स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED
सेलम इस्पात संयंत्र
SALEM STEEL PLANT

Ref.No: PC -9(2)
Date : 28.06.2022

To
The Additional Principal Chief Conservator of Forests,
Ministry of Environment, Forests, & Climate Change (MoEFCC),
Regional Office- South Eastern Zone,
1st & 2nd Floor, HEPC Building,
N0.34, Cathedral Garden Road,
Nungambakkam,
Chennai-600034.
Ph: 044- 2822 2325.

Sir:

Sub: Setting up of Hot Rolling facilities at Salem Steel Plant by SAIL – Six monthly Compliance Report for Environmental clearance conditions - Reg.

01. This has reference to your letter no:EP/12.1/54/TN201 dated 12.04.2007 on the above subject.

02. Compliance report for the stipulations is enclosed vide Annexure.

03. We wish to inform you that the project was commissioned in Sep' 1995 and is in operation since then. The analysis reports of Stack Emission, Ambient Air Quality, Effluent & ground water quality from Oct-21 to Mar-22 along with statistical interpretation are enclosed. (Annexure I to III). Effluent quality from HRM is also enclosed vide Annexure-IV. Afforestation details are enclosed vide Annexure V.

04. All the conditions stipulated in EC issued by MOEF & CC have been complied and Environment monitoring is carried out by SSP & Statutory authorities, as required.

Thanking you,

Yours faithfully
For Steel Authority Of India Limited
Salem Steel Plant

MKN 28-06-2022

M K Nayak
Chief General Manager I/c (Works)

Encl: As above

Annexure

HOT ROLLING FACILITIES

Compliance to stipulations vide office memorandum no: J/11011/20/90-IA-II, dated: 21.03.91 from ministry of Environment & Forests, New Delhi.

i) Being adhered to.

ii) Noted and will be adhered to.

iii) Results of the Stack monitoring for the months of Oct-21 to Mar-22 are presented in Annexure-I.

iv) Three ambient air quality monitoring stations have been set up in consultation with TNPC Board. AAQ results for the stations monitored during the months of Oct-21 to Mar-22 along with statistical interpretation are presented in Annexure-II. The results indicate that the parameters are well with in the norms prescribed by TNPC Board.

Stack emission monitoring results for the Hot rolling mill furnace exhaust conducted during Oct-21 to Mar-22 shows that the SO2 and NOx levels very much below the norms. Results along with statistical interpretation are enclosed in Annexure –I. Considering the very low concentration of SO2 & NOx, providing of continuous stack emission monitoring equipment for the stack may be exempted.

v) Already furnished.

vi) Treated effluent is being completely recycled for process usage.

vii) There are two outlets for the effluent from plant. One effluent quality monitoring station has been set up in consultation with TNPC Board. Effluent quality results for the months of Oct-21 to Mar-22 along with statistical interpretation are given in Annexure III. The results show that the parameters are generally well within the norms prescribed by TNPC Board. The effluent from HRM is being analysed regularly and the results are furnished in Annexure –IV. However, this effluent does not contain any pollutants due to the nature of process and is recycled into process.

viii) Treated effluent is being completely recycled for process usage.

ix) Nine ground water sample stations have been set up in consultation with TNPC Board. Two inside the plant premises in the afforestation area. Four on the upstream of the plant and three wells located downstream of the plant.

Samples are collected at the nine stations and got analysed for pH, fluorides & nitrates (these are taken as indicators of pollution as nitric & hydrofluoric acids are being used in pickling process) once in 3 months . The analysis results of ground water samples for Oct-21 to Mar-22 are presented in Annexure –III.

x) A Disaster management Plan has been prepared by our Environment Management Division and submitted along with the final EIA / EMP reports.

xi) Trees are being planted in a systematic way taking into consideration the canopy area. Already 352806 trees have been planted covering an area of about 217.081 hectares. Details are furnished in Annexure –V.

xii) Already set up.

xiii) Noted and will be adhered to.

M. Kanakaiah

STACK EMISSION REPORT

STL	: B
Annexure	: I
Month	: OCT
Year	: 2021

1. Name of the Plant	SALEM STEEL PLANT
2.Name of the shop	Steel Melting Shop /Cold Rolling Mill/ Hot Rolling Mill
3. Process	Steel Melting ,Hot rolling, Annealing & Pickling , Cold Rolling
4. Control equipment installed	Scrubbers, Cyclones, Bag Filters
5. Sampling by	External Agencies

Stack No & Details	Exit Vel (m/s, Avg)	Temp.K (Avg)	Flow Rate (NM3/Hr Avg)	No.Of Obs	Parameters Avg. (mg/nm3) SPM	SO2	NOx	Remarks
HRM Reheating Furnace	9.8	514	31184	1	33.7	3.0	14.2	
Apl-3 Pre pickling	3.7	309	3561	1	25.4	3.0	5.3	
Apl-3 Mixed Acid	12.4	445	8287	1	21.9	7.7	9.2	
FBC Boiler 1	6.9	358	18403	1	42.6	19	44.9	
APL-1 Electrolytic	5.1	314	3812	1	20.4	3.0	15.3	
APL-1 Brightening	10.7	319	7873	1	24.9	3.0	9.5	
AP LINE -3 Shot Blasting	11.4	316	122609	1	31.8	3.0	2.0	
*EAF & LF (SMS)	13.2	337	522502	1	48.4	3.0	9.2	
*AOD (SMS)	15.2	338	165256	1	48.5	13	19.9	
Slab cutting machine	10.2	316	62051	1	23.4	3.0	5.2	
Slab Grinder	9.4	302	14545	1	19.7	3.0	2.0	
Z-Mill-2Fume Exhaust	6.8	308	45021	1	30.9	5	17.3	
Z-Mill-1Fume Exhaust	10.6	310	69727	1	30.2	4	13.4	
DG 2.0 MW -I	10.8	375	17343	1	25.7	3.0	222	
DG 2.0 MW -III	11.6	392	17820	1	29.4	3.0	288	

BDL : Below Detectable Limit

AP LINE -1 Pre heater	5.2	368	42471	1	16.9	3.0	15.4	
AP LINE -3 quench section-1	7.6	307	84135	1	19.3	3.0	12.8	
BDL : Below Detectable Limit								

STACK EMISSION REPORT

STL	: B
Annexure	: I
Month	: NOV
Year	: 2021

1. Name of the Plant	SALEM STEEL PLANT
2.Name of the shop	Steel Melting Shop /Cold Rolling Mill/ Hot Rolling Mill
3. Process	Steel Melting ,Hot rolling, Annealing & Pickling , Cold Rolling
4. Control equipment installed	Scrubbers, Cyclones, Bag Filters
5. Sampling by	External Agencies.

Stack No & Details	Exit Vel (m/s, Avg)	Temp.K (Avg)	Flow Rate (NM3/Hr Avg)	No.Of Obs	Parameters Avg. (mg/nm3) SPM	SO2	NOx	Remarks
HRM Reheating Furnace	10.4	532	31974	1	36.5	3.0	15.3	
Apl-3 Pre pickling	4.4	311	4207	1	28.5	3.0	6.9	
Apl-3 Mixed Acid	13.2	427	9193	1	24.3	8.2	10.0	
FBC Boiler 1	8.6	335	36263	1	40.2	19	58	
APL-1 Electrolytic	5.6	325	4044	1	23.3	3.0	13.2	
APL-1 Brightening	9.7	306	7440	1	27.5	3.0	8.8	
AP LINE -3 Shot Blasting	10.8	319	115063	1	27.9	3.0	2.0	
*EAF & LF (SMS)	12.4	325	508958	1	39.6	3.0	8.7	
*AOD (SMS)	13.7	342	147206	1	41.9	16	21.4	
APL-2 Electrolytic	8.0	313	21309	1	29.5	3.0	10.7	
APL-2 Brightening	10.6	318	7824	1	24.6	3.0	12.5	
Z-Mill-2Fume Exhaust	7.6	311	49832	1	27.8	8	19.6	
Z-Mill-1Fume Exhaust	11.4	303	76722	1	21.9	5	14.5	
AP LINE -2 Shot Blasting	9.4	312	7040	1	27.4	3.0	13	
AP LINE -3 Reheating Furnace	4.9	410	40656	1	14.6	3.0	17.7	

M. Leaneldroy

STACK EMISSION REPORT

STL : B
Annexure : I
Month :DEC
Year : 2021

1. Name of the Plant	SALEM STEEL PLANT
2.Name of the shop	Steel Melting Shop /Cold Rolling Mill/ Hot Rolling Mill
3. Process	Steel Melting ,Hot rolling, Annealing & Pickling , Cold Rolling
4. Control equipment installed	Scrubbers, Cyclones, Bag Filters
5. Sampling by	External Agencies.

Stack No & Details	Exit Vel (m/s, Avg)	Temp.K (Avg)	Flow Rate (NM3/Hr Avg)	No.Of Obs	Parameters Avg. (mg/nm3) SPM	SO2	NOx	Rem
HRM Reheating Furnace	11.8	540	35741	1	32.8	3.0	16.2	
Apl-3 Pre pickling	3.6	317	3377	1	24.9	3.0	7.8	
Apl-3 Mixed Acid	12.5	439	8468	1	28.2	9.4	12	
FBC Boiler(OLD)	7.8	389	19145	1	36.4	27	52	
APL-1 Electrolytic	4.7	318	3469	1	25.9	3.0	14	
APL-1 Brightening	11.2	303	8619	1	30.2	3.0	10.6	
*EAF & LF (SMS)	10.7	345	412566	1	33.9	3.0	7.5	
*AOD (SMS)	14.8	352	154507	1	38.6	17	18	
Z-Mill-1Fume Exhaust	10.4	302	69992	1	26.2	6	12.9	

BDL : Below Detectable Limit

STACK EMISSION REPORT

STL	: B
Annexure	: I
Month	: JAN
Year	: 2022

1. Name of the Plant	SALEM STEEL PLANT
2.Name of the shop	Steel Melting Shop /Cold Rolling Mill/ Hot Rolling Mill
3. Process	Steel Melting ,Hot rolling, Annealing & Pickling , Cold Rolling
4. Control equipment installed	Scrubbers, Cyclones, Bag Filters
5. Sampling by	External Agencies.

Stack No & Details	Exit Vel (m/s, Avg)	Temp. K (Avg)	Flow Rate (NM3/ Hr Avg)	No.Of Obs	Parameters Avg. (mg/nm3) SPM	SO2	NOx	Remarks
HRM Reheating Furnace	10.9	525	33958	1	38.4	3.0	15.7	
Apl-3 Pre pickling	4.2	310	4029	1	20.8	3.0	5.5	
Apl-3 Mixed Acid	1304	446	8935	1	23.9	7.0	9.8	
FBC Boiler(OLD)	6.9	349	27927	1	37.9	21	62	
APL-1 Electrolytic	5.4	313	4049	1	22.9	3.0	12.5	
APL-1 Brightening	9.5	311	7170	1	26.7	3.0	7.8	
*EAF & LF (SMS)	11.6	328	471767	1	36.5	3.0	8.4	
*AOD (SMS)	15.2	337	165746	1	37.1	18	20.2	
Z-Mill-1Fume Exhaust	11.0	315	71209	1	23.8	4	11.6	
Ap Line -3 Short Blasting	11.6	325	121305	1	29.3	<3.0	<2.0	
Diesel Generator -75 KVA (Township)	15.0	472	608	1	0.257	<3.0	2.088	

BDL : Below Detectable Limit

STACK EMISSION REPORT

STL : B
Annexure : I
Month : FEB
Year : 2022

1. Name of the Plant	SALEM STEEL PLANT
2.Name of the shop	Steel Melting Shop /Cold Rolling Mill/ Hot Rolling Mill
3. Process	Steel Melting ,Hot rolling, Annealing & Pickling , Cold Rolling
4. Control equipment installed	Scrubbers, Cyclones, Bag Filters
5. Sampling by	External Agencies.

Stack No & Details	Exit Vel (m/s, Avg)	Temp.K (Avg)	Flow Rate (NM3/Hr Avg)	No.Of Obs	Parameters Avg. (mg/nm3) SPM	SO2	NOx	Remarks
HRM Reheating Furnace	9.5	538	2881	1	33.9	<3.0	17.2	
Apl-3 Pre pickling	3.9	317	3659	1	25.9	<3.0	6.7	
Apl-3 Mixed Acid	12.7	423	8291	1	21.7	6.0	11.4	
FBC Boiler 11	8.4	327	36286	1	35.9	18	53	
APL-1 Electrolytic	4.6	321	3364	1	26.7	<3.0	15.8	
APL-1 Brightening	10.8	315	8047	1	23.9	<3.0	10.3	
*EAF & LF (SMS)	12.2	343	474471	1	40.7	<3.0	9.2	
*AOD (SMS)	13.9	355	143885	1	42.6	14	22.9	
Z-Mill-1Fume Exhaust	10.2	309	69952	1	27.2	5	12.4	
Z-Mill-11Fume Exhaust	6.7	306	44649	1	24.9	6	14.8	
Ap Line -2 Short Blasting	8.6	318	6319	1	29.3	<3.0	16.2	
Ap Line -3 Short Blasting	10.4	312	120368	1	26.8	<3.0	<2.0	

BDL : Below Detectable Limit

STACK EMISSION REPORT

STL : B
Annexure : I
Month :MAR
Year : 2022

1. Name of the Plant	SALEM STEEL PLANT
2.Name of the shop	Steel Melting Shop /Cold Rolling Mill/ Hot Rolling Mill
3. Process	Steel Melting ,Hot rolling, Annealing & Pickling , Cold Rolling
4. Control equipment installed	Scrubbers, Cyclones, Bag Filters
5. Sampling by	External Agencies.

Stack No & Details	Exit Vel (m/s, Avg)	Temp.K (Avg)	Flow Rate (NM3/Hr Avg)	No.Of Obs	Parameters Avg. (mg/nm3) SPM	SO2	NOx	Remarks
HRM Reheating Furnace	9.1	528	28298	1	29.6	<3.0	19.0	
Apl-3 Pre pickling	4.6	318	4362	1	23.2	<3.0	9.0	
Apl-3 Mixed Acid	12.5	430	47730	1	20.2	4.0	15.0	
FBC Boiler 11	7.0	332	29850	1	32.4	12	53	
APL-1 Electrolytic	6.5	312	4913	1	20.6	<3.0	18	
APL-1 Brightening.	12.4	325	8978	1	20.5	<3.0	9.0	
*EAF & LF (SMS)	13.6	349	522312	1	36.2	<3.0	12	
*AOD (SMS)	12.4	350	130885	1	38.5	8.0	17	
Z-Mill-1Fume Exhaust	9.2	311	60612	1	25.8	4.0	13	
Z-Mill-2 Fume Exhaust	6.1	309	40448	1	21.6	5.0	14	
Ap Line -2 preheater	8.5	314	81864	1	17.5	<3.0	19	
Ap Line -2 Short Blasting	9.4	309	7158	1	28.7	<3.0	12	
AP line -2 Equalisation	9.6	311	18683	1	18.2	<3.0	12	
AP Line-2 Brightening	8.6	308	6570	1	21.5	<3.0	7.0	

AP Line-2 Quench	8.5	313	54656	1	17.2	<3.0	16	
APL-2 Electrolyting	9.1	312	24433	1	26.1	<3.0	15	
Ap Line -3 Short Blasting	11.7	318	125765		21.5	<3.0	2.0	
Z-Mill-1Motor commutator	7.4	316	23991		14.7	<3.0	12	

BDL : Below Detectable Limit

STACK MONITORING - STATISTICAL ANALYSIS (OCT21 TO MAR 22)										
Sl No	Name of stack	SPM (mg/Nm3)			SO_2 (mg/Nm3)			NOx (mg/Nm3)		
	Parameters	Min	Max	Average	Min	Max	Average	Min	Max	Average
1	EAF & LF stack	33.9	48.4	39.2	<3.0	<3.0	3	7.5	12	9.16
2	AOD stack (sms)	37.1	48.5	41.2	8	18	14.3	17	21.4	20
3	Re-Heating furnace-HRM	29.6	38.4	34.15	<3.0	<3.0	3	14.2	19	16.26
5	APL-3 Shot Blasting	21.5	31.8	27.46	<3.0	<3.0	3	<2.0	<2.0	2.00
6	APL-3 Prepickling	20.8	28.5	25.1	<3.0	<3.0	3	1	7.8	5.54
7	APL-3 Mixed Acid	21.7	28.2	24	6	9.4	7.6	9.2	12	10.48
8	APL-2 Shot Blasting	27.4	29.3	28.46	<3.0	<3.0	3	12	16	13.73
9	APL-1 Electrolytic	20.4	26.7	23.3	<3.0	<3.0	3	12.5	18	14.8
10	APL-1 Brightening (Fluoride)	20.5	30.2	25.6	<3.0	<3.0	3	7.8	10.6	9.3
11	Mill–I Fume Exhaust	22.9	30.2	26.01	4	6	4.6	11.6	14.5	12.96
12	Mill–II Fume Exhaust	21.6	30.9	26.3	5	8	6	14.8	19.6	16.92
13	FBC Boiler -II	36.4	42.6	39.27	19	27	21.5	44.9	60	54.22
14	Mill - oil celler	15.9	15.9	15.9	<3.0	<3.0	3	7	7	7.00
15	Z mill 1 motor commutator	8.8	8.8	8.8	<3.0	<3.0	3	12.4	12.4	12.4
16	APL-3 Mixed acid (fluoride)	21.7	28.2	24	6	9.4	7.6	9.2	12	10.48
17	APL- II Brightening	21.5	26.1	24.06	<3.0	<3.0	3	7	14	11.16
18	APL- II Electrolytic	8	9.1	8.55	<3.0	<3.0	3	10.7	15	12.85

AMBIENT AIR QUALITY REPORT

STL	: B
Annexure	: II
Month	:OCT
Year	: 2021

1. Name of the Plant	SALEM STEEL PLANT
2. Sampling by	External Agency

S.No. Location	Type of Sample	Date of Sampling	No.Of Obser's	Parameters Avg. (micro gm/Nm3)				Remarks
	Cont / Int		Norm	PM-2.5 60	PM-10 100	SO2 80	NOx 80	
1.Works Office	Cont	22.10.2021	1	20.2	35.6	5.5	13.7	
2.IFFS	Cont	21.10.2021	1	17.9	32.5	5.0	11.8	
3.Makeup Water Pumphouse	Cont	21.10.2021	1	21.4	30.8	4.4	12.4	
4.Stainless Surabi	Cont	20.10.2021	1	19.6	36.9	5.0	14.9	
5.Naickenpatty	Cont	20.10.2021	1	21.2	39.5	6.1	15.5	
6.Ganapathi Nagar	Cont	20.10.2021	1	22.8	41.7	6.7	16.2	
7.Thoppukadu	Cont	21.10.2021	1	15.6	35.7	4.4	13.0	
8.Thoppur	Cont	21.10.2021	1	22.7	46.9	5	14.9	
9.SSP Main Hospital	Cont	20.10.2021	1	19.9	33.2	7.2	14.3	
10.Near Medical College	Cont	20.10.2021	1	20.8	40.5	5.5	16.8	

BDL : Below Detectable Limit

AMBIENT AIR QUALITY REPORT

STL	: B
Annexure	: II
Month	:Nov
Year	: 2021

1. Name of the Plant	SALEM STEEL PLANT
2. Sampling by	External Agency

S.No. Location	Type of Sample Cont / Int	Date of Sampling	No.of Obser's Norm	Parameters Avg. (micro gm/Nm3) PM-2.5 60	PM-10 100	SO2 80	NOx 80	Remark
1.Works Office	Cont	24.11.2021	1	18.6	32.9	6.1	14.3	
2.IFFS	Cont	23.11.2021	1	16.2	34.7	5.5	13.7	
3.Makeup Water Pumphouse	Cont	23.11.2021	1	15.6	27.3	5.0	11.8	
4.Stainless Surabi	Cont	22.11.2021	1	17.5	33.8	4.4	13.2	
5.Naickenpatty	Cont	22.11.2021	1	18.9	34.6	4.9	12.7	
6.Ganapathi Nagar	Cont	22.11.2021	1	19.2	38.5	5.5	15.2	
7.Thoppukadu	Cont	23.11.2021	1	16.3	22.9	4.9	12.2	
8.Thoppur	Cont	23.11.2021	1	20.4	42.5	4.9	12.7	
9.SSP Main Hospital	Cont	22.11.2021	1	17.2	30.9	6.0	13.2	
10.Near Medical College	Cont	22.11.2021	1	18.8	36.7	4.4	14.2	

BDL : Below Detectable Limit

M. Leandroya

AMBIENT AIR QUALITY REPORT

STL	: B
Annexure	: II
Month	:DEC
Year	: 2021

1. Name of the Plant	SALEM STEEL PLANT
2. Sampling by	External Agency

S.No. Location	Type of Sample Cont / Int	Date of Sampling	No.Of Obser's Norm	Parameters Avg. (micro gm/Nm3) PM-2.5 60	PM-10 100	SO2 80	NOx 80	Remarks
1.Works Office	Cont	22.12.2021	1	22.9	36.9	7.1	18.6	
2.IFFS	Cont	21.12.2021	1	26.9	54.2	8.2	19.6	
3.Makeup Water Pumphouse	Cont	21.12.2021	1	23.9	38.5	7.7	19.1	
4.Stainless Surabi	Cont	21.12.2021	1	19.8	35.9	5.5	15.6	
5.Naickenpatty	Cont	20.12.2021	1	20.7	39.5	6.6	17.6	
6.Ganapathi Nagar	Cont	20.12.2021	1	23.8	44.7	7.1	19.6	
7.Thoppukadu	Cont	21.12.2021	1	20.2	38.6	6.0	17.1	
8.Thoppur	Cont	20.12.2021	1	22.9	43.8	6.6	19.1	
9.SSP Main Hospital	Cont	20.12.2021	1	19.2	33.6	4.9	14.7	
10.Near Medical College	Cont	20.12.2021	1	21.5	41.9	60	18.6	

BDL : Below Detectable Limit

M. Kamalpriya

AMBIENT AIR QUALITY REPORT

STL	: B
Annexure	: II
Month	:JAN
Year	: 2022

1. Name of the Plant	SALEM STEEL PLANT
2. Sampling by	External Agency

S.No. Location	Type of Sample	Date of Sampling	No.Of Obser's	Parameters Avg. (micro gm/Nm3)				Remarks
	Cont / Int		Norm	PM-2.5 60	PM-10 100	SO2 80	NOx 80	
1.Works Office	Cont	21.01.2022	1	24.3	40.8	5.7	14.8	
2.IFFS	Cont	20.01.2022	1	24.4	50.6	8.3	17.6	
3.Makeup Water Pumphouse	Cont	20.01.2022	1	22.5	41.7	7.3	19.5	
4.Stainless Surabi	Cont	20.01.2022	1	21.9	38.4	6.2	17.1	
5.Naickenpatty	Cont	20.01.2022	1	23.4	41.7	7.8	19.0	
6.Ganapathi Nagar	Cont	19.01.2022	1	25.3	45.9	78	20.0	
7.Thoppukadu	Cont	20.01.2022	1	18.5	39.9	5.2	15.7	
8.Thoppur	Cont	19.01.2022	1	23.6	46.2	5.7	18.6	
9.SSP Main Hospital	Cont	19.01.2022	1	20.9	37.5	5.2	16.2	
10.Near Medical College	Cont	19.01.2022	1	22.8	43.2	6.7	19.5	

BDL : Below Detectable Limit

AMBIENT AIR QUALITY REPORT

STL	: B
Annexure	: II
Month	: FEB
Year	: 2021

1. Name of the Plant	SALEM STEEL PLANT
2. Sampling by	External Agency

S.No. Location	Type of Sample	Date of Sampling	No.Of Obser's	Parameters Avg. (micro gm/Nm3) PM-2.5	PM-10	SO2	NOx	Rem
	Cont / Int		Norm	60	100	80	80	
1.Works Office	Cont	21.02.2022	1	22.2	43.9	7.8	15.7	
2.IFFS	Cont	21.02.2022	1	27.2	53.8	8.8	20.5	
3.Makeup Water Pumphouse	Cont	21.02.2022	1	24.5	45.2	8.3	20.0	
4.Stainless Surabi	Cont	21.02.2022	1	22.5	41.9	6.7	19.0	
5.Naickenpatty	Cont	21.02.2022	1	20.8	44.2	5.2	17.1	
6.Ganapathi Nagar	Cont	21.02.2022	1	27.2	50.2	9.3	21.4	
7.Thoppukadu	Cont	21.02.2022	1	21.3	40.6	4.7	16.2	
8.Thoppur	Cont	21.02.2022	1	26.2	48.8	8.3	20.5	
9.SSP Main Hospital	Cont	21.02.2022	1	21.6	39.8	6.2	17.1	
10.Near Medical College	Cont	21.02.2022	1	21.6	45.9	5.7	17.6	

BDL : Below Detectable Limit

AMBIENT AIR QUALITY REPORT

STL	: B
Annexure	: II
Month	:MAR
Year	: 2022

1. Name of the Plant	SALEM STEEL PLANT
2. Sampling by	External Agency

S.No. Location	Type of Sample Cont / Int	Date of Sampling	No.Of Obser's Norm	Parameters Avg. (micro gm/Nm3) PM-2.5 60	PM-10 100	SO2 80	NOx 80	Rem
1.Works Office	Cont	24.03.2022	1	21.7	39.2	6.2	16.7	
2.IFFS	Cont	25.03.2022	1	25.7	52.3	7.3	22.4	
3.Makeup Water Pumphouse	Cont	24.03.2022	1	26.0	47.2	9.9	18.6	
4.Stainless Surabi	Cont	22.03.2022	1	20.2	43.5	7.3	21.4	
5.Naickenpatty	Cont	22.03.2022	1	22.6	43.2	6.7	18.1	
6.Ganapathi Nagar	Cont	22.03.2022	1	23.6	53.0	6.2	22.4	
7.Thoppukadu	Cont	23.03.2022	1	21.3	43.5	6.2	17.1	
8.Thoppur	Cont	23.03.2022	1	24.9	51.4	7.8	21.4	
9.SSP Main Hospital	Cont	22.03.2022	1	23.8	42.4	5.7	19.0	
10.Near Medical College	Cont	22.03.2022	1	24.3	48.1	5.2	16.7	

BDL : Below Detectable Limit

Ambient Air Quality Monitoring -Statistical Analysis(OCT 21 TO MAR 22)													
Sl No	Location	PM2.5			PM10			SO2			NOx		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
1	Works Office	18.60	24.30	21.65	32.90	43.90	38.21	5.5	7.8	6.40	13.7	18.6	15.63
2	IFFS	16.20	27.20	23.05	32.50	54.20	46.35	5	8.8	7.18	7.3	20.5	15.08
3	Makeup water PH	15.60	24.50	22.31	27.30	47.20	38.45	4.4	9.9	7.10	11.8	20	16.90
4	Stainless Surabhi	17.50	22.50	20.25	33.80	43.50	38.40	5	7.3	5.85	13.2	21.4	16.86
5	Naickenpatti	18.90	23.40	21.26	34.60	44.20	40.45	4.9	7.8	6.21	12.7	19	16.66
6	Ganapathi Nagar	19.20	27.20	23.65	38.50	53.00	45.66	5.5	9.3	7.10	15.2	22.4	19.13
7	Thoppukadu	15.60	21.30	18.86	22.90	43.50	36.86	4.7	6.2	5.40	13	17.1	15.22
8	Thoppur	20.40	26.20	23.45	42.50	51.40	46.60	4.9	8.3	6.38	12.7	21.4	17.86
9	SSPmain hospital	17.20	23.80	20.43	30.90	42.40	36.23	4.9	7.2	7.36	13.2	19	15.75
10	Near medical college	18.80	24.30	21.63	36.70	48.10	42.72	4.4	6.7	5.83	14.2	19.5	17.23

All values are in microgram/N Cu.m

M. Leandjorg

EXTRACT OF TNPCB EFFLUENT QUALITY RESULTS : OCT -2021

Annexure- III

S.No:	Parameter	Norm	#1 Final
		TNPCB	Effluent
1	pH	5.5-9.0	6.70
2	TSS	100	8
3	TDS	2100	536
4	Sulphate as SO_4	1000	5
5	BOD (5 day)	30	4
6	COD	250	2
7	NH_3-N	50	16
8	Sulphide	2	1
9	Oil & Grease	10	0.600
10	Fluoride	2	0.05
11	Iron (Fe)	3	2.24
12	Chromium (6+)	0.1	0.05
13	Chromium (total)	2	0.05
14	Zinc	1	2
15	Nickel	3	2
	BDL : Below Detectable Limit		

Ground Water Quality:

Parameter	**#2**	**#3**	**#4**	**#5**	**#6**
pH	*Well water samples are collected once in 3 months as per TNPCB				
Nitrate Nitrogen, mg/l					
Fluoride (as F) mg/l					

Parameter	**#7**	**#8**	**#9**	**#10**
pH	*Well water samples are collected once in 3 months as per TNPCB			
Nitrate Nitrogen, mg/l				
Fluoride (as F) mg/l				

Sample # 1 DFT Permeate water used for process

Sample # 2 - Well water near New SLF

Sample # 3 -Well water from Township Nursery

Sample # 4,5 &6 - Well water from Down stream Wells

Sample # 7 -Well water from Kollapatti

Sample # 8 -Well water from MM Patti

Sample # 9 -Well water from Naickenpatti

Sample # 10 - Water from Bore well near Old SLF

EXTRACT OF TNPCB EFFLUENT QUALITY RESULTS : NOV-2021

Annexure- III

S.No:	Parameter	Norm TNPCB	#1 Final Effluent
1	pH	5.5-9.0	7.01
2	TSS	100	8
3	TDS	2100	484
4	Sulphate as SO_4	1000	5
5	BOD (5 day)	30	4
6	COD	250	2
7	NH_3-N	50	16
8	Sulphide	2	1
9	Oil & Grease	10	0.417
10	Fluoride	2	0.05
11	Iron (Fe)	3	2.24
12	Chromium (6+)	0.1	0.05
13	Chromium (total)	2	0.05
14	Zinc	1	2
15	Nickel	3	2

BDL : Below Detectable Limit

Ground Water Quality:

Parameter	#2	#3	#4	#5	#6
pH	6.52	6.67	7.22	7.023	7.17
Nitrate Nitrogen, mg/l	0.314	212	0.714	0.649	1.989
Fluoride (as F) mg/l	0.255	0.562	0.288	0.066	0.088

Parameter	#7	#8	#9	#10
pH	7.11	7.19	7.25	6.86
Nitrate Nitrogen, mg/l	1656	1.655	2124	0.205
Fluoride (as F) mg/l	2.162	0.272	0.411	0.522

Sample # 1 DFT Permeate water used for process

Sample # 2 - Well water near New SLF

Sample # 3 -Well water from Township Nursery

Sample # 4,5 &6 - Well water from Down stream Wells

Sample # 7 -Well water from Kollapatti

Sample # 8 -Well water from MM Patti

Sample # 9 -Well water from Naickenpatti

Sample # 10 - Water from Bore well near Old SLF

EXTRACT OF TNPCB EFFLUENT QUALITY RESULTS : DEC -2021

Annexure- III

S.No:	Parameter	Norm TNPCB	#1 Final Effluent
1	pH	5.5-9.0	7.25
2	TSS	100	8
3	TDS	2100	588
4	Sulphate as SO_4	1000	7
5	BOD (5 day)	30	4
6	COD	250	2
7	NH_3-N	50	16
8	Sulphide	2	1
9	Oil & Grease	10	0.178
10	Fluoride	2	0.05
11	Iron (Fe)	3	2
12	Chromium (6+)	0.1	0.05
13	Chromium (total)	2	0.05
14	Zinc	1	0.019
15	Nickel	3	0.052
	BDL : Below Detectable Limit		

Ground Water Quality:

Parameter	**#2**	**#3**	**#4**	**#5**	**#6**
pH	*Well water samples are collected once in 3 months as per TNPCB				
Nitrate Nitrogen, mg/l					
Fluoride (as F) mg/l					

Parameter	**#7**	**#8**	**#9**	**#10**
pH	*Well water samples are collected once in 3 months as per TNPCB			
Nitrate Nitrogen, mg/l				
Fluoride (as F) mg/l				

Sample # 1 DFT Permeate water used for process

Sample # 2 - Well water near New SLF

Sample # 3 -Well water from Township Nursery

Sample # 4,5 &6 - Well water from Down stream Wells

Sample # 7 -Well water from Kollapatti

Sample # 8 -Well water from MM Patti

Sample # 9 -Well water from Naickenpatti

Sample # 10 - Water from Bore well near Old SLF

EXTRACT OF TNPCB EFFLUENT QUALITY RESULTS : JAN-2022

Annexure- III

S.No:	Parameter	Norm	#1 Final
		TNPCB	Effluent
1	pH	5.5-9.0	6.65
2	TSS	100	8
3	TDS	2100	492
4	Sulphate as SO_4	1000	27
5	BOD (5 day)	30	4
6	COD	250	2
7	NH_3-N	50	16
8	Sulphide	2	1
9	Oil & Grease	10	0.29
10	Fluoride	2	0.05
11	Iron (Fe)	3	2
12	Chromium (6+)	0.1	0.05
13	Chromium (total)	2	0.05
14	Zinc	1	2
15	Nickel	3	2

BDL : Below Detectable Limit

Ground Water Quality:

Parameter	**#2**	**# 3**	**# 4**	**# 5**	**# 6**
pH	*Well water samples are collected once in 3 months as per TNPCB				
Nitrate Nitrogen, mg/l					
Fluoride (as F) mg/l					

Parameter	**#7**	**# 8**	**# 9**	**# 10**
pH	*Well water samples are collected once in 3 months as per TNPCB			
Nitrate Nitrogen, mg/l				
Fluoride (as F) mg/l				

Sample # 1 DFT Permeate water used for process

Sample # 2 - Well water near New SLF

Sample # 3 -Well water from Township Nursery

Sample # 4,5 &6 - Well water from Down stream Wells

Sample # 7 -Well water from Kollapatti

Sample # 8 -Well water from MM Patti

Sample # 9 -Well water from Naickenpatti

Sample # 10 - Water from Bore well near Old SLF

CONSOLIDATED ROA OF TREATED TRADE EFFLUENT(DFT OUTLET) SAMPLES							
(STATISTICAL ANALYSIS)							
S.No	Parameter	Unit	TNPCB	Oct'21	Nov'21	Dec'21	Jan '22
			Norm				
	Core Paramters						
1	pH	Units	5.5 to 9.0	6.7	7.01	7.25	6.65
2	Total Suspended Solids	mg/l	100	8	8	8	8
3	TDS	mg/l	2100	536	484	588	492
4	BOD	mg/l	30	2	2	2	2
5	COD	mg/l	250	16	16	16	16
	General Parameters						
6	Sulphates as SO4	mg/l	1000	5	5	7	27
7	Ammonical Nitrogen	mg/l	50	2.24	2.24	2	2
8	Sulphide as S	mg/l	2	1	1	1	1
9	Oil & Grease	mg/l	10	4	4	4	4
10	Fluoride	mg/l	2	0.6	0.417	0.178	0.289
11	Iron(Total)	mg/l	3	0.05	0.05	0.05	0.05
12	Hexavalent Chromium	mg/l	0.1	0.05	0.05	0.05	0.05
13	Total Chromium	mg/l	2	0.05	0.05	0.05	0.05
14	Zinc	mg/l	1	2	2	0.019	2
15	Nickel	mg/l	3	2	2	0.052	2

HRM EFFLUENT QUALITY

ANNEXURE-IV

S.No.	Parameters	TNPCB	OCT-21	NOV-21	DEC-21	JAN-22	FEB-22	MAR-22	Min	Max	Avg
		Norm									
1.	pH	5.5-9.0	8.1	8.1	8.1	8.2	6.2	8.8	6.2	8.8	7.19
2.	TSS, mg/l	100	25	20	40	20	25	30	20	40	26.6
3.	TDS, mg/l	2100	630	590	520	510	2060	660	510	2060	1178
4.	Total Chromium, mg/l	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5.	Nickel, mg/l	3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

BDL - Below Detectable Limit

Annexure – V

AFFORESTATION

Total Plant Area		Total Area Available for Plantation		Total No. of trees	
Inside plant	Outside plant	Inside plant	Outside plant	Inside plant	Outside plant
1220.27 hectares	324.5 hectares (Township)	Total area available for plantation = 277.67 hectares		Total no. of trees planted since 1989 = 352806 (217.081 hectares)	

Total area acquired by the Salem Steel Plant = 1544.77 hectares
Area covered by buildings, roads & railway lines = 267.10 hectares
Area covered by natural vegetation = 600.00 hectares
Area covered by saline soil or soft rock where trees cannot be grown = 400.00 hectares
Total area available for plantation = 277.67 hectares

No. of trees planted during 1997-98 = 1000
No. of trees planted during 1998-99 = 1000
No. of trees planted during 1999-00 = 500
No. of trees planted during 2000-01 = 500
No. of trees planted during 2001-02 = 500
No. of trees planted during 2002-03 = 500
No. of trees planted during 2003-04 = 200
No. of trees planted during 2004-05 = 20
No. of trees planted during 2005-06 = 11
No. of trees planted during 2006-07 = 1189
No. of trees planted during 2007-08 = 16
No. of trees planted during 2008-09 = 200
No. of trees planted during 2009-10 = 125
No. of trees planted during 2010-11 = 1030
No. of trees planted during 2011-12 = 670
No of trees planted during 2012-13 = 503
No of trees planted during 2013-14 = 1034
No of trees planted during 2014-15 = 500
No of trees planted during 2015-16 = 200
No of trees planted during 2016-17 = 500
No of trees planted during 2017-18 = 7645
No of trees planted during 2018-19 = 1019
No of trees planted during 2019-20 = 1065
No of trees planted during 2020-21 = 1010
No of trees planted during 2021-22 = 1050

Species of trees planted:

01. C Siamia
02. Subabul
03. Silver oak
04. Albizzia
05. Pungan
06. B.Babul
07. Neem
08. Silk cotton
09. Rain tree
10. A.Holosericea
11. Tamarind
12. Parambai
13. Casuarina
14. Teak
15. Jetropha

Annexure – V

AFFORESTATION

Total area acquired by the Salem Steel Plant	= 1544.77 hectares
Area covered by buildings, roads & railway lines	= 267.10 hectares
Area covered by natural vegetation	= 600.00 hectares
Area covered by saline soil or soft rock where trees cannot be grown	= 400.00 hectares
	1267.10 hectares
Total area available for plantation hectares	= 1544.77-1267.10
	= 277.67 hectares
Total Green belt developed area since 1989	= 217.081 hectares
Total no. of trees planted since 1989	= 352806 nos.

$$\% \text{ of Green belt developed area} = \frac{\text{Green belt developed area}}{\text{Total Area available for Plantation}}$$

$$= \frac{217.081 \text{ hectares}}{277.67 \text{ hectares}}$$

$$= 78.17\ \%$$