GREENSTAR

Ref.: S&E/E.8-I/24

Date: 29th May 2025

The Member Secretary
Tamilnadu Pollution Control Board
76, Mount Road
Guindy
Chennai – 600 032

Respected Sir,

Sub: Environmental Statement for the year 2024 -2025 for Greenstar Fertilizers Limited Plants

We are pleased to submit the Environmental Statement in Form-V pertaining to our Greenstar Fertilizer plants at Tuticorin for the year ending 31st March 2025.

Thanking you,

For "Greenstar Fertilizers Limited"

P. Senthil Nayagam
Whole Time Director

29 MAY 2025

cc.: 1.The District Environmental Engineer
Tamilnadu Pollution Control Board
C7 & C9, SIPCOT Industrial Complex
Meelavittan, Tuticorin – 628 008

2. The Joint Chief Environmental Engineer
Tamilnadu Pollution Control Board
30/2, Sidco Industrial Estate, Pettai
Tirunelveli – 627 010.

SPIC
GSFL
29 MAY 2025
DESPATCHED

Greenstar Fertilizers Limited
IN : U24100TN2010PLC077127
EGD OFFICE : "SPIC HOUSE", No. 88, Mount Road, Guindy, Chennai - 600 032, Tamilnadu, India.
ACTORY : Muthiahpuram Post, Tuticorin - 628 005. Tamilnadu, India.
: +91(461) 2355411 | E: feedback@greenstar.net.in
eb : www.greenstarfertilizers.com

ENVIRONMENT (PROTECTION) ACT 1986

ENVIRONMENT (PROTECTION) SECOND AMENDMENT RULES, 1992

FORM-V

(See Rule 14)

Environmental statement for the financial year ending 31st March, 2025

PART-A

i)	Name and address of the owner / occupier of the industry, operation or process	:	P. Senthil Nayagam Whole Time Director, SPIC nagar Tuticorin,628005. M/s Green Star Fertilizers Limited, SPIC Nagar, Tuticorin - 628 005.
Ii)	Industry Category	:	Primary SIC No.2800 (Chemicals and allied products) Secondary SIC No. 2874 (Phosphatic Fertilizers)
Iii)	Production Capacity (Reassessed capacity by MoEF)		
	a) Di-Ammonium Phosphate (DAP I)	:	513420 MT/annum
	b) Di-Ammonium Phosphate (DAP II)	:	386580 MT/annum
	b) Aluminium Fluoride	:	10,000 MT/annum
	c) Single Super Phosphate/GSSP	:	350 MT/day
Iv)	Year of establishment	:	Sulphuric Acid Plant :1975 Phosphoric Acid Plant:1976 DAP Plant Train I:1977 DAP Plant Train II: 1983 Aluminium Fluoride Plant : 1987 SSP : 2010 GSSP: 2023
v)	Date of the last environmental report submitted	:	29.05.2024

PART – B

Water and Raw Material Consumption

i) Water consumption : Average M^3/Day (Actual)

Cooling : 1049.8
Process : 137.6
Domestic : 146.0

Sl. No.	Name of Products	Water Consumption per unit of products (M^3/MT)	
		During the Previous Financial year 2023 -2024	During the current Financial year 2024 -2025
1.	DAP I	0.52	0.34
2.	DAP II		0.34
3.	Aluminium Fluoride	9.4	6.5
4.	SSP/GSSP	0.31	0.20

ii) Raw Material consumption

Sl. No.	Name of the Raw Material	Name of the Product	Consumption of raw material per unit of output	
			During the previous Financial year 2023 -2024	During the current Financial year 2024 -2025
1.	Sulphur	Sulphuric Acid	0.332	0.332
2.	Rock Phosphate	Phosphoric Acid	3.68	3.37
3.	Aluminium Hydroxide	AlF_3	1.247	1.382
4.	Rock Phosphate	SSP/GSSP	0.530	0.589

PART – C

Pollution Generated **Continuation Sheet.....**

(Parameters as specified in the consent issued)

Sl. No.	Pollutants	Quantity of Pollutants discharged mass/day	Concentration of pollutants discharged in mass/volume	Percentage of variation from prescribed standards with reasons
I	**WATER:**	No Effluent Generation		
II	**AIR:**			
1)	Sulphuric Acid Plant:			
	SO_2	253.27 Kg/day	226.93mg/Nm^3	No deviation from prescribed standards. The Sulphuric Acid plant is converted to DCDA Process.
	Acid Mist	6.485Kg/day	5.81mg/Nm^3	No deviation from prescribed standards
3)	Phosphoric Acid Plant:			
	Fluoride -TCA III	2.30 Kg/day	0.58 mg/Nm^3	No deviation from prescribed standards
	Fluoride HH Off Gas Stack	2.94 Kg/day	2.19 mg/Nm^3	No deviation from prescribed standards
	RG Mill Particulate matter	16.5Kg/day	38.28 mg/Nm^3	No deviation from prescribed standards
4)	DAP I Plants:			
	Particulate Matter	289.70Kg/day	40.92mg/Nm^3	No deviation from prescribed standards
	Fluoride	9.848Kg/day	1.39mg/Nm^3	No deviation from prescribed standards
	Ammonia	263.608Kg/day	37.23 mg/Nm^3	No deviation from prescribed standards
5)	DAP II Plants:			
	Particulate Matter	195.85 Kg/day	36.76 mg/Nm^3	Nodeviation from prescribed standards
	Fluoride	10.034 Kg/day	1.88 mg/Nm^3	No deviation from prescribed standards
	Ammonia	226.706 Kg/day	42.55 mg/Nm^3	No deviation from prescribed standards

	AlF3 Plant Particulate Matter SO_2	4.11 Kg/day 5.2Kg/day	42.83 mg/Nm^3 240.33mg/Nm^3	No deviation from prescribed standards No deviation from prescribed standards
6)	SSP Particulate Matter Fluoride	15.09 Kg/day 0.672 Kg/day	41.93 mg/Nm^3 1.87 mg/Nm^3	No deviation from prescribed standards No deviation from prescribed standards
7)	GSSP Particulate Matter Fluoride	58.34 Kg/day 4.842 Kg/day	27.01 mg/Nm^3 2.24mg/Nm^3	No deviation from prescribed standards No deviation from prescribed standards

PART- D
(Hazardous Wastes)

(as specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Sl. No.	Hazardous Wastes	Total Quantity (MT)			
		Quantity generated during 2023 - 2024	Quantity generated during 2024 -2025	Characteristics	Closing Stock & Mode of collection/ Treatment & Disposal
1.	**Solid spent Catalyst: (Sulphuric Acid Plant)**				
	HW Category 17.2 Sulphuric Acid Plant Converter Catalyst	3.070	Nil	V_2O_5 - 3% w/w	Nil
2.	HW Category 17.1 Process acidic residue, filter cake, dust	21.88	25.35	Solid	Nil
3.	Used or Spent oil HW Category : 5.1	25.94	2.60	Oil	7.940

4.	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes HW Category : 33.1	7.004	28.386	Solid	11.692

HW Category 35.3-Chemical sludge from waste water treatment of M/s. SPIC of quantity 51.58 MT is reused in DAP plants as fillers.

PART – E

BY PRODUCT

S.No	BY PRODUCT	Total quantity (MT)	
		Generated during the previous financial year 2023 - 2024	Generated during the current financial year 2024 -2025
1.	**From Process:** Phosphogypsum generated from Phosphoric Acid Plant	901380	1256460
	Gypsum Sold	866229.8	867485.15
2.	**From Process:** Silica generated from Aluminium Fluoride Plant and Phosphoric acid	3701.324	3293.935
	Silica sold	3809.64	3064.69
	SOLID WASTE : Nil		

PART – F

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

As specified in PART D and PART E

We have become a member of **Industrial Waste Management Association- membership No; 1459.**

Hazardous waste authorization also obtained from TNPCB. Generated Hazardous waste is being disposed to authorized recyclers or to authorized TSDF.

PART – G

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

Greenstar Fertilizers Limited firmly believes that industrial productivity and environmental protection are to co-exist. With the strong environmental concern and commitment, Greenstar Fertilizers Limited has taken great strides in prevention of pollution and protection of the precious environment. The various pollution control and monitoring measures have been helpful to bring about an overall improvement of the quality of water, air and land in the vicinity. We have implemented several measures for waste minimization / pollution prevention.

1. An ambient air quality has been monitored online and it has been displayed at the factory gate entrance area which shows the pollutant data for the general public.
2. SA plant stack SO_2 online continuous monitoring is done and transmitted to care air centre, TNPCB from May 2013. DAP I and II Plants Ammonia analyzers were lined up to care air centre from February 2016.
3. Startup scrubber commissioned and lined up with SO2 Stack to reduce SO2 emission to environment.
4. Major part of treated effluent from SPIC is reused in Greenstar Plant to conserve raw water.
5. Ambient HF was monitored through online analyzer and the connectivity was lined up to care air center, TNPCB from August 2018.
6. HF Analyzers were installed in DAP and PA Plant Stacks and Data is being transmitted to Care air Centre, TNPCB since December 2019.
7. Installed Remote calibration facility for SA plant SO2 Analyzer from July 2020 onwards.
8. We have obtained ISO 45001 and ISO 14001.
9. PM analyzers were installed in RG Mill Stack and Data is being transmitted to Care air Centre, TNPCB since November 2020.
10. HF analyzer was installed in SSP plant stack and Data is being transmitted to Care air Centre, TNPCB since February 2021.
11. PM analyzers were installed in DAP- I, DAP- II and SSP Plant Stacks and Data is being transmitted to Care air Centre, TNPCB since January 2021.
12. HF analyser was installed in DAP II plant and data is being transmitted to Care air Centre, TNPCB since 21.10.2021.
13. 1364 MT of Plastic Waste was recycled through Resustainability Recycling Pvt.Ltd as part of EPR Obligation for 2024-25. Out of which 955 MT Cat - II End Of Life and 409 MT Cat – II for Recycled .
14. AlF3 plant effluents are reused in DAP plants for scrubbing.
15. 70% of captive solar power production is used in Greenstar Fertilizers Limited.
16. Dilution air was hooked up in sulphuric acid plant to improve SO2 conversion thus reducing stack loss.
17. PM analyser was installed in GSSP plant at the cost of Rs 4.95 Lakhs and data is being transmitted to Care Air Centre, TNPCB since 5.02.2024
18. STP Continous effluent monitoring system was installed at the cost of Rs.17 lakhs and data is being transmitted to WQW TNPCB since 20.10.2023
19. All Emission monitoring analysers were validated by third party NABL accredited lab.

20. Ambient and stack survey analysis carried out in all the plants through NABL accredited lab.
21. New Ammonia Add-on HF analyzer was installed at the cost of Rs. 22 Lakhs in DAP plants.
22. No Increase In Pollution Load study was carried out by NABET accredited party.
23. All the analyzers were regularly maintained at the cost of Rs.5.41 lakhs.
24. Renovation of dedusting system in rock handling area at the cost of Rs. 1.96 Crores. New PM analyser was installed in dedusting system at the cost of Rs.4 Lakhs.
25. Establishment of new metered pumping system from DAP plant and canteen sewage sump to STP ensuring proper sewage management.

5) Overall cost towards APC measures and statutory requirements towards environment protection was Rs. 191.59 Lakhs. The break-up details is given:

		Rs.in Lakhs
Direct	Chemicals for APC Measures	52.48
Indirect	Salary and Statutory Fees	139.11
Total Cost of chemicals and statutory requirements		191.59

PART – H

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

1. We are maintaining the green belt more than 34.73% of all over area inside factory and nearby township. Totally 820 trees have been planted in the year 2024-2025.
2. Cost incurred for green belt development for the year 2024-2025 is 3 lakhs.
3. We have incorporated the dry mode of gypsum conveying system instead of gypsum slurry mode to impervious gypsum dyke.
4. As per CPCB guidelines, Gypsum pond is converted into impervious lined pond at cost of 12crores.
5. It is proposed to install Natural Gas in DAP and Alf3 plant furnaces which lowers carbon footprint.
6. We have increased stack height in HH off gas section in Phosphoric acid plant by 6 meters to enhance dispersion of plume.
7. Bag filters have provided in rock unloading dedusting area in place of dry cyclones .

DAP plants:

8. Installation of inclined venturi optimizes gas velocity and turbulence, leading to improved particulate and ammonia removal efficiency in the scrubber system.
9. Implementing a dual pipe reactor technology improves heat transfer and material processing, resulting in decreased fuel requirements for the drying process.
10. Installation of new dryer venturi scrubber with cyclonic column reduces ammonia slip in stack release.
11. Upgradation of Sprayers in Fume Scrubber Cyclonic Column in DAP Plants improves scrubbing efficiency.
12. Addition of new cooler cyclone and fan improves product recovery and reduces the dust emission.
13. The total investment for the project is ₹151 crore.

PART – I

Miscellaneous

Any other particulars in respect of environment protection and abatement of pollution till March 2025.

1) Green Belt Development Programme is continuously carried out to improve the quality of the environment. 1810 trees were planted during the year 2024-2025.

2) WORLD ENVIRONMENT DAY CELEBRATIONS.

Environment Quiz and Essay, Environment Day Pledge, World Environment Day 2024 theme given by UNEP, "Land Restoration, Desertification, and Drought Resilience" was circulated in intranet for the benefit of employees

Plantation of New Saplings:

World Environment day was celebrated on June 5th and 80 saplings were planted and about 820 trees were planted during the year 2024-2025.

3) World Earth Day was celebrated on April 22nd and 10 tree saplings were planted on that day. World Ozone Day was celebrated on September 16th and 200 tree saplings were planted around premises. International day of clean air for blue skies 2024 was celebrated on September 7th and 15 tree saplings were planted around the premises.

4) Regular refresher training programme is conducted for employees on Safety and Environment. "Environment management in Greenstar Fertilizers Limited" is one of the topic in the above training Programme.

5) Monitoring of stack emission and ambient air and water quality is being done regularly.

6) Maintenance department is carrying out regular checking and scheduled maintenance of all the pollution control devices.

7) Production & Administration departments taking care of housekeeping.

8) Dedicated Horticulture section is taking care of tree plantation and green belt development. Every year we are growing new trees.

9) Part of treated effluent water generated from SPIC Ltd., is being used for Green Belt development inside the Factory premises.

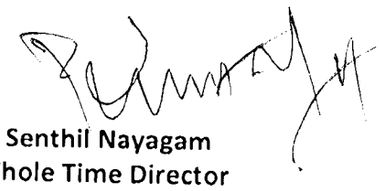
10) Environment Monitoring were carried out around the Phosphogypsum stack by CVR labs and the reports were submitted to TNPCB.

11) 1061 Conventional Bulbs were replaced with LED bulbs across factory premises at the cost of Rs. 15.6 Lakhs as a part of energy reduction.

12) We have developed Miyawaki Forest by planting 500 saplings in land allocated by District authorities in Tuticorin.

13) Awareness created among school children and employees requesting to adopt "Mission LiFE" action points in their day to day life.

Signature :



Name and address of the person submitting the Environmental statement report : **P. Senthil Nayagam**
Whole Time Director

On behalf of
Name and Address of the Unit : M/s Greenstar Fertilizers Limited
SPIC Nagar, Tuticorin 628 005.