



Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

Environmental Audit Report for the financial Year ending the 31st March 2017

Company Information

Company Name

Deepak Fertilisers and Petrochemicals Corporation Limited

Application UAN number

0000023473

Address

Plot K-1 to K-8, MIDC Industrial Area, Taloja,

Plot no

Plot K-1 to K-8, MIDC Industrial Area,

Taluka

Panvel

Village

Pale Khurd

Capital Investment (In lakhs)

244628

Scale

Large

City

Panvel

Pincode

410208

Person Name

Deepak Pande

Designation

Senior General Manager - EHS

Telephone Number

2267684221

Fax Number

2227411401

Email

deepak.pande@dfpcl.com

Region

SRO-Taloja

Industry Category

Red

Industry Type

R25 Basic chemicals and electro chemicals and its derivatives including manufacturing of acid

Last Environmental statement submitted online

yes

Consent Number

BO/CAC-Cell/UAN No.
0000013159/7thCAC/1702000537-A

Consent Issue Date

01-09-2017

Consent Valid Upto

30-09-2020

Product Information

Product Name

| Product Name | Consent Quantity | Actual Quantity | UOM |
|---|------------------|-----------------|------|
| Ammonia | 140400 | 66534 | MT/A |
| Weak Nitric Acid (WNA) | 445500 | 339153 | MT/A |
| Methanol | 99996 | 7092 | MT/A |
| Concentrated Nitric Acid (CNA) | 129600 | 114696 | MT/A |
| Multiple grade NPK fertiliser | 600000 | 253494 | MT/A |
| "Tech. Gr. Ammonium Nitrate" plus Ammonium Nitrate Melt | 444000 | 332180 | MT/A |
| Liquid Carbon Dioxide (CO2) | 72000 | 23881 | MT/A |
| Iso Propyl Alcohol (IPA) | 70200 | 58693 | MT/A |
| Iso Propyl Alcohol (For drum filling operation) | 15000 | 13776 | MT/A |
| Di Iso Propyl Ether (DIPE for drum filling operation) | 15000 | 2827 | MT/A |
| Bentonite Sulphur Pastilles | 25000 | 14692 | MT/A |

By-product Information

| By Product Name | Consent Quantity | Actual Quantity | UOM |
|------------------------|-------------------------|------------------------|------------|
| Propane | 33000 | 12464 | MT/A |
| Calcium Phosphate | 210 | 41.68 | MT/A |
| Crude DIPE | 1440 | 0 | MT/A |
| Hydrogen gas | 960 | 58 | MT/A |
| Crude IPA/NPA Mixture | 1080 | 0 | MT/A |

1) Water Consumption in m3/day

| Water Consumption for Process | Consent Quantity in m3/day | Actual Quantity in m3/day |
|--------------------------------------|-----------------------------------|----------------------------------|
| Cooling | 18813 | 8426 |
| Domestic | 172 | 96 |
| All others | 0 | 0 |
| Total | 21355 | 10225 |

1) Effluent Generation in CMD / MLD

| Particulars | Consent Quantity | Actual Quantity | UOM |
|---|-------------------------|------------------------|------------|
| Daily Qty of treated effluent (Plot K-1 & K-8 ETP) - Consented Quantity is including Sewage | 4131.78 | 2737 | CMD |

2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

| Name of Products (Production) | During the Previous financial Year | During the current Financial year | UOM |
|---|---|--|------------|
| Ammonia | 7.103 | 7.855 | Ton/Ton |
| Weak Nitric Acid (WNA) | 2.787 | 3.077 | Ton/Ton |
| Methanol | 0 | 9.175 | Ton/Ton |
| Concentrated Nitric Acid (CNA) | 1.504 | 1.6 | Ton/Ton |
| "Tech. Gr. Ammonium Nitrate" plus Ammonium Nitrate Melt | 0.485 | 0.574 | Ton/Ton |
| Multiple Grade NPK fertilizer | 0.154 | 0.476 | Ton/Ton |
| Liquid Carbon Dioxide (CO2) | 1.212 | 1.102 | Ton/Ton |
| Iso Propyl Alcohol (IPA) | 12.683 | 14.298 | Ton/Ton |
| Bentonite Sulphur pastilles | 0 | 0 | Ton/Ton |

3) Raw Material Consumption (Consumption of raw material per unit of product)

| Name of Raw Materials | During the Previous financial Year | During the current Financial year | UOM |
|---|---|--|------------|
| Natural gas for Ammonia (SM3/MT) | 1032.168 | 1038.86 | Ton/Ton |
| Natural gas for Methanol (SM3/MT) | 0 | 924.47 | Ton/Ton |
| Ammonia for WNA | 0.291 | 0.291 | Ton/Ton |
| WNA for CNA | 0.994 | 0.997 | Ton/Ton |
| RGP for IPA | 1.221 | 1.169 | Ton/Ton |
| Ammonia for "Tech. Gr. Ammonium Nitrate" plus Ammonium Nitrate Melt | 0.217 | 0.217 | Ton/Ton |
| WNA for "Tech. Gr. Ammonium Nitrate" plus Ammonium Nitrate Melt | 0.802 | 0.801 | Ton/Ton |
| Ammonia for Multiple grade NPK fertilizer | 0.191 | 0.192 | Ton/Ton |

| | | | |
|---|-------|-------|---------|
| WNA for Multiple grade NPK fertilizer | 0.421 | 0.424 | Ton/Ton |
| Phosphoric Acid for Multiple grade NPK fertilizer | 0.243 | 0.243 | Ton/Ton |
| Sulphuric Acid for Multiple grade NPK fertilizer | 0.060 | 0.063 | Ton/Ton |
| Sulphur for Bentonite Sulphur pastilles | 0.922 | 0.919 | Ton/Ton |
| Bentonite for Bentonite Sulphur pastilles | 0.095 | 0.096 | Ton/Ton |
| Additive for Ammonium Nitrate Prills | 0.477 | 0.647 | Ton/Ton |
| Coating Agent for Ammonium Nitrate Prills | 0.001 | 0.002 | Ton/Ton |

4) Fuel Consumption

| Fuel Name | Consent quantity | Actual Quantity | UOM |
|---|-------------------------|------------------------|------------|
| Natural Gas | 171599.205 | 112419.845 | MT/A |
| HSD (High Speed Diesel) at Plot K-1 & K-8 | 5110 | 33.81 | KL/A |

Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

[A] Water

| Pollutants Detail | Quantity of Pollutants discharged (kL/day) | Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour | Percentage of variation from prescribed standards with reasons | Standard | Reason |
|---------------------------------|---|---|---|-----------------|---------------|
| | Quantity | Concentration | %variation | | |
| pH | 7.47 | 7.47 | 0 | 6.0 to 8.5 | NA |
| Suspended Solids | 128.67 | 55 | 0 | 100 ppm | NA |
| Biological Oxygen Demand (BOD) | 97.97 | 46.65 | 0 | 100 ppm | NA |
| Chemical Oxygen Demand (COD) | 338.04 | 149.85 | 0 | 250 ppm | NA |
| Oil & Grease | 2.91 | 1.16 | 0 | 10 ppm | NA |
| Total Dissolved Solids (TDS) | 4087.80 | 1547.46 | 0 | 2100 ppm | NA |
| Ammonical Nitrogen | 54.42 | 19.67 | 0 | 50 ppm | NA |
| Dissolved Phosphate | 9.11 | 2.25 | 0 | 5 ppm | NA |
| Total Kjeldahl's Nitrogen (TKN) | 72.78 | 27.51 | 0 | 100 ppm | NA |
| Nitrate Nitrogen | 17.73 | 4.03 | 0 | 20 ppm | NA |

[B] Air (Stack)

| Pollutants Detail | Quantity of Pollutants discharged (kL/day) | Concentration of Pollutants discharged(Mg/NM3) | Percentage of variation from prescribed standards with reasons | Standard | Reason |
|------------------------------------|---|---|---|-----------------|---------------|
| | Quantity | Concentration | %variation | | |
| 1. Ammonia Primary Reformer (SO2) | 1.72 | 4.40 | 0 | 100 ppm | NA |
| 1. Ammonia Primary Reformer (NOx) | 2.53 | 7.5 | 0 | 50 ppm | NA |
| 1. Ammonia Primary Reformer (NH3) | 0.261 | 17.1 | 0 | 50 ppm | NA |
| 2. Boiler A/B (NOx) | 5.78 | 14.07 | 0 | 50 | NA |
| 3. Methanol Primary Reformer (NOx) | 0 | 0 | 0 | 50 ppm | NA |
| 4. CNA Plant (NOx) | 6.95 | 16.28 | 0 | 50 ppm | NA |
| 5. WNA-1 Plant (NOx) | 0.02 | 20.7 | 0 | 3 Kg/MT of WNA | NA |
| 6. WNA-II Plant (NOx) | 0.014 | 19.6 | 0 | 3 Kg/MT of WNA | NA |

| | | | | | |
|---|--------|-------|---|----------------|----|
| 7. WNA-III Plant (NOx) | 0.019 | 19.5 | 0 | 3 Kg/MT of WNA | NA |
| 8. WNA-IV Plant (NOx) | 0.015 | 21.2 | 0 | 3 Kg/MT of WNA | NA |
| 9. ANP Prilling Tower (TPM) | 44 | 49.5 | 0 | 150 mg/NM3 | NA |
| 9. ANP Prilling Tower (NOx) | 9.13 | 10.25 | 0 | 50 ppm | NA |
| 9. ANP Prilling Tower (NH3) | 0.072 | 4.7 | 0 | 50 ppm | NA |
| 10. LDAN Prilling Tower (TPM) | 44.9 | 59.3 | 0 | 150 mg/NM3 | NA |
| 10. LDAN Prilling Tower (NOx) | 6.7 | 9.05 | 0 | 50 ppm | NA |
| 10. LDAN Prilling Tower (NH3) | 0.084 | 5.5 | 0 | 50 ppm | NA |
| 11. ANP Cyclone Separator (TPM) | 62.2 | 64.5 | 0 | 150 mg/Nm3 | NA |
| 11. ANP Cyclone Separator (NOx) | 11.9 | 9.1 | 0 | 50 ppm | NA |
| 11. ANP Cyclone Separator (NH3) | 0.16 | 10.4 | 0 | 50 ppm | NA |
| 12. ANP Vacuum Pump (TPM) | 1.63 | 54.15 | 0 | 150 mg/Nm3 | NA |
| 12. ANP Vacuum Pump (NOx) | 0.3 | 10.25 | 0 | 50 ppm | NA |
| 12. ANP Vacuum Pump (NH3) | 0.075 | 4.95 | 0 | 50 ppm | NA |
| 13. LDAN Venturi Scrubber (TPM) | 60.84 | 54.75 | 0 | 150 mg/Nm3 | NA |
| 13. LDAN Venturi Scrubber (NOx) | 8.43 | 10.5 | 0 | 50 ppm | NA |
| 13. LDAN Venturi Scrubber (NH3) | 0.11 | 7.15 | 0 | 50 ppm | NA |
| 14. Boiler - C (NOx) | 0 | 0 | 0 | 50 ppm | NA |
| 15. Boiler D (NOx) | 6.3 | 13.77 | 0 | 50 ppm | NA |
| 15. Boiler - D (SO2) | 0 | 0 | 0 | 50 ppm | NA |
| 16. CES-A Engine Exhaust Boiler (NOx) | 6.1 | 13.6 | 0 | 50 ppm | NA |
| 16. CES-A Engine Exhaust Boiler (SO2) | 0 | 0 | 0 | 50 ppm | NA |
| 17. CES-B Engine Exhaust Boiler (NOx) | 5.05 | 13.7 | 0 | 50 ppm | NA |
| 17. CES-B Engine Exhaust Boiler (SO2) | 0 | 0 | 0 | 50 ppm | NA |
| 18. CO2 Liquifier (CO2) | 0.14 | 17.2 | 0 | 100 ppm | NA |
| 19. CO2 Stripper (CO2) | 0.13 | 16.02 | 0 | 100 ppm | NA |
| 20. CO2 Combined (CO2) | 0.13 | 15.7 | 0 | 100 ppm | NA |
| 21 & 22 HRSG-1 (NOx) | 4.69 | 8.94 | 0 | 50 ppm | NA |
| 21 & 22 HRSG-1 (SO2) | 0 | 0 | 0 | 50 ppm | NA |
| 23 & 24 HRSG-2 (NOx) | 5.03 | 8.25 | 0 | 50 ppm | NA |
| 23 & 24 HRSG-2 (SO2) | 0 | 0 | 0 | 50 ppm | NA |
| 25 & 26 HRSG-3 (NOx) | 22.94 | 13.07 | 0 | 50 ppm | NA |
| 25 & 26 HRSG-3 (SOx) | 0 | 0 | 0 | 50 ppm | NA |
| 27 & 28 HRSG-4 (NOx) | 21.28 | 11.5 | 0 | 50 ppm | NA |
| 27 & 28 HRSG-4 (SOx) | 0 | 0 | 0 | 50 ppm | NA |
| 29 & 30 HRSG-5 (NOx) | 20.8 | 16.5 | 0 | 50 ppm | NA |
| 29 & 30 HRSG-5 (SOx) | 0 | 0 | 0 | 50 ppm | NA |
| 31. G P Vent (TPM) | 9.1 | 58.7 | 0 | 150 mg/Nm3 | NA |
| 31. G P Vent (NOx) | 1.74 | 10.4 | 0 | 50 ppm | NA |
| 32. 780 Weak Nitric Acid Plant (NOx-Kg/MT of WNA) | 0.0013 | 12.68 | 0 | 3 Kg/MT of WNA | NA |

| | | | | | |
|--|-------|-------|---|-------------|----|
| 32. 780 Weak Nitric Acid Plant(NH3 Kg/Hr) | 1.18 | 25.83 | 0 | 3 Kg/Hr | NA |
| 33. 600 TPD LDAN Prilling Tower (TPM) | 67.55 | 35.25 | 0 | 150 mg/NM3 | NA |
| 33. 600 TPD LDAN Prilling Tower (NOx) | 46.98 | 10.05 | 0 | 50 ppm | NA |
| 33. 600 TPD LDAN Prilling Tower (NH3) | 34.23 | 25.70 | 0 | 50 ppm | NA |
| 34. 300 TPD HDAN Scrubber (TPM) | 54.19 | 33 | 0 | 150 mg/ Nm3 | NA |
| 34. 300 TPD HDAN Scrubber (NOx) | 39.21 | 12.75 | 0 | 50 ppm | NA |
| 34. 300 TPD HDAN Scrubber (NH3) | 32.65 | 28.60 | 0 | 50 ppm | NA |
| 35. 300 TPD HDAN Prilling Tower (TPM) | 57.57 | 35.93 | 0 | 150 mg/Nm3 | NA |
| 35. 300 TPD HDAN Prilling Tower (NOx) | 38.76 | 12.85 | 0 | 50 ppm | NA |
| 35. 300 TPD HDAN Prilling Tower (NH3) | 31.22 | 28 | 0 | 50 ppm | NA |
| 36 & 37. 40 & 15 TPH Boiler (SOx) | 0 | 0 | 0 | 50 ppm | NA |
| 36 & 37. 40 & 15 TPH Boiler (NOx) | 43.1 | 12.8 | 0 | 50 ppm | NA |
| 38. Pastillator (TPM) | 0.10 | 11.8 | 0 | 150 mg/Nm3 | NA |
| 38. Pastillator (SOx) | 0.19 | 5.5 | 0 | 50 ppm | NA |
| 39. Batch and feed Tank (TPM) | 0.06 | 15.4 | 0 | 150 mg/Nm3 | NA |
| 39. Batch and feed Tank (SOx) | 0.27 | 9.5 | 0 | 50 ppm | NA |
| 40. DG Set (500 KVA x 2 Nos) Ammonia and WNA Plant (TPM) | 0.89 | 71.75 | 0 | 150 mg/Nm3 | NA |
| 40. DG Set (500 KVA x 2 Nos) Ammonia and WNA Plant (NOx) | 3.08 | 9.5 | 0 | 50 ppm | NA |
| 41. DG Sets (1000 KVA x 2 Nos - Methanol and ANP Plant (TPM) | 1.54 | 88.95 | 0 | 150 mg/Nm3 | NA |
| 41. DG Sets (1000 KVA x 2 Nos - Methanol and ANP Plant (NOx) | 2.95 | 9.1 | 0 | 50 ppm | NA |
| 42. DG Set - 200 KVA -IPA Plant (TPM) | 0.75 | 57.05 | 0 | 150 mg/Nm3 | NA |
| 42. DG Set - 200 KVA -IPA Plant (NOx) | 2.63 | 9.35 | 0 | 50 ppm | NA |
| 43. DG Set - 1500 KVA (TPM) | 0.62 | 50 | 0 | 150 mg/Nm3 | NA |
| 43. DG Set - 1500 KVA (NOx) | 0.26 | 11.15 | 0 | 50 ppm | NA |
| 43. DG Set - 1500 KVA (SOx) | 1.32 | 41.05 | 0 | 50 ppm | NA |
| 46. NPK Process Stacks - 02 Nos) (TP M) | 83.48 | 11.7 | 0 | 150 mg/Nm3 | NA |
| 46. NPK Process Stacks - 02 Nos) (NOx) | 113.4 | 8.5 | 0 | 50 ppm | NA |
| 46. NPK Process Stacks - 02 Nos) (NH3) | 0.22 | 12.4 | 0 | 50 ppm | NA |

HAZARDOUS WASTES

1) From Process

| Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM |
|---|---|--|------------|
| 5.1 Used /spent oil | 71.9 | 52.75 | KL/A |
| 5.2 Wastes/residue containing oil | 0.173 | 0.16 | MT/A |
| 18.1 Spent catalyst | 5.07 | 46.42 | MT/A |
| 31.1 Residues and wastes* | 12.91 | 11.78 | MT/A |
| 33.3 Discarded containers / barrels / liner | 21 | 3.71 | MT/A |
| 5.2 Wastes/residue containing oil | 20 | 0 | Nos./Y |

2) From Pollution Control Facilities

| Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM |
|----------------------|--------------------------------------|-------------------------------------|------|
| 0 | 0 | 0 | MT/A |

SOLID WASTES

1) From Process

| Non Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM |
|--------------------------|--------------------------------------|-------------------------------------|------|
| NA | 0 | 0 | MT/A |

2) From Pollution Control Facilities

| Non Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM |
|--------------------------|--------------------------------------|-------------------------------------|------|
| NA | 0 | 0 | MT/A |

3) Quantity Recycled or Re-utilized within the unit

| Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM |
|------------|--------------------------------------|-------------------------------------|------|
| 0 | 0 | 0 | MT/A |

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) Hazardous Waste

| Type of Hazardous Waste Generated | Qty of Hazardous Waste | UOM | Concentration of Hazardous Waste |
|---|------------------------|------|----------------------------------|
| 5.1 Used /spent oil | 52.75 | KL/A | NA |
| 5.2 Wastes/residue containing oil | 0.16 | MT/A | NA |
| 18.1 Spent catalyst | 46.42 | MT/A | NA |
| 31.1 Residues and wastes* | 11.78 | MT/A | NA |
| 33.3 Discarded containers / barrels / liner | 3.71 | MT/A | NA |

2) Solid Waste

| Type of Solid Waste Generated | Qty of Solid Waste | UOM | Concentration of Solid Waste |
|-------------------------------|--------------------|------|------------------------------|
| NA | NA | MT/A | NA |

Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.

| Description | Reduction in Water Consumption (M3/day) | Reduction in Fuel & Solvent Consumption (KL/day) | Reduction in Raw Material (Kg) | Reduction in Power Consumption (KWH) | Capital Investment(in Lacs) | Reduction in Maintenance(in Lacs) |
|-------------|---|--|--------------------------------|--------------------------------------|-----------------------------|-----------------------------------|
| NA | NA | NA | NA | NA | NA | NA |

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

[A] Investment made during the period of Environmental Statement

| Detail of measures for Environmental Protection | Environmental Protection Measures | Capital Investment (Lacks) |
|--|---|----------------------------|
| Plantation of 5000 Saplings for Green Belt Development | Tree Plantation in the Premises & MIDC | 5.0 |
| AMC for Online Emission & Effluent Quality Monitoring System | Operating AMC Cost for Continuous Monitoring of Emission & Effluent Quality Parameters. | 3.90 |

[B] Investment Proposed for next Year

| <i>Detail of measures for Environmental Protection</i> | <i>Environmental Protection Measures</i> | <i>Capital Investment (Lacks)</i> |
|---|---|--|
| Plantation of 5000 Saplings in the premises & MIDC | Tree Plantation | 5.0 |
| Provision of Cameras at Plot K-1 & K-8 ETPs | For continuous monitoring of Effluent parameters. | 6.0 |

Any other particulars in respect of environmental protection and abatement of pollution.

Particulars

NA

Name & Designation

Deepak Pande - Senior General Manager (EHS)