

Ref : S&E/E.8-I/21

Date: 08<sup>th</sup> June 2021

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



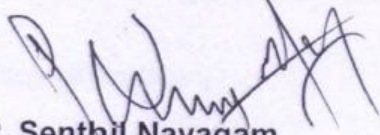
Dear Sir,

**Sub: Environmental Statement for the year 2020 - 2021 for SPIC Fertilizer Plant.**

We are pleased to submit the Environmental Statement in Form-V (in duplicate) pertaining to our SPIC Fertilizer plants at Tuticorin for the year ending 31<sup>st</sup> March 2021.

Thanking you,

For "Southern Petrochemical Industries Corporation Limited",

  
**P. Senthil Nayagam**

**General Manager (Works)**

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  
32, 33, A/3 Raja Rajeswari Nagar,  
Perumalpuram, Thirunelveli – 627007



**Southern Petrochemical Industries Corporation Limited**

(CIN: L11101TN1969PLC005778)

Factory: SPIC Nagar, Muthiahpuram Post, Tuticorin 628 005 Tamilnadu, India  
Phone : +91 (0461) 2355401 | Fax : +91 (0461) 2355588 | Email : spiccorp@spic.co.in | www.spic.in

**SPIC****ENVIRONMENT (PROTECTION) ACT 1986****ENVIRONMENT (PROTECTION) SECOND AMENDMENT RULES,**  
**1992****FORM-V**

(See Rule 14)

**Environmental statement for the financial year**  
**ending 31<sup>st</sup> March, 2021****PART-A**

- i) Name and address of the owner / : Mr. S.R.Ramakrishnan.  
occupier of the industry, operation or : SPIC Limited  
process : 88, Mount Road, Chennai – 600 032.  
M/s Southern Petrochemical  
Industries Corporation Limited,  
SPIC Nagar, Tuticorin 628 005.
- ii) Industry Category : Primary SIC No.2800  
(Chemicals and allied products)  
  
Secondary SIC No.2873  
(Nitrogenous Fertilizers)
- iii) Production Capacity  
a) Urea : 6,20,400 MT/annum
- iv) Year of establishment : 1969
- v) Date of the last environmental report : 18.05.2020  
submitted



**Water and Raw Material Consumption**

i)	Water consumption	:	Average M <sup>3</sup> /Day (Actual)
	Cooling	:	9373.3
	Process	:	1159.5
	Domestic	:	178.7
Sl. No.	Name of Products	Water Consumption per unit of products (M <sup>3</sup> /MT)	
		During the previous Financial year 2019 - 2020	During the current Financial year 2020 - 2021
1.	Urea	7.44	6.20

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 2019 - 2020	During the current Financial year 2020 - 2021
1.	Naphtha	Ammonia	0.737	0.697
2.	Natural Gas	Ammonia	--	0.0149

**PART - C**

**Pollution Generated**

(Parameters as specified in the consent issued) whom so ever

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	<b><u>WATER:</u></b>			
	pH	--	7.3- 8.4	All parameters are well within the prescribed standards
	AN	3.79 Kg/day	24.50 mg/l	
	TKN	3.79 Kg/day	24.50 mg/l	
II	<b><u>AIR:</u></b>			
1)	Urea Prilling Tower:			No deviation from prescribed standards
	Particulate Matter	445.1 Kg/day	32.5 mg/ Nm <sup>3</sup>	
2)	Reformer Flue gas			No deviation from prescribed standards
	NOx	21.94 Kg/day	6 mg/ Nm <sup>3</sup>	

Effluent disposal to sea 154.49 M3/ Day (Only 190 days during the year)



**PART – D****(Hazardous Wastes)**

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

Sl. No.	Hazardous Wastes	Total Quantity (MT)			
		Quantity generated during 2019 - 2020	Quantity generated during 2020 - 21	Characteristics	Closing Stock & Mode of collection/ Treatment & Disposal
1)	<b>Solid Spent Catalyst : (Nitrogenous Fertilizer Plant)</b>				
a)	HW Category 18.1 (Co and Mo catalyst)	Nil	0.02 MT	Cobalt content: 3.5% w/w Molybdenum 6.0% w/w	0.21 MT Spent catalysts collected in drums, sealed and kept for disposal.
b)	HW Category 18.1 Spent catalyst (LT vessel – Zn-Cu catalyst)	Not generated	Not generated	Zinc content : 35 % w/w Copper : 29.0% w/w	Nil
c)	HW Category 18.1 Spent catalyst (Zinc oxide Catalyst)	Not generated	Not generated	Zinc content : 7 % w/w	Nil
d)	HW Category 18.1 Spent catalyst (Methanator – Nickel catalyst)	Not generated	Not generated	Nickel content: 10 to 20 % w/w	Nil
e)	HW Category 18.1 Spent catalyst (Primary and Secondary Reformer – Nickel catalyst)	9.1 MT	28.9 MT	Nickel content: 10 to 20 % w/w	38 MT of Spent catalyst collected in drums, sealed and kept for disposal.
f)	HW Category 18.1 Spent catalyst (Converter Iron catalyst)	Not generated	Not generated	Fe content: 86%	Nil
e)	HW Category 18.1 Spent catalyst (Cu promoted iron catalyst)	46.44	Nil	Copper content: 29% w/w and Iron content - 86% w/w	0.01 MT of Spent catalysts collected in drums, sealed and kept for disposal.
2.	<b>Liquid Used Oil:</b>				
a)	HW Category 5.1 Used or Spent Oil	30 KL	15.72 KL	Oil	Stock as on 31.03.2020 1.3 KL
b)	HW category 5.2 Waste or residue containing oil	Nil	Nil	Semi- solid	Nil



**PART – E****BY PRODUCT**

Sl. No.	BY PRODUCT	Total Quantity (MT)	
		Generated During the previous financial year (2019 - 2020)	Generated During the current financial year (2020 - 2021)
1)	NIL	NIL	NIL
	<b><u>SOLID WASTES</u></b>		
	<b><u>From Pollution Control Facilities:</u></b>		
1)	Calcium carbonate sludge generated from effluent treatment plant	18.1	51.50
	<b><u>Quantity recycled or reutilized within the unit</u></b>		
	Calcium Carbonate	18.1	51.50

**PART – F**

Please specify characterisation (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: 1458**. The spent catalyst are sent to them for Landfill after treatment.(LAT)



**PART – G****Impact of the pollution control measures on conservation of natural resources and on the cost of production:**

SPIC firmly believes that industrial productivity and environmental protection are to co-exist. With the strong environmental concern and commitment, SPIC 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 nearby environment. We have implemented several measures for waste minimization / pollution prevention.

1. Online monitoring of Ammonia and Particulate matter is done in Urea Prilling tower with investment of about Rs.40 lakhs and data transmitted to Care Air Centre, TNPCB from 29<sup>th</sup> March 2018.
2. Effluent Quality Monitoring System – Water Quality Watch software was installed with a cost of around Rs. 2 lakhs.
3. Online monitoring of TSS in Integrated Effluent Treatment plant has been installed with an investment of about Rs.2.5 lakhs and connected to WQW from 07.02.20.
4. Online monitoring of Ammonia plant – Reformer Flue gas stack NO<sub>2</sub> analyser was installed with an investment of about Rs. 1 lakhs and connected to are Air Center from 09.12.19.
5. Effluent Quality monitoring station was commissioned and uploaded to CPCB and TNPCB. (pH and sea flow were uploaded from 30.06.15 and AN from 13.10.2015)
6. Ammonia Plant reformer stack flue gas online monitoring is done and transmitted to Care Air Center, TNPCB from June 2015.
7. AAQ monitoring Station was commissioned and uploaded to Care Air Centre, TNPCB on 30.10.2015.
8. An online display of ambient air quality has been started since 2015 at the factory gate entrance area, which displays the pollutant data to the general public.
9. Environment clearance obtained for Modernization cum expansion of Fertilizer manufacturing unit from MoEF on 07.01.20.
10. Due to optimization of steam network we are able to keep both the offsite boilers as standby boilers and thereby the SO<sub>2</sub> and CO<sub>2</sub> emission from the Off Site boilers has stopped.
11. Treated effluent is reused in M/s Greenstar Fertilizers Limited and for gardening purpose extensively.
12. The Eco club in Spic nagar School is patronized by SPIC and many awareness programmes on Environment protection were conducted.



13. Ammonia plant Primary reformer Catalyst was renewed to reduce energy loss.
14. Urea plant reactor was renewed for around Rs.8 Crores. for better reliability and energy efficiency.
15. VAM Machine was installed in Ammonia plant to reduce the work load of Compressor and for Energy efficiency.
16. New equipment are being installed in Ammonia plant for Environment friendly NG conversion project.
17. Variable Frequency drive has been installed for P1D pump of WTP plant. It enhances energy conservation.
18. We have obtained ISO 45001 and ISO 14001.
19. Online monitoring of SO<sub>2</sub> and NO<sub>x</sub> are done in Auxiliary Boiler III with investment of about Rs.40 lakhs and data transmitted to Care Air Centre, TNPCB from 29<sup>th</sup> October 2020.
20. Natural gas has been used as raw material for production of Ammonia since March 2021 and substantial reduction of SO<sub>2</sub> and NO<sub>x</sub> has been achieved.
21. New pump with the capacity of 210m<sup>3</sup>/hr was introduced in dust chamber of Urea Prilling tower for increasing scrubbing water circulation thereby reducing dust emission.

Overall cost towards effluent treatment and statutory requirement was Rs.230.96 lakhs. The break-up details is given:

<u>Effluent Treatment Cost and Statutory requirement for Environment :</u>		<u>Rs.in Lakhs</u>
Direct	Power for IETP	41.12
	Chemicals for IETP	101.87
Indirect	Salary and Statutory Fees	87.97
Total Cost of ETP and Statutory requirement		Rs.230.96 Lakhs

#### 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 33 % of all over area.) 979 saplings have been planted during 2020 -2021.  
Cost incurred for green belt development for the year 2020-2021 is 3 lakhs.



**PART - I**  
**Miscellaneous**

Any other particulars in respect of environment protection and abatement of pollution till March 2020.

1. Green Belt Development Programme is continuously carried out to improve the quality of the environment.
2. WORLD ENVIRONMENT DAY CELEBRATIONS:


Environment Quiz and Essay, Environment Day Pledge, World Environment Day 2020 theme given by UNEP, "**Time for nature**" was circulated in intranet for the benefit of employees.

Plantation of New Saplings:

100 (One hundred and thirteen) saplings were planted on the inauguration function near the Naphtha Tank farm area in presence of DEE, TNPCB- Tuticorin and about 923 trees were planted during the year 2020-2021.

3. Regular refresher training programme is conducted for employees on Safety and Environment. "Environment management in SPIC" is one of the topic in the above training Programme.
4. Monitoring of stack emission and ambient air and water quality is being done regularly.
5. Maintenance department is carrying out regular checking and scheduled maintenance of all the pollution control devices.
6. Production & Administration departments taking care of housekeeping.
7. Dedicated Horticulture section is taking care of tree plantation and green belt development. Every year we are growing new trees.
8. Plastic Waste Management Internal Committee was formed on 18.12.2019 and various measures were taken to curtail plastic waste pollution.

Signature :



Name and address of the person :  
submitting the Environmental Statement  
Report

**P. Senthil Nayagam**  
**General Manager(Works)**

On behalf of  
Name and Address of the Unit

M/s Southern Petrochemical Industries  
Corporation Limited,  
SPIC Nagar,  
Tuticorin 628 005.