TFL/S&E/Envst/24 16.05.2024

The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai – 600 032.

Dear Sir,

Sub: Environmental Statement for the year 2023-2024 for TFL

We are pleased to submit the Environmental Statement in Form-V pertaining to Tuticorin Alkali Chemicals And Fertilizers Limited at Tuticorin for the year ending 2023.

Thanking you,

Yours faithfully,
For Tuticorin Alkali Chemicals
And Fertilizers Limited,

E Rajeshkumar
Whole Time Director

cc: 1. The Joint Chief Environmental Engineer
Tamil Nadu Pollution Control Board,
Tirunelveli
2.District Environmental Engineer
Tamil Nadu Pollution Control Board,
Thoothukudi – 628 008.

ENCIRONMENT (PROTECTION) ACT 1986

ENVIRONMENT (PRODUCTION) SECOND AMENDMENT RULES,1992

FORM – V

(See Rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING 31st MARCH 2024

PART - A

i. Name and address of the owner/ Occupier of the industry, operation of process	Mr.E Rajeshkumar Whole Time Director Tuticorin Alkali Chemicals and Fertilizers Limited Harbour construction road Tuticorin – 628 005.
ii) Industry Category Primary (STC Code): Secondary (SIC Code): Production Capacity (Tonne)	 - 2800 - 2852 Soda ash - 15,000 Te per month Ammonium chloride - 13,500 Te per month Desalination permeate Water - 2970 KLD
iii)Year of Establishment	Commercial production of Soda ash and Ammonium Chloride started in November 1982 and Expansion in 1999 & 2019
iv) Date of the last environmental Statement submitted	28.04.2023

PART – B

i. Water and Raw Material Consumption:

1. Water consumption in m^3 / day : 35.7
   Process
2. Cooling / Boiler Feed/ Industrial : 1164
3. Domestic & Gardening : 150

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the previous Financial Year (2022-23)	During the current Financial Year (2023-24)
01 02	Soda Ash } Ammonium chloride }	0.168 m^3	0.167m^3

ii. **Raw Material Consumption:**

S. No.	Name of Raw Material	Name of Products	Consumption of raw material per unit of output		Total Consumption per annum in MT
			During the Previous Financial Year (2022-23)	During the Current Financial Year (2023-24)	
1.	Raw salt	Soda Ash Te	1.757	1.69	98,580.000
2.	Carbon dioxide	Soda Ash "	0.672	0.673	39,261.960
3.	Biomass	Soda Ash ,,	-	0.215	12556.97
4.	Coal	Soda Ash ,,	0.847	0.701	40,902.010
5.	Lime	Soda Ash ,,	0.038	0.042	2,475.300
6.	Ammonia	Amm. Chloride ,,	0.360	0.330	18,366.677
7.	Fuel oil	Amm. Chloride ,,	0.012	0.011	590.499
8.	Power	Soda Ash KWH	797	785	4,57,66,550

PART - C

I. WATER POLLUTION GENERATED

(Parameter as specified in the consent Issued)

S. No.	Pollutants	Quantity of pollutants generated kg/day	Concentration of pollutants in discharge, mg/l	Prescribed standard by TNPC Board	Percentage of variation
1	pH	--	7.8	5.5 – 9.0	All parameter within the prescribed standards
2	Total Susp. Solids	2.5	56	100	
3	Sulphate (as SO4)	3.7	78	1000	
4	Oil & Grease	0.1	1.7	20	
5	BOD, 3 days at 27 °C,	1.2	24	30	
6	COD	5.9	109	250	
7	Ammoniacal nitrogen	1.7	32	50	
8	Total Kjeldahl nitrogen	2.4	49	100	
9	Dissolved phosphate	0.05	0.8	-	

II. AIR

S.No.	Pollutants	Quantity of pollutants discharged, kg/day	Concentration of pollutants in discharge, mg/Nm3	Prescribed standard by TNPC Board Mg/Nm3	Percentage of variation From prescribed standard, %
1.	Ammonium chloride dryer stack				
	a. PM	19.7	22.4	150	
	b. SO_2	----	18.7	--	
	c. NH_3	23.6	25.8	300	No deviation from the prescribed standard
2.	CO2 wash water Column stack				
	a. PM	7.1	10.2	150	
	b. SO2	----	-----	----	

PART - D

HAZARDOUS WASTES

(As specified under Hazardous wastes / Management and Handling Rules 1989) as amended in 2003

Hazardous Wastes	Total Quantity (kg)	
	During the previous Financial Year 2022-23	During the current Financial Year 2023-24
A) From Process Compressor House Lubricating Oil and used oil from oil replenishment to all machineries HW category 5.1 used or spent oil	6260	1020
B) Chemical sludge from waste water treatment (35.3)	220	200
C) Any process Distillation residue(36.1)	470	300

PART – E
BY PRODUCT

BY PRODUCT	Total Quantity (kg)	
	During the previous Financial Year (2022-23)	During the current Financial Year (2023-24)
NIL	NIL	NIL

SOLID WASTES

S.No.	Name of products	Source	Total Quantity	
			During the 2022-23	During 2023-24
		Generated		
1.	a. Calcium carbonate d Boiler Ash Te	Distiller Waste, Boiler and Plant areas	2715 3980	2475 4580
		Reuse		
2.	Calcium Carbonate Sludge a. Quantity recycled or reutilized within the plant		Nil	Nil
		Sold		
	Calcium Carbonate Sludge		2427	711
3.	Coal ash		3554	4377

PART - F

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

Solid Waste	Composition	Uses
Calcium Carbonate Sludge	$CaCO_3$ ~35 .0 % $MgCO_3$ ~ 2.0 % R_2O_3 ~ 0.8 % $CaCl_2$ ~ 1.5 % NaCl ~ 2.5 % H_2O ~60.0 %	Disposed of for beneficial uses like conversion into CaO and in CEM industries.
Coal Ash	Combustible ~ 15 % Ash ~ 60 % H_2O ~ 25 %	Disposed for beneficial uses for conversion into bricks.

Hazardous waste

S.No.	Hazardous waste	Composition	Uses
01	Used Oil	Oil ≥ 95% Water ≤5%	Sold to recyclers, authorized by TNPCB & CPCB.
02	Chemical sludge from waste water treatment (35.3)	Sodium sulphate>60 %	Sent for Land filling to Authorized recyclers
03	Any process Distillation residue(36.1)	Carbon Matter >90%	Sent to authorized recycler for incineration

PART - G

Impact of the pollution on conservation of natural resources and on the cost of production

Tuticorin Alkali Chemicals and Fertilizers Limited firmly believe that industrial productivity and environmental protection is to co exists. With the strong environment al concern and commitment TFL has taken great strides in the prevention of pollution and protection of the precise environment. The various pollution control monitoring measure have been helpful to bring about an overall improvement of the quality of Water, Air and Land in the nearby environment. We have implemented several measures for waste minimization/ pollution prevention.

1. Converted coal fired boiler to Bio mass based boiler to reduce fossil fuel usage and reduction in sulphur emission. Obtained consent from TNPCB on 21.02.2024.
2. Online monitoring of Ammonia and Particulate matter is done for Ammonium chloride drier Stack with the investment of 25 lakhs and data transmitted to Care Air Centre TNPCB

3. Effluent Quality and flow monitoring system was installed with the investment of 15 lakhs and connected with Water Quality Watch , TNPCB
4. Ambient Air ammonia monitoring system was installed with the investment of 15 lakhs and connected with Care Air Centre, TNPCB
5. Effluent generated is completely recycled and reused in process from the year 2005. No treated effluent discharged in to Sea
6. As a greenhouse gases emission control measure desulphurization system installed to scrub sulphur di oxide and boiler flue gas and thus reducing the sulphur di oxide emission by 99 %
7. Bag filter was installed to control the emission of particulate matter in Boiler flue Gas
8. CO2 recovery plant was successfully installed and CO2 recovered from coal fired boiler flue gas with an investment of 20 crores and utilized as a raw material for the production of Sodium carbonate and also reducing the emission of CO2 to atmosphere
9. As an energy conservation measure 2 numbers of New screw compressor was installed instead of reciprocating one and reducing the energy consumption by 2,68,000 kw per annum.
10. Variable Frequency drive has been installed for our process pumps as an energy conservation measure.
11. Finished goods bags (PP bags) has been reuse for multiple times (upto 7 times).
12. New salt centrifuge was installed with higher capacity and thus avoid running two centrifuges at a time and reducing the energy consumption.

New ammonium chloride Product centrifuge was installed with higher capacity and thus avoid running two centrifuges at a time and reducing the energy consumption

PART - H

Additional measures / investment proposal for environmental protection including abatement and prevention of pollution	Converted coal fired boiler to Bio mass based boiler to reduce fossil fuel usage and reduction in sulphur emission. Bag filter and desulphurization provided for boiler flue gas to reduce PM and sulphur di oxide emission to atmosphere. We have recovered CO2 from boiler flue gas by installing CO2 recovery plant and used a raw material for the production of sodium carbonate and reducing the emission of CO2 to atmosphere We are developing Green belt inside our factory on a continuous basis. Also at our township, we are developing Green belt on a continuous basis.

PART - I

MISCELLANEOUS

Any other particulars for improving the quality of environment	We are conducting Environment Awareness programs regularly for our employees. There are plans to conduct Environment Awareness Programs in the nearby villages also. We are utilizing the CO2 vented out from boiler in our manufacturing process we are reducing the pollution load to the atmosphere and also the green house gas emission reduction. Bag filter and Desulphurization system provided to eliminate PM and SO2 emission to atmosphere. The Environment Management System, ISO 14001:2015, is to be implemented in next year, already two stages of Audit completed, final audit to be completed. Low Carbon Footprint certification for our products to be obtained.

Signature

Name and address of the person Submitting the environmental Statement

E Rajeshkumar,
Whole Time Director

On behalf of name and address Of the unit

Tuticorin Alkali Chemicals and Fertilizers Limited,
Habour construction road,
Tuticorin - 628 005.