



मंगलूर रिफाइनरी एण्ड पेट्रोकेमिकल्स लिमिटेड
MANGALORE REFINERY AND PETROCHEMICALS LIMITED

अनुसूची 'अ' के अंतर्गत भारत सरकार का उद्यम, SCHEDULE 'A' GOVT. OF INDIA ENTERPRISE.
(ऑयल एण्ड नेचुरल गैस कॉर्पोरेशन लिमिटेड की सहायक कंपनी, A SUBSIDIARY OF OIL AND NATURAL GAS CORPORATION LIMITED)
आई.एस.ओ. 9001, 14001 एवं 50001 प्रमाणित कंपनी, AN ISO 9001, 14001 AND 50001 CERTIFIED COMPANY.
सीआईएन/CIN : L23209KA1988GOI008959 / वेबसाइट Website : www.mrpl.co.in

L/MS/KSPCB/7639
21st September, 2024

The Member Secretary
Karnataka Pollution Control Board
No. 49, Parisara Bhavan
Church Street
Bangalore – 560 001

Dear Sir,

**विषय SUB: - Submission of Environment Statement (Form-V) for the year 2023 – 24
for Aromatic Complex**

We are enclosing herewith the Environmental Statement (Form - V) for the year 2023-24 pertaining to Consent Order issued by the Board for Aromatic Complex.

धन्यवाद Thanking you,

Yours sincerely,

For Mangalore Refinery & Petrochemicals Limited,

M.S. Sudarsan
23.9.24
M.S. Sudarsan
Chief General Manager (Health, Safety and Environment)

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Encl: As above

Cc: EO, KSPCB, Mangalore

FORM - V

(See Rule - 14)

Environmental Statement for the financial year ending with 31st March 2024 for Aromatic Complex

PART-A

- (i) Name and address of the owner / occupier of the industry, operation or process:

Mundkur Shyamprasad Kamath
Managing Director (MD)
Mangalore Refinery and Petrochemicals Limited,
Aromatic Complex, MSEZ, Permude, Mangalore – 574 509

- (ii) Industry category

Red Category (Code: 1004)

- (iii) Processing Capacity:

Product: Paraxylene – 18,821 MT
Co-product: Benzene: 1,30940 MT
Byproduct:
1. Hydrogen: 26,889 MT
2. LPG (DECBL) – 28,749 MT
3. Paraffins stream (raffinate)- 0
4. Aromatic Stream – 956 MT
5. Fuel Gas (Internal consumption) – 55,649 MT

Intermediate: Reformate –8,30,875 MT
Drag Stream -12,458 MT

- (iv) Year of Establishment: 1st October 2014 plant was commissioned.
(v) Date of the Last Environmental Statement: 26th September 2023

PART -B

Water and Raw Material Consumption

- (i) Water consumption: 173 m³/hr (Average)
a) Cooling: 39 m³/hr

- b) Domestic: 1.2 m³/hr
- c) Fire water and others: 38.8 m³/hr
- d) Boiler feed: 89 m³/hr
- e) Gardening: 5 m³/hr

Name of Products	Water consumption per unit of Products	
	During the previous Financial Year (2022-2023)	During the current Financial Year (2023-2024)
Paraxylene (Co-product Benzene, By-products such as Hydrogen, Paraffinic Stream (Raffinate) and Intermediate Reformate are produced)	2.76 m ³ /MT	1.44 m ³ /MT

(ii) Raw material consumption

Name of raw materials	Name of Products	Consumption of raw material per unit of output	
		During the Previous Financial Year (2022-2023)	During the current Financial Year (2023-2024)
Naphtha 1. Straight run heavy naphtha, coker naphtha & PFCC naphtha 2. Light reformate+A7 rich stream 3. Mixed xylene stream & A9 rich stream	Paraxylene (Co-product Benzene, by-product such as Hydrogen, Paraffinic stream (Raffinate) and Intermediate reformate are produced)	1.4 MT/MT	1.06 MT/MT

PART-C

Pollution discharged to Environment/unit of output

Pollutants	Quantity of Pollutants discharged (mass/day)		Concentration of Pollutants discharged (mass/volume)			Percentage of variation from prescribed standards with reasons.
	kg/day		mg/l			
	Parameter	Actual	Parameter	Actual	CFO limit	
(a) Water	BOD	14.1	BOD	16.4	30	-
	COD	68.0	COD	78.7	125	-
	TSS	25.4	TSS	29.5	100	-
	Phenol	-	Phenol	BDL	0.35	-
	Sulphide	-	Sulphide	BDL	2	-
	Total Chromium	-	Total Chromium	BDL	2	-
	Chromium (hexa)	-	Hexavalent Chromium	BDL	0.1	-
	Flouride	-	Fluoride	BDL	1	-
	Cyanide	-	Cyanide	BDL	0.2	
(b) Air	SOx	Actual	1680	-		-
		CFO limit	13680			

PART-D

Hazardous Waste

Hazardous Waste	Category as per HWM Amendment rules 2016	Total Quantity (in MT) Generated during the Financial year 2022-23	Total Quantity (in MT) Generated during the Financial year 2023-24
From process			
1. Used Oil	5.1	3.14 MT (Handover to Authorized Recyclers)	NIL
2. Empty barrels/ Containers	33.1	27.86 MT (Hand over to Authorized Recyclers)	11 MT (Handover to Authorized Recyclers)

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3. Spent Clay	4.5	154.6 MT (Handover to co-processing Cement kiln)	72.79 MT (Handover to co-processing Cement kiln)
4. Spent Catalyst	1.6/4.2	226.79 MT (in-house usage as catalyst guard, Handover to co-processing Cement kiln / Authorized Recyclers)	63.42 MT (in-house usage as catalyst guard, Handover to co-processing Cement kiln / Authorized Recyclers)
5. Spent ion exchange resin (& Spent Activated Carbon inclusive)	35.2	NIL	NIL
6. Furnace/ reactor residue & Debris	1.1	24.9 MT (Disposal to Authorized Co-Processing Cement kiln)	17.1 MT (Disposal to Authorized Co-Processing Cement kiln)
7. Spent Solvent	20.2	68.9 MT (Disposal to Authorized Co-processing Cement kiln)	74.1 MT (Disposal to Authorized Co-processing Cement kiln)
8. Wastes or residues containing oil	5.2	0.265 MT (Disposal to Authorized Co-processing Cement kiln/Incineration in Common HW Incinerators)	0.55 MT (Disposal to Authorized Co-processing Cement kiln/Incineration in Common HW Incinerators)
9. Chemical Sludge	35.3	34.5 MT (Disposal to Authorized Co-processing Cement kiln)	19.795 MT (Disposal to Authorized Co-processing Cement kiln)

Part-E

Solid Wastes:

Solid Wastes	Total Quantity (MT) During the Financial year (2022-23)	Total Quantity (KG) During the Financial year (2023-24)
a. From process/ generated in plant	Iron & steel Scrap – 23 MT Glass bottles – 403 no's Plastic bottles – 279 no's	Iron & steel Scrap – 45 MT Glass bottles – NIL Plastic scraps – 4.5 MT
b. From pollution control	Nil	Nil

facilities		
C. Quantity Recycled or reutilized within the unit	Nil	4.84 MT Activated Carbon 11.3 MT Spent Catalyst

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

Around 634.57 MT of hazardous waste is being disposed of to the Cement Industry.

And around 104.5 MT of hazardous waste is being disposed to KSPCB Authorized recycler.

Part – G

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

1. Water Audit is carried out across the Aromatic Complex for proper management of scarce water resources
2. Effluent Pre-Treatment Plant (EPTP) consisting of Steam Stripping column and Activated Carbon adsorption system to prevent benzene beyond 10 ppm & total aromatics 20 ppm entering ETP as notified by the MoEF&CC.
3. Commitment to water & resource conservation through the operation of condensate recovery and polishing system for condensed steam recovery & reuse from the process units on regular basis carried out
4. 10 numbers of Oil Catchers are provided at aromatic complex.
5. Process equipment Vents are provided with Knock Out drums to recover valuable resources and to bring down emissions. Recovered oil is reused in the process system.
6. Hydrocarbon storage tanks are Internal Floating Roof Tanks (IFRT) with N₂ blanketing and double seals. Double seals reduce emission to 99.9 % compared to fixed roof tanks

Part – H

Additional measures/investment proposal for Environmental protection including abatement of pollution

Amount spent for Environment protection for 2024-25 as below,

Sl. No.	Description	Cost (Lakh (L))
1	Environment Monitoring	26.8
2	Hazardous Waste Disposal to Co-processing Cement Industries	48.0
3	Marine Outfall Discharge	20.0
4	Annual Maintenance contract for analyzer	10.8
5	Annual Maintenance contract for Gas detectors	9.2
6	Data Publishing to CPCB portal	4.1
7	Greenbelt survey at Aromatic Complex	5.0

Part – I

Miscellaneous

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

Expenditure details for Environmental Protection during 2023-2024

Sl. No.	Description	Cost (Lakh (L))
1	Environment Monitoring	11.6
2	Hazardous Waste Disposal to Co-processing Cement Industries	50.69
3	Marine Outfall Discharge	16.0
4	Annual Maintenance contract for analyzer	9.71
5	Annual Maintenance contract for Gas detectors	8.32
6	Data Publishing to CPCB portal	0.96

1. Ambient air quality is being monitored at 5 locations in and around the aromatic complex for all the parameters stipulated in MoEF Notification 2009.
2. Online analyzers are installed in flue gas stacks for monitoring SO₂, NO_x, CO & PM analysers.
3. Manual stack monitoring and VOC emission survey is being carried out.

4. Noise level Monitoring is being carried out at aromatic complex.
5. Ground water & open well water quality is being monitored in and around the aromatic complex.

M.S. Sreedharan
23.9.24
Signature of the occupier
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