of California Air Resources Board, Method 10A	mg/Nm ³	0.01	0.03

T. *bigly*
Analyst

H...
Authorized Signatory

STACK KIT MODLE/SR/NO: SEA-90/001009, NEXT CALIBRATION ON: 02/07/19.



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Ph: 040-27633361, e-mail: uea123@gmail.com, website: www.universalenviro.in

TEST REPORT

REF.NO: UEA/SEIL/R1/0818

Date: 25-08-2018

STACK EMISSION DATA

Name of the Industry &:
Address

M/s. SembCorp Gayatri Power Limited
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars :
Date of sampling :

Stack attached to 660 MW Power Plant Boiler-1 (Unit # I)
21-08-2018 (Sampling time: 12:00 p.m to 01:00 p.m)

S.No	Parameter	Method	Unit	Result	Standard
1	Stack Diameter	---	m	6.9	---
2	Load of the Unit	---	MW	450	---
3	Stack Cross Sectional Area	---	m ²	37.37	---
4	Flue Gas Temperature	IS:11255 (Part - III),2008	°C	127	---
5	Flue Exit Velocity	IS:11255 (Part - III),2008	m/sec	14.9	---
6	Flow Rate	IS:11255 (Part - III),2008	Nm ³ /hr	15,16,730	---
7	Particulate Matter	IS:11255 (Part - I),1985: Reaffirmed 2003	mg/Nm ³	25.7	50
8	Sulphur Dioxide	IS:11255 (Part - II),1985: Reaffirmed 2003	mg/Nm ³	1,005	---
9	Oxides of Nitrogen	IS:11255 (Part - VII),2005: Reaffirmed 2012	mg/Nm ³	139	---
10	Carbon Monoxide	NSPS test method, Method - 10	ppm	3.0	---
11	Mercury as Hg	State of California Air Resources Board, Method 10A	mg/Nm ³	0.01	0.03

T. Prasad
Analyst

H. Prasad
Authorized Signatory

STACK KIT MODLE/SR/NO: SEA-90/001009, NEXT CALIBRATION ON: 02/07/19.



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Ph: 040-27833361, e-mail: uea123@gmail.com, website: www.universalenviro.in

TEST REPORT

REF.NO: UEA/SEIL/R2/0818

Date: 25-08-2018

STACK EMISSION DATA

Name of the Industry & Address: **M/s. SembCorp Gayatri Power Limited**
Painampuram (V),
Muthukur (M),
SPSR Nellore Dt., Andhra Pradesh

Sample Particulars : Stack attached to 660 MW Power Plant Boiler-2 (Unit # II)
Date of sampling : 21-08-2018 (Sampling time: 11:00 a.m to 12:00 a.m)

S.No	Parameter	Method	Unit	Result	Standard
1	Stack Diameter	--	m	6.9	---
2	Load of the Unit	---	MW	550	---
3	Stack Cross Sectional Area	--	m ²	37.37	---
4	Flue Gas Temperature	IS:11255 (Part - III),2008	°C	138	---
5	Flue Exit Velocity	IS:11255 (Part - III),2008	m/sec	16.4	---
6	Flow Rate	IS:11255 (Part - III),2008	Nm ³ /hr	15,84,332	---
7	Particulate Matter	IS:11255 (Part - I),1985: Reaffirmed 2003	mg/Nm ³	29.6	50
8	Sulphur Dioxide	IS:11255 (Part - II),1985: Reaffirmed 2003	mg/Nm ³	970	---
9	Oxides of Nitrogen	IS:11255 (Part - VII),2005: Reaffirmed 2012	mg/Nm ³	121	---
10	Carbon Monoxide	NSPS test method, Method - 10	ppm	5.0	---
11	Mercury as Hg	State of California Air Resources Board, Method 10A	mg/Nm ³	0.01	0.03

T. Prigle
Analyst

M. Srinivas
Authorized Signatory

STACK KIT MODLE/SR/NO: SEA-90/001009, NEXT CALIBRATION ON: 02/07/19.

DONATE EYES
LIVE LONG



PLANT A TREE
SAVE THE PLANET

DONATE BLOOD
SAVE LIFE



SAVE WATER
LIVE LONGER



Go Green
EACH ONE FOR A BETTER EARTH

We Offer : ♦ Pollution Testing and Analysis ♦ STP & ETP (Turnkey, O & M) ♦ EMP/ENV. Audit etc., ♦ Other Environmental Services

Annexure 5
[Hazardous Waste Returns submitted to
APPCB / CPCB]



Sembcorp Energy India Limited
(Formerly, Thermal Powertech
Corporation India Ltd)
CIN: U40103TG2008PLC057031
Site Off: Pyanampuram/Nelaturu Village
Muthukur Mandal, Nellore 524344
Andhra Pradesh, India
Tel (91) 0861 305 2300
Fax (91) 0861 305 2304
www.sembcorpenergyindia.com

SEIL Project 2 / APPCB/BZA/2019/75
8th April 2019

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.

Dear Sir

Sub: Sembcorp Energy India Limited Project 2 - SEIL P2 (formerly known as Sembcorp Gayatri Power Limited – SGPL) Submission of Hazardous Waste Annual Returns (Form 4) April, 2018 to March, 2019 – Reg.
Ref: CFO order issued to SGPL vide Ref: APPCB/HO/UH-IV/CFO: VJA/Auto Renewal-1/2017 – dated 29.01.2017.

We would like to submit the “Hazardous Waste Annual Returns in Form 4” from Sembcorp Energy India Limited Project 2 - SEIL P2 (formerly known as Sembcorp Gayatri Power Limited – SGPL), Nellore for the period of April, 2018 to March, 2019. Manifests (Form X) of the Hazardous Waste Disposal are attached as Annexure – 1.

This is for your information and acceptance of compliance.

Thanking you

Yours Truly
For M/s. Sembcorp Energy India Limited

(Pavan Kumar Rao V)
Head HSE - SEIL

CC: APPCB, RO Office, Nellore.

FORM 4

[See rules 5(6) and 22(2)]

**FORM FOR FILING ANNUAL RETURNS FROM APRIL-2018 TO MARCH-2019
BY THE OCCUPIER OPERATOR OF FACILITY**

1.	Name and Address of the generation /operator of facility	Sambcorp Energy India Limited [formerly SCPL] Pynampuram / Ananthapuram village, Muthur. Mandal, SPSR, Nellore - 524209.		
2.	Name of the authorized person and full address with telephone and fax number	M/S Vijaya Lubricants Plot No. 54 - E, IDA, Kondapalli (V) Ibrahimpatnam, Krishna District, AP.		
3.	Description of hazardous waste	Physical form with description	Chemical form	
		Waste Oil	Waste oil / Used oil	
4.	Quantity of hazardous wastes (in MTA)	Type of hazardous waste	Quantity (in Tonnes/KL)	
		(a) Waste Oil		
		(b)		
		(c)		
5.	Description of Storage	Drums		
6.	Description of Treatment	Recycling		
7.	Description of transportation	Name & address of consignee	Mode of packing	Mode of transportation
		Giving to authorize & recyclers M/S Vijaya Lubricants, Ibrahimpatnam, AP TRUCKS, please see attached form 10.		
8.	Details of disposal of hazardous waste	Name & address of consignee	Mode of packing	Mode of Transportation
		After Collecting drums, disposing once in a year		
9.	Quantity of useful materials sent back to the manufactures and others	Name and type of material sent back to Manufacturers and Others	Quantity in Tonnes/KL	
			19 KL	


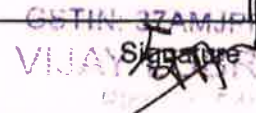
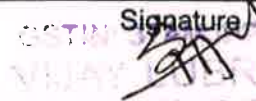
Date: 8/4/19
Place: Nellore


 Signature
 Kavel Bashe

For Sambcorp Energy India Ltd.
 [formerly SCPL]

FORM 10
[See rule 19(1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

1	Sender's Name and Mailing address (including Phone No. and e-mail)	Sri Sankar Energy India Ltd. (Pvt)-2, Anemathpuzam Vill. Venakaiswari NELLORE
2	Sender's authorisation No.	APBEB/RO-VJA/CFD/VJA/An/a APBEB/RO-VJA/CFD/VJA/An/a
3	Manifest Document No.	SGPL-004 Reg-1/2017
4	Transporter's name and address (including Phone No. and e-mail)	Vijay Lubricants, Flat no. 54E, 10A, Kondapalli, Strahimatharam, Krishna Dist
5	Type of vehicle	(Truck/Tanker/Special Vehicle)
6	Transporter's Registration No.	—
7	Vehicle Registration No.	AP23W9946
8	Receiver's Name and mailing address (including Phone No. and e-mail)	As per Sl no. 4
9	Receiver's authorisation No.	KY/037/APBEB/RO-VJA/CFD/VJA/2016-45
10	Waste description	Used oil.
11	Total quantity No. of Containers 4.600 Ltrs of MT 23 barrels Nos.
12	Physical form	(Solid/Semi Solid/Sludge/Oil/Tarry/Slurry/Liquid) ✓
13	Special handling instructions and additional information	NA
14	Sender's Certificate	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.
	Name and Stamp : 	Month Day Year 1 2 27 20 18
15	Transporter acknowledgement of receipt of Wastes	
	Name and Stamp : 	Month Day Year 1 2 27 20 18
16	Receiver's certification for receipt of hazardous and other waste	
	Name and Stamp : 	Month Day Year 1 2 27 20 18




FORM 10
[See rule 19(1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

1	Sender's Name and Mailing address (including Phone No. and e-mail)	Sembur Gampoti Power Co., Anantharam vill. Vankaripudi NELLORE
2	Sender's authorisation No.	APRB/HO/VI-IV/CFD:VJA/Auto Ren. 1/2017
3	Manifest Document No.	SGPL-003
4	Transporter's name and address (including Phone No. and e-mail)	Vijay Lubricants Flat no. 54E 10A, Kondapalle, Shababharatham Kribsa Dist
5	Type of vehicle	(Truck/Tanker/Special Vehicle)
6	Transporter's Registration No.	AP 16TD 0210
7	Vehicle Registration No.	AP 16TD 0210
8	Receiver's Name and mailing address (including Phone No. and e-mail)	As per Sl. no. 4
9	Receiver's authorisation No.	Ky/037/APRB/RO-VJA/CFD/WTA/2016-18
10	Waste description	USED OIL
11	Total quantity No. of Containers 06 m3 or MT - 2000 LTR 30 barrels Nos.
12	Physical form	(Solid/Semi Solid/Sludge/Oil/Tarry/Slurry/Liquid)
13	Special handling instructions and additional information	_____
14	Sender's Certificate	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.
	Name and Stamp : <i>Srinivas Rao</i>	Signature <i>[Signature]</i>
		Month Day Year 10 03 2018
15	Transporter acknowledgement of receipt of Wastes	
	Name and Stamp : GSTIN: 37AMJAP8486C1ZT VIJAY LUBRICANTS KONDAPALLE, Krishna District	Signature <i>[Signature]</i>
		Month Day Year 10 03 2018
16	Receiver's certification for receipt of hazardous and other waste	
	Name and Stamp : GSTIN: 37AMJAP8486C1ZT VIJAY LUBRICANTS	Signature <i>[Signature]</i>
		Month Day Year 10 03 2018




FORM 10
[See rule 19(1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

1	Sender's Name and Mailing address : (including Phone No. and e-mail)	SEMBURUP GAYTRI POWER LTD. ANANTHAPURAM, VIL. VARAKKAI PUDI NELLORE
2	Sender's authorisation No.	APP/B/Ho/VII-IV/CFO:VJA/AUTO REN. 1/2017
3	Manifest Document No.	SGPL-002
4	Transporter's name and address : (including Phone No. and e-mail)	VIJAYA LUBRICANTS, FLAT NO. 54E 10A, KONDAPALLI, TIRAHIMPATNAM, KRISHNA DIST.
5	Type of vehicle	(Truck/Tanker/Special Vehicle)
6	Transporter's Registration No.	AP04TY 130A -
7	Vehicle Registration No.	AP04TY 130A
8	Receiver's Name and mailing address : (including Phone No. and e-mail)	AC PLY S. NO. 4
9	Receiver's authorisation No.	KV-1037/APP/B/20-VJA/CFO/VJA/2016-45
10	Waste description	USED OIL
11	Total quantity : No. of Containers :	4.600 m3 or MT 23 Barrel Nos.
12	Physical form	(Solid/Semi Solid/Sludge/Oil/Tarry/Slurry/Liquid)
13	Special handling instructions and additional information	—
14	Sender's Certificate	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.
Name and Stamp :  (Subashini Reddy)		Signature Month Day Year 07 11 2017
15	Transporter acknowledgement of receipt of Wastes	
Name and Stamp :  VIJAYA LUBRICANTS Plot No 54E 10A		Signature Month Day Year 07 11 2017
16	Receiver's certification for receipt of hazardous and other waste	
Name and Stamp :  VIJAYA LUBRICANTS Plot No 54E 10A Kondapalli, Krishna Dist.		Signature Month Day Year 07 11 2017

FORM 10
[See rule 19(1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

1	Sender's Name and Mailing address (including Phone No. and e-mail)	SENGCORP GAYATRI POWER LTD Amantavaram, V.M. Vankaripidi, Nelluru		
2	Sender's authorisation No.	APPCR/HOLUNTIV/CEO:VJA/AUTOREN 1/2012		
3	Manifest Document No.	SGPL-001		
4	Transporter's name and address (including Phone No. and e-mail)	Vijaya Lubricants, Flat no. 54E, IDA, Kondaballi, Ibrahim Patnam, Krishna dk.		
5	Type of vehicle	(Truck/Tanker/Special Vehicle) Truck		
6	Transporter's Registration No.	AP - -		
7	Vehicle Registration No.	AP04TY1304		
8	Receiver's Name and mailing address (including Phone No. and e-mail)	As per Sl no. 4		
9	Receiver's authorisation No.	KR-1037/APPCR/RA-VJA/KFO/WTA/2011-45		
10	Waste description	Used oil.		
11	Total quantity	3.8 M KL. m3 or MT		
	No. of Containers	19 Nos.		
12	Physical form	(Solid/Semi Solid/Sludge/Oil/Tarry/Slurry/Liquid)		
13	Special handling instructions and additional information	✓		
14	Sender's Certificate	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.		
	Name and Stamp	Signature	Month	Day
	(Sengcorp Raw)		04	04
			20	12
15	Transporter acknowledgement of receipt of Wastes	KONDA BALLY VIJAYA LUBRICANTS S. Plot No. 54E, IDA		
	Name and Stamp	Signature	Month	Day
			04	04
			20	12
16	Receiver's certification of receipt of hazardous and other waste	KONDA BALLY VIJAYA LUBRICANTS S. Plot No. 54E, IDA		
	Name and Stamp	Signature	Month	Day
			04	04
			20	12

Annexure 6

**[Annual Fly Ash Utilization data (01.04.2018 to
31.03.2019) submitted to CPCB]**



Sembcorp Energy India Limited
(Formerly Thermal Powertech Corporation India Ltd)
CIN: U40103TG2008PLC057031
Corp. 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
www.sembcorpenergyindia.com

SEIL Project 2 / CPCB / 2019 /79
23rd April 2019

To
**The Divisional Head, IPC-II,
Central Pollution Control Board
East Arjun Nagar, Delhi - 110032**

Kind Attention: Shri Nazimuddin (Divisional Head, IPC-II, CPCB, Delhi)

Dear Sir

Sub: Statutory Compliance Report to CPCB on Annual Fly Ash Utilization data (01.04.2018 to 31.03.2019) from Sembcorp Energy India Limited Project 2 – SEIL P2 [formerly known as Sembcorp Gayatri Power Limited – SGPL] - Reg

Ref: CFO issued vide order APPCB/HO/UH-IV/CFO: VJA/Auto Renewal-1/2017 dt. 29th Jan 2017

Please find attached herewith the statutory compliance report to CPCB on fly ash utilization data (01.04.2018 to 31.03.2019) in the desired format.

Sembcorp Energy India Limited Project 2 – SEIL P2 [formerly known as Sembcorp Gayatri Power Limited – SGPL] would like to reiterate its commitment & assures that we are making best efforts in achieving 100% ash utilization.

Thanking you

Yours Truly

For M/s. Sembcorp Energy India Limited

(Pavan Kumar Rao V)
Head HSE - SEIL

Encl: CPCB Annual Fly Ash Utilization Format. (Annexure – I)

CC: The Member Secretary - APPCB, Vijayawada.
The Regional Officer - APPCB, Nellore

**Fly Ash Notification S.O. 2804(E), 3rd November, 2009 -
Statutory Compliance Report for the period 01.04.2018 to 31.03.2019**

S. No.	Item	Reply
1	Name of Thermal Power Station	Sembcorp Energy India Limited Project 2 (formerly known as Sembcorp Gayatri Power Limited - SGPL)
2	Full address including Pin code	Ananthavarma Village, Varakavipudi Panchayat, TP Gudur Mandal Nellore -524344
3	E-mail address	Siva.ramakrishna@sembcorp.com
4	Name of the Nodal Officer (not below the rank of DGM / Dy. CE / or equivalent) dealing with ash/environment management and designation	D. Sivaramakrishna Dy. General Manager (DGM)
5	Contact No.	8008400478
6	Fax No. Email:	Siva.ramakrishna@sembcorp.com
7	Capacity of the Thermal Power Station (MW)	1320 MW
8	Details of Number of Units and capacity of each unit	2 Units x 660 MW
9	Coal / Lignite Consumption in 2018-2019 (Million Tonnes)	4.89 Million Tonnes

A. Ash Generation in 2018-2019 (in tonnes).

10	Bottom Ash	98298 MT
11	Fly Ash	481407 MT
	Total A (10 to 11)	579705 MT

B. Ash unutilised (in tonnes)

12	Ash Pond disposal	179446.43 MT
13	Ash yard	NIL
14	Ash Dump	NIL
	Total B (12 to 14)	179446.43 MT

C. Ash utilization in 2018-2019 (in tonnes)

	Purpose for which ash is utilized	Target (as per action plan)	Actual			
			From ESP Dry Ash (1)	From Pond Ash (2)	From Bottom Ash (3)	Total (1+2+3)
15	Ash pond dyke rising	70%	-	-	-	-
16 *	Cement industry		245969.4	-	-	245969.4
17	Land fill		-	-	-	-
18	Own Brick Unit		-	-	-	-
19 *	Outside brick Units other than brick kilns		146357.4	-	1982.04	148339.5
20 *	Brick Kilns		-	-	-	-

21	Own ash based products (other than bricks)	-	-	-	-
22	Ash based products (outside)	5949.67	-	-	5949.67
23 *	Road and Flyover Embankments	-	-	-	-
24 *	Back filling of mines	-	-	-	-
25	Agriculture	-	-	-	-
26	Ready mix concrete	-	-	-	-
27	Asbestos	-	-	-	-
28 *	Exports	-	-	-	-
29	Others (please specify)	-	-	-	-
	Total C (15 to 29)				400258.57 MT

D. Reasons for variation from the target

1. Low off take by cement industries. Less number of nearby cement industries.
2. Low off take by brick manufacturers due to market condition.
3. Bottom Ash off-takers are not available as no technology available for utilization of bottom ash mixed with sea water.

E. Remedial Measures taken

1. Regular follow-up with cement industries to increase off take quantity.
2. Exploring different fly ash off takers / users.
3. Common ash classification unit is expected commissioning by end of April'19.

F. Quantity in ash pond

30.	Estimated quantity of Pond ash in active ash pond (pond in use) as on 31.03.2019 (Million Tonnes)	0.6098 Million Tonnes
-----	---	-----------------------

G. Ash Pond Details

31	Total area ear marked for ash ponds (ha)	Forest Area	Non Forest Area	Total
32	Ash ponds already filled dup and reclaimed (ha)	-	-	-
33	Ash ponds already filled up but yet to be reclaimed (ha)	-	-	-
34	Ash ponds in use (ha) (Active ash ponds)	-	-	54.63 (135 acres)
35	Area earmarked for ash ponds but ash ponds yet to be constructed (ha)	-	-	-

H. Dry ash collection facilities

36	Dry fly ash collection facility available	Yes
37	If yes, how many units	2 Units

I. Dry fly ash storage

38	Daily Ash Generation (TPD)	Capacity of storage as on 31.3.2019 (tonnes)	Capacity proposed if any in 2018-2019 (tonnes)
	1200	3 Nos of Silo Each of 2000m3 capacity	NIL

J. Capital Expenditure (Rs. Lakhs)

	Item	Item Expenditure in 2018-2019 (Rs. Lakhs)	Budgetary provision in 2019-2020 (tonnes)
39	Bottom Ash collection facility	Sembcorp Energy India Limited Project 2 [formerly known as Sembcorp Gayatri Power Limited - SGPL] plant is in operation from Feb'2017. Ash pond is constructed and being used. No additional expenditure in 2018-19.	
40	Dry fly ash storage		

K. Dispute Settlement Committee

41	No. of meetings held in 2018-2019	If no meetings were held, reason for the same
	-	No significant concerns raised by the off-takers. However, daily interactions with off takers and monthly interactions with senior management of off takers is ensured to increase the off-take quantities.

L. Provision regarding supply to the brick kilns

42	Whether the Thermal Power Station is maintaining month-wise records of ash made available to each brick kiln	Yes		
43	If yes, how many brick kilns have been supplied with fly ash	31		
	Mode of transport of Ash: Truck / Trailer / Closed Container / Covered with Tarpaulin / Open	44	Dry ash	Closed Container
		45	Wet Ash	Covered with Tarpaulin

M. Promotional Measures

		No. of meetings / workshops exhibition held during 2018-2019	Amount spent in 2018-2019 (Rs. Lakhs)	Outlay for 2018-2019 (RS. Lakhs)
46	Public Awareness Campaign	02	0.1	-
47	Exhibitions	Attended 3 days INTERNATIONAL CONFERENCE GREENASH Con 2019" conducted on 11th - 13th January at VNIT Nagpur Attended Coal Ash Industry & Utilization in India	-	-

		Coaltrans India -2019.		
48	Seminars / Workshops	10 (Defensive Driving skill development sessions explaining emissions during transportation, due to high speed driving, spillage etc. Also included how to clean the tanks, how to ensure sealing of the tanks to reduce emissions etc.)	0.3	-
49	Advertisement in Newspapers	-	-	-
50	TV / Radio Advertisements	-	-	-
51	TV / Radio Advertisements	-	-	-
	Total M (46 to 51)	-	0.4 Lakhs	-

52. Administrative Measure taken

S. No.	Administrative Measure	Outcome
(i)	Meeting with brick manufacturers	Informal daily interactions with brick manufacturers and monthly interactions with their senior management done. Informal meetings held with local builders. Major builders are: 1. Bharat Builders 2. MEIL 3. L&T ECC 4. Fusion Blocks 5. CERA Tiles
(ii)	Meeting with State Government / Agencies	-
(iii)	Any other measure (please specify)	Long Term agreements signed with 4 major cement manufacturers.

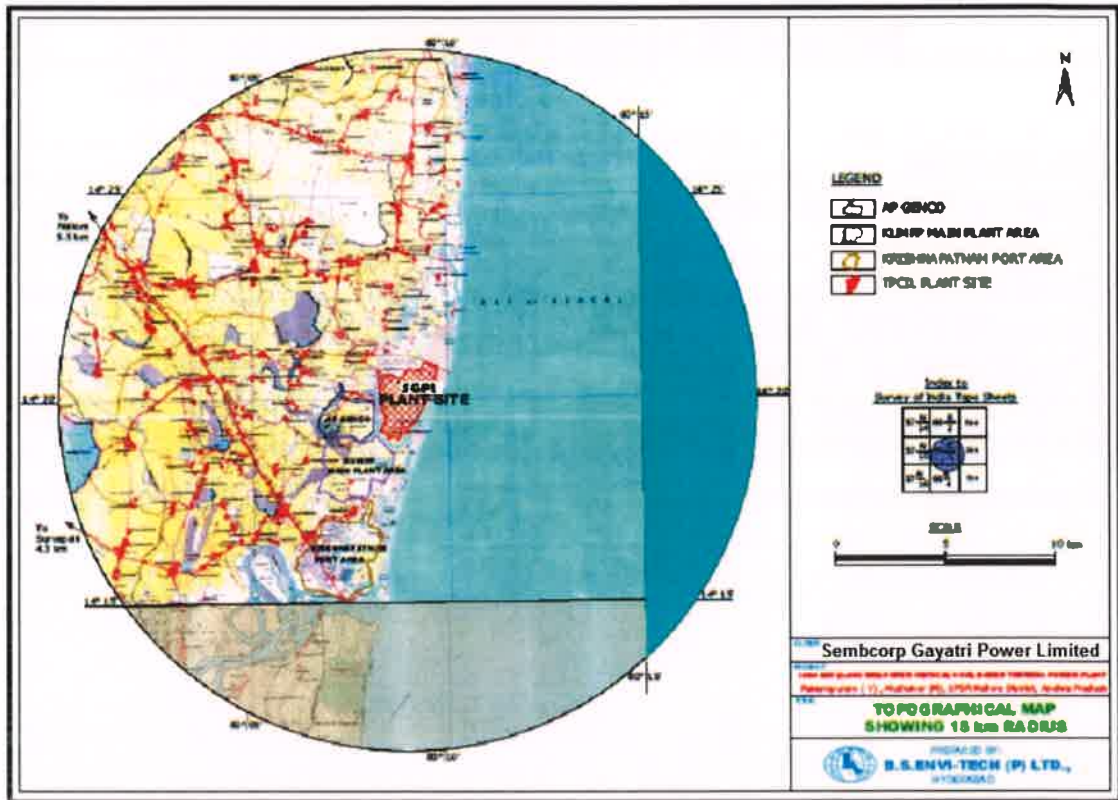
Signature of the Plant Head

Name: Rantesh Raman
Designation: Head O&M
Date: 22.04.2019.

ANNEXURE - 7**DETAILS OF STACK EMISSIONS - (2X 660 MW)**

	BLEND COAL
No. Of units	2
Sulphur content in coal (%)	0.5
No. Of stacks	1 (two flue cans)
Height of stack, m	275
Diameter of each flue(m)	7
Temperature of flue gas (°C)	155 (at 103 m Elevation of stack)
Velocity of flue gas (m/s)	18.9
Particulate matter at outlet of ESP	28 mg / Nm ³

15 KM MAP



ANNEXURE-7 (Contd...)**SALIENT FEATURES OF THE SITE**

Feature	Details
Altitude	Average 2.7 m above MSL
Longitude	Between 80° 08' 7.372" - 80° 09' 29.422" longitude (East)
Latitude	Between 14° 19' 5.211" - 14° 21' 0.874" latitude (North)
Village, District, State	Painampuram, Sivarampuram Villages, Muthukuru Mandal, SPSR Nellore District, Andhra Pradesh
Mean Maximum Temperature °C	46.7
Mean Minimum Temperature °C	14.4
Relative Humidity, %	49-87
Annual rainfall, mm	1042
Topography	Plain
Soil Type	Sandy
Nearest Canal	Buckingham canal – 0.10 km (W)
Nearest Creek	A creek is located at a distance of 0.15 km from the southern boundary of the plant site.
Nearest Highway	NH-5 Connecting Vijayawada-Chennai – 20 km
Nearest Railway station/ Port	Nellore - 26 Km, Krishnapatnam Port - 8 km
Nearest Industries	<ul style="list-style-type: none"> ➤ 2x800 MW Thermal Power Project of APGENCO ➤ 2X660 MW Thermal Power Project of TPCIL (under commissioning) ➤ Thapar Water Base Ltd. ➤ Meenakshi Energy Power Project ➤ Simhapuri Energy Limited
Nearest Village(s)	<ul style="list-style-type: none"> • Painampuram – 0.1km (SW) • Varakavipudi –4.4 km (WNW) • Anantavaram – 1.0km (SW) • Sivarampuram – 0.5 km (NW)
Nearest City	Nellore – 26 Km
Nearest Air port	Renigunta (Tirupati)- 120 km
Nearest Forest	Ipuru RF – 7.8 km (SSW)
Historical places	None within 10 km radius

* Distances mentioned are aerial distances.