No.10602/KSPCB/1467
27.07.2026

The Member Secretary,
Karnataka State Pollution Control Board,
49, Parisara Bhavan, 4th & 5th Floor,
Church Street,
BENGALURU – 560 001.

Dear Sir,

Sub: **ENVIRONMENTAL STATEMENT**

Please find enclosed herewith the Environmental Statement Report for the financial year ending on 31st March 2026 in Form V.

Thanking you,

Yours faithfully,

SHANMUGAM P.
CHIEF MANUFACTURING OFFICER

Encl.: as above.

CC: The Environmental Officer,
Karnataka State Pollution Control Board,
Regional Office, Plot No.10-B,
Baikampady Industrial Area,
MANGALURU – 575 011.

ENVIRONMENTAL STATEMENT FORM-V

Environmental Statement Report for the financial year ending with 31st March 2026

PART-A

(i)	Name and address of the owner/ occupier of the industry, operation or process	SHANMUGAM P. CHIEF MANUFACTURING OFFICER, PARADEEP PHOSPHATES LIMITED – MANGALURU UNIT (FORMERLY MANGALORE CHEMICALS & FERTILIZERS LTD.) PANAMBUR, MANGALURU -575 010.	
(ii)	Industry category Primary- (STC Code) Secondary- (SIC Code)	Primary	
(iii)	Production capacity	Product	Consented capacity
		Urea	4,71,000 MT/Annum
		Ammonium Bicarbonate	24750 MT/Annum
		Di-Ammonium Phosphate/NP/NPK (Multi grade)	4,01,500 MT/Annum
		Sulphuric acid	1,46,004 MT/Annum
		Sulphonated Naphthalene Formaldehyde/Poly carboxylate ether	85000 MT/Annum
		Specialty Mixtures of Plant Nutrients	2,21,004 MT/Annum
(iv)	Year of Establishment	Urea	1976
		Ammonium Bicarbonate	1982
		Di-Ammonium Phosphate/NP/NPK (Multi grade)	1987
		Sulphuric acid	2006
		Sulphonated Naphthalene Formaldehyde/Poly carboxylate ether	2010
		Specialty Mixtures of Plant Nutrients	2011
(v)	Date of the last environmental statement submitted.	05.08.2025	

PART-B

Water and Raw Material Consumption:

Water consumption in M^3/day

Process/Cooling 7169

Domestic 292

Name of the Products		Process water consumption per unit of products	
		During the previous financial year (M^3/T)	During the current financial year (M^3/T)
1	Urea	5.170	5.167
2	Di-Ammonium Phosphate Multigrade NP 18:46 NP 20:20	0.190	0.183
3	Ammonium Bicarbonate	Nil	Nil

ii. Raw material consumption

S.I No	Name of raw materials	Name of product	Consumption of raw material per unit of output	
			During the previous financial year	During the current financial year
1a	Natural Gas Feed	Urea	483.286 SCM/MT	479.075 SCM/MT
1b	Natural Gas Steam Generation	-	38.798 SCM/MT	35.306 SCM/MT
2	Import Ammonia	Urea	-	-
3	Ammonia	Di-Ammonium Phosphate Multigrade	-	-
		NP 18:46	0.220 MT/MT	0.220 MT/MT
		NP 20:20	0.221 MT/MT	0.214 MT/MT
4	Phosphoric Acid as P_2O_5	Di-Ammonium Phosphate Multigrade	-	-
		NP 18:46	0.468 MT/MT	0.470 MT/MT
		NP 20:20	0.208 MT/MT	0.208 MT/MT
5	MAP	Di-Ammonium Phosphate Multigrade	-	-
		NP 18:46	-	-
6	Ammonium Sulphate	Di-Ammonium Phosphate Multigrade	-	-
		NP 18:46	-	-
		NP 20:20	0.018 MT/MT	0.057 MT/MT
7	Sulphur	Sulphuric Acid	0.322 MT/MT	0.322 MT/MT

8	Natural Gas	Power (For Captive consumption)	0.243 MT/MT	0.244 MT/MT
9	Napthalene	Sulphonated Naphthalene Formaldehyde	0.177 MT/MT	0.184 MT/MT
10	Formaldehyde		0.125 MT/MT	0.126 MT/MT
11	Caustic Soda		0.070 MT/MT	0.070 MT/MT
12	Sulphuric Acid		0.092 MT/MT	0.095 MT/MT

PART-C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Pollutants		Quantity of Pollutants discharged (mass/day) Kg/Day	Concentration of Pollutants discharged (mass/volume) mg/l	Percentage of variation from prescribed standards with reasons.
A. Water				
1	Ammonical Nitrogen as N	No Effluent Discharge. Effluent is treated and reused		
2	Total Kjeldahl Nitrogen as N			
3	Free Ammonia as NH_3			
4	Urea as NH_2CONH_2			
5	Total Suspended Solids			
6	BOD for 3 days at 27°C			
7	COD			
8	pH			
9	Temperature °C			
10	Colour and Odour			
11	Oils and grease			
12	Total Residual chlorine as Cl			
13	Hexavalent Chromium as Cr^{+6}			
14	Total Chromium as Cr			
15	Copper as Cu			
16	Zinc as Zn			
17	Nickel as Ni			
18	Sulphides as S			
19	Vanadium as V			
20	Iron as Fe			
21	Nitrate Nitrogen as N			

	Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
B. *Air*				
I.	**Sulphur Dioxide:**	Kg/day	Mg/NM^3	
1.	Primary Reformer Stack (Feed changeover from Naphtha to Natural Gas from December 2020)	Negligible	<5.0	Stack height is as stipulated by KSPCB
2.	Boiler Stack (Fuel changeover from furnace oil to Natural Gas from December 2020)	Negligible	<5.0	-do-
3.	Process Air Heater (Fuel changeover from Naphtha to Natural gas from December 2020)	Negligible	<5.0	-do-
4.	Process NG heater (Online from December 2020)	Negligible	<5.0	-do-
5.	Captive Power Plant (Fuel changeover from Furnace oil to Natural gas from December 2020)	Negligible	<5.0	-do-
6.	Sulphuric Acid Plant stack	104	584	-do-
II.	**Particulate Matter:**			
1.	Primary Reformer Stack	27.6	8-9	Well below the prescribed standard
2.	Boiler Stack	6.8	8-10	-do -
3.	Process Air Heater	Negligible	Negligible	-do -
4.	Process NG Heater	Negligible	Negligible	-do -
5.	Urea Prill Tower	754	60-83	-do -
6.	DAP Stack	350	62-85	-do -
III.	**Fluorine:**			
1.	DAP Stack	12.1	1.2-3.9	-do -
IV.	**Acid Mist:**			
1.	Sulphuric Acid Plant stack	4.9	24-28	-do -

PART-D

HAZARDOUS WASTES

(as specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

Hazardous Wastes		Total Quantity	
		During the previous financial year (2024-25)	During the current financial year (2025-26)
a)	From Process:		
	1) Used Oil (Waste Process No 5.1)	10.132 MT (Generated) 10.132 MT(Sold)	7.964 MT(Generated) 7.964 MT (Sold)
	2) Waste Residue Containing Oil (Waste Process No 5.2)	81.048 MT (Generated) 81.048 MT (Sold)	45.446 MT (Generated) 45.446 MT(Sold)
	3) Spent Catalyst (Generated from production of nitrogenous complex fertilizer) (Waste Process No 18.1)	18.470 MT(Generated) 18.470 MT (Sold)	18.612 MT (Generated) 18.612 MT (Sold)
	4) Discarded Containers/Barrels (Waste Process No 33.3)	6.191 MT (Generated) 6.191 MT (Sold)	6.399 MT (Generated) 6.399 MT (Sold)
	5) Spent Carbon (Waste Process No 18.2)	Nil	4.000 MT (Generated) 4.000 MT (Sold)
	6) Spent Catalyst (Waste Process No 17.2)	0.814 MT (Generated) 0.814 MT (Sold)	0.746 MT (Generated) 0.746 MT (Sold)
	7) Spent Cake (Waste Process No 17.1)	11.200 MT (Generated) 11.200 MT (Utilised)	11.500 MT (Generated) 11.500 MT (Utilised)
	8) Metal and Metal bearing wastes (Waste Process No B1)	360.987 MT (Generated) 360.987 MT(Sold)	119.100 MT (Generated) 119.100 MT (Sold)
	9) Rubber wastes (Waste Process No B3040)	13.330 MT (Generated) 13.330 MT (Sold)	11.590 (Generated) 11.590 (Sold)
b)	**From Pollution Control Board Facilities:**	Nil	Nil

PART-E

SOLID WASTES

Solid Waste	Total Quantity	
	During the previous financial year (2024-25)	During the current financial year (2025-26)
a) From Process	No solid waste is generated from Process and Pollution Control facilities	
b) Pollution Control Facility		
c) Quantity Recycled or reutilised within the unit		

PART -F

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

1 Spent Catalyst:

Catalysts are used in different sections of Ammonia plant. Its life is usually 2-10 years and is different for each catalyst. When the catalysts lose their activity, they are discharged during shut downs. After discharging spent catalysts are filled in drums and stored in a shed in secured manner protected from sun and rain. Spent catalysts are sold to outside agencies for reprocessing and recovery of metals. The agency should possess certification of registration from Central Pollution Control Board/ Karnataka State Pollution Control Board. If reprocessors are not available it will be disposed as per the directives of KSPCB

2 Spent Carbon:

Spent Activated Carbon is generated from the Demineralisation Plant. After discharging, spent activated carbon are filled in drums and stored in a shed and disposed as per the directives of KSPCB.

3 Used oil:

Used oil/oil emulsions originating from compressors, pumps and other machinery are collected in oil pits and sent to oil separator. From the oil separator oil is skimmed by mechanical oil skimmers and collected in drums. Similarly used oil is generated in the DG sets at Captive Power Plant. This is also collected in drums. After filling in the barrels they are temporarily stored in a yard provided with pavement, curb walls and water oil separator. This Used oil is then sold to outside agencies having adequate facility for refining and disposal of hazardous waste. The agency should possess certification of registration from Central Pollution Control Board/ Karnataka State Pollution Control Board.

4 Discarded containers / barrels used for hazardous wastes & chemicals:

Stored in a shed and sold to KSPCB Authorised Handlers.

5 Sulphur Cake:

Sulphur Cake collected from filter in Sulphuric acid plant is used in the DAP plant as filler material.

6 Metal & Metal bearing wastes and other wastes:

Stored in a shed and sold to KSPCB Authorised Handlers.

PART-G

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

1) Shifting of fuel from furnace Oil to natural gas for power generation and steam generations, have reduced SOx emissions from approximate 5 kg/t of Urea to zero.

2) Shifting of fuel from furnace oil ta natural gas in DAP plant dryer has reduced So2 emissions from 0.13 kg/t of DAP to zero. (Implemented in 2022)

3) Ammonia energy improvement project has reduced specific energy consumption of urea production by 12%. It has reduced CO_2 emission of urea production by 0.68 to 0.61 t/t

4) Installation of Medium Pressure Condensate Stripper in ammonia plant in place of Low-Pressure Condensate Stripper has eliminated emission of about 25 kg/t of methanol vapours to atmosphere, by completely recovering the vapours. It also saves emission of 5 t/h of steam at atmospheric pressure into atmosphere.

5) Installation of Seal Gas Recovery Unit to Ammonia Refrigeration Compressor in ammonia plant, has eliminated leak / venting of about 500 kg of ammonia per day, by completely recovering it

6) The Ecological studies carried out at Arabian sea water near Thaneerbhavi indicate that on the ecological condition at sea both chemically and biologically is undisturbed.

7) Installed solar panels on roof top across the plant which has saved 2,99,410 KWh of electric Power.

8) Urea Hydrolyser stripper which has been specifically installed for pollution control has the following beneficial effects

a) Recovery of ammonia and urea from the effluent streams leads to saving to the tune of Rs.115 per MT of Urea.

b) Utilisation of urea hydrolyser stripper outlet water for cooling tower make up leads to saving of water costing about Rs.56 per MT of Urea.

Part-H

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

Additional investment proposed in the Budget 2026-2027 is Rs. 168 lakhs.

PART-I

Any other particulars for improving the quality of the environment.

1. PPL-Mangaluru has completed Ammonia plant energy improvement project which has helped in reduction of energy consumption by 12% and reduction of CO2 emission by 5%.

2. Installation of Purate Chlorine dioxide generator (Most modern Chlorine dioxide generator for cooling water) for generation of highly effective nonoxidizing biocide has substantially reduced the cooling tower blowdown thereby reducing generation of trade effluent and consumption of water.

3. Installation of side stream filter for reduction of water turbidity thereby reducing the cooling tower blow down and increasing the cycles of concentration.

4. Introduction of Natural Gas as feed and fuel in Captive power plant and Ammonia plant has reduced SOx emission below detection limit of 5 mg/NM^3.

5. PPL-Mangaluru has collected & recycled 2317 MT of Plastic waste complying with the EPR target for the year 2025-26 as per the Plastic Waste Management Rules, 2016 and amendments.

6. PPL-Mangaluru has installed Organic Waste Compositing facility at its Township to treat the kitchen waste (wet waste). The facility consists of a wet waste shredder and Organic waste compositing machine. As a result, disposal of wet waste is eliminated. Wet waste is converted to compost which is used as manure for gardening in our township & company.

7. As a part of commitment for preservation of environment and ecology, PPL-Mangaluru has installed wastewater treatment and recovery plants with latest technologies consists of Lamella clarifier, Ultra-filtration and Reverse Osmosis (RO) during 2010 by investing about Rs.700 lakhs for treating the wastewater generated from the process plants. PPL-Mangaluru has also upgraded the sewage treatment plant by adapting latest Membrane Bio Reactor (MBR) technology. From this wastewater recovery plants, there is a recovery of about 1000 kilolitres of water which is about 10 % of our daily consumption. After the implementation of these wastewater treatment plants PPL-Mangaluru has achieved the target of zero wastewater discharge and there is no wastewater discharge from PPL-Mangaluru.

a. Back wash water of sand filter and activated carbon filter from water treatment plant and cooling tower side stream filter containing high suspended solids is treated by using Lamella Clarifier technology. The treated water free from suspended solids is reused in cooling tower as makeup water.

b. Water treatment plant resin regeneration and cooling tower blow down effluent streams containing high dissolved solids are treated by Reverse Osmosis technology. This effluent is passed through clarifier, pressure filters and Ultra Filtration (UF) units to remove suspended solids and colloidal particles and then it is treated in Reverse Osmosis (RO) units to remove dissolved solids. Treated wastewater is reused in the process.

c. Treatment of Sewage effluent: Till end of March 2010 the extended activated sludge system with extended aeration and high mixed liquor suspended solids was adopted for treatment of sewage effluent and the treated sewage was discharged to the green belt for watering purpose. With the aim of reusing the treated sewage effluent, sewage effluent treatment system has been upgraded by adapting Membrane Bio Reactor (MBR) Technology during 2010.The treated domestic effluent of about 240 KL per day is reused in the process.

8. Separate Environmental Laboratory with all facility to carry out various analysis of environmental samples was setup in June-2012. The Environmental Laboratory has been accredited in accordance with the ISO/IEC 17025:2017 standard.

9. "E-waste Collection Facility" has been provided inside factory and also at PPL-Mangaluru Township for collection and disposal of E-waste generated at homes in a scientific manner.

10.LED lighting assembly is installed in various places inside factory premises for conservation of energy

11. The company has planted about 63,000 trees like Teak, Mangium, Eucalyptus, Subabul, Acacia etc., developed in our green belt area. The area covered by the green belt is about 64 acres. About 3000 additional saplings were planted during 2025-26. It is planned to plant about 3150 additional saplings during 2026-27 also.

12. Environmental Management System (EMS) in line with 1S014001:2015 is implemented and certified by M/s Det Norske Veritas, Bangalore.

13.Energy Management System (EMS) in line with 1S050001:2018 is implemented and certified by M/s Det Norske Veritas, Bangalore

14. Installed low NOx burners and excess air control devices in primary reformer of ammonia plant to improve the burner efficiency.

15. Changed over urea plant start up passivation system from high pressure CO_2 to low pressure steam passivation for noise reduction and for conserving raw materials.

16. Elimination of chlorine dosing to cooling tower by installing Chlorine dioxide generation unit, hence preventing hazard.

17. Installed heat pumps to recover condensate from various areas to save steam and energy.

18. Synthesis gas recovery system is installed in synthesis gas compressors to recover synthesis gas from the seal vent gas.

19. Provided acoustic treatment to the entire DG house to control the noise pollution.

20. Acoustic enclosure has been provided to all the AMF emergency generators installed

21. Installed modified prill bucket in urea plant to mitigate the emission of particulates.

22. Disposal of bio-medical waste generated at the occupational health centre in common biomedical waste disposal facility.

23. Meteorological station comprising facilities to monitor rainfall, maximum and minimum temperature, relative humidity, barometric pressure, wind direction and velocity has been established.

24.Conducting public awareness programmes in the neighbourhood for public in environmental and safety aspects.

25. '5-S' system, a Japanese tool to improve housekeeping, and upkeep of plants and offices is implemented

26. Implemented the schemes for harvesting roof water at our township and recharge the bore wells. Total roof area covered is about 3500 m^2 and estimated water harvested is 13,300 m^3/year.

27. Installed 1500 L capacity "Solar water heater" with 16 collectors for our Industrial canteen and 4 No. of solar street lights at our factory and 4 No. of solar lights at our township.

28. Installed Continuous Ambient Air Quality Monitoring Station (CAAQMS) inside the factory premises to monitor Ambient Air Quality continuously and LED display board was installed at the Main gate facing the highway for the public.

29. Installed Economiser and low NOx burner in our auxiliary boiler during revamp which improve the fuel efficiency.

30. Installed Hydraulic power recovery turbine (HPRT) in our CO2 separation unit in our Ammonia plant which recovers pressure energy from high pressure solution during let down and converts to mechanical energy which is used to drive the pump.

31.Continuous online monitoring system for liquid effluent is installed in our Wastewater Recovery Unit for monitoring of pH, Ammoniacal Nitrogen and Flow. Continuous online monitoring systems for SPM and Ammonia are installed in Urea plant prill tower fan ducts and SPM, Ammonia and Fluorine online analysers are installed in DAP plant stack for continuous monitoring. Continuous online monitoring systems for NOx are installed in Captive power plant boiler stacks, Ammonia plant boiler stacks and reformer stack. Values from the analysers are hooked up to Central Pollution Control Board server.

32.We have installed biogas plant to generate biogas from the leftovers from the kitchen. Biogas generated are utilized in Kitchen for preparing food.

33.A biodiversity study conducted across PPL-Mangaluru factory and its outskirts by a third-party agency revealed a vibrant and resilient ecosystem. The premises supports diverse native flora and fauna, with mature tree canopies providing habitat for birds, butterflies, and essential pollinators. This thriving green cover enhances ecological balance, supports biodiversity, and contributes to climate change mitigation through carbon sequestration.

34. We have under taken lake rejuvenation projects in neighbouring community in Pakshikere, Mangalore for restoring and revitalizing water bodies. We have also developed Miyawaki forests at various locations in the neighbouring community ensuring our commitment for a sustainable future not only inside our company premises but also for the local community.

35.Installed Retrofit Emission Control Devices (RECDs) on DG sets to reduce particulate emissions and enhance environmental compliance.

36.Conducted a carbon sequestration study to assess the carbon storage potential of the company's greenbelt, providing a baseline for future carbon accounting, climate action planning, and enhancement of greenbelt development initiatives.

Chief Manufacturing Officer

SHANMUGAM P
Chief Manufacturing Officer