



BPCL/MPPCB/Consents/2025/13

Date: 22/09/2025

To,
Member Secretary,
M.P. Pollution Control Board,
E-5, Arera Colony, Paryavaran Parisar,
BHOPAL – 462 016 (MP)

SUB: Submission of Form-V for the year 2024-25 under Environmental (Protection) Rules, 1986.

REF: 1. Consent No: AW-58847 dated 05/09/2023
2. Hazardous waste authorization No AWH-60739 dated 22/07/2024

Dear Sir,

With reference to the above, please find enclosed herewith the Environmental Statement in the prescribed Form-V for the period from 1st April, 2024 to 31st March, 2025 as required under "The Environment (Protection) Rules, 1986.

Thanking You,

Yours Faithfully,
For Bharat Petroleum Corporation Limited,


(Anil T Medhe)

General Manager – Health, Safety & Environment

Encl: as above

Copy to: Regional Office, M.P. Pollution Control Board, Sagar.

FORM V**ENVIRONMENTAL STATEMENT for the financial year ending March 31, 2025****PART-A**

- (i) Name and Address: Anil T Medhe
General Manager
Bharat Petroleum Corporation Limited,
Administrative Building, Refinery Complex
Post BPCL Residential Complex, Bina - 470124
Dist. Sagar (MP), India
- (ii) Industry Category: Petroleum Refinery
- (iii) Production Capacity: 7.8 Million Metric Tons per annum of Crude Processing (installed capacity)
- (iv) Year of Establishment: Commissioned on 30th June 2011
- (v) Date of last Environmental Statement: 30th Aug 2024
Report submitted

PART – B**WATER AND RAW MATERIAL CONSUMPTION****(i) Water Consumption**

S. No	Water Consumption	2023-24 (m ³ / day)	2024-25 (m ³ / day)
1	Process	2377	2629
2	Cooling	18873	16572
3	Domestic	2224	2304

S. No	Name of Products	Process water consumption in m ³ /ton of crude processed	
		2023-24	2024-25
1	LPG	0.114	0.117
2	Naphtha		
3	MS BS IV		
4	MS BS VI		
5	SKO		
6	ATF		
7	HSD BS IV		
8	HSD BS VI		
9	Sulphur		
10	Pet coke		

(ii) Raw Material Consumption

Name of Raw Materials	Name of Products	Consumption of raw material per unit of output	
		2023-24	2024-25
Crude Oil	LPG	1.06	1.07
	Naphtha		
	MS BS IV		
	MS BS VI		
	SKO		
	ATF		
	HSD BS IV		
	HSD BS VI		
	Sulphur		
	Pet coke		

PART-C

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

WATER**a) Treated Industrial Effluent:**

S. No	Pollutants	Quantity of pollution discharged (Kg/day)		Concentrations of pollutants in discharges (mg/Liter) except pH		Percentage of variation from prescribed standards with reasons
		Actual	Limit	Actual	Limit	
1	pH	-	-	7.74	6-8.5	100% Compliance
2	Oil & Grease	17	36.84	2.6	5	
3	BOD ₃ at 27°	77	110.52	12	15	
4	COD	386	921	60	125	
5	TSS	103	147.36	16	20	
6	Phenols	ND	2.578	ND	0.35	
7	Sulfides	0	3.68	0.15	0.5	

Note: The results depicted above are of ETP Treated water, treated effluents from ETP are recycled to RO-DM Plant. Balance treated effluent is being utilized for green belt development inside refinery. BPCL- Bina Refinery is maintaining Zero Liquid Discharge.



b) Treated Domestic Sewage of Township:

S. No	Pollutants	Quantity of pollution discharged (Kg/day)		Concentrations of pollutants in discharges (mg/Liter) except pH		Percentage of variation from prescribed standards with reasons
		Actual	MPPCB Limit	Actual	MPPCB Limit	
1	pH	-	-	7.5	6.5-9	100% Compliance
2	BOD ₃ at 27°C	-	33	7	30	
3	TSS	-	110	23	100	
4	Fecal coliform (MPN/100ml)	344	<1000	-	-	

Note: The results depicted above are of STP Treated water, treated effluents are utilized for green belt development. Bina Refinery is maintaining Zero Liquid Discharge.

AIR

Stack Emissions:

S. No	Pollutants	Avg. Concentrations of pollutants in discharges (mg/NM ³)		Percentage of variation from prescribed standards with reasons
		Actual	Limit (Avg.)	
1	Oxides of Sulfur (SO ₂)	190	291	100% Compliance
2	Oxides of Nitrogen (NO _x)	201	309	
3	Particulate Matter (PM)	9.9	22	
4	Carbon Monoxide (CO)	13.2	107	

PART-D

Hazardous Wastes

[as specified under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008] Hazardous Wastes	Total Quantity (KG)	
	2023-24	2024-25
a) From Process	Spent Catalyst (4.2) = 272.97 MT Spent Clay (4.5) = 164.26MT Wastes or residues containing oil (5.2) = 2.29MT Spent Ion exchange resin (35.2) = 6MT	Spent Catalyst (4.2) = 580.81 MT Spent Clay (4.5) = 60.23 MT Wastes or residues containing oil (5.2) = 2.31 MT Spent Ion exchange resin (35.2) = 13.36MT Empty barrels/containers/liners contaminated with hazardous chemicals/wastes (33.1) = 17.7MT

b) From Pollution Control Facilities	*Slop Oil (4.3) = 7404.7MT *Oily sludge or emulsion (4.1) = 204.4MT	*Slop Oil (4.3) = 4994 MT *Oily sludge or emulsion (4.1) = 213.17 MT Glasswool (X-X02) = 10.06 MT
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Note: *

1. Oily sludge generated is recycled to Delayed Coker Unit.
2. Slop Oil recovered from the ETP is reprocessed along with crude oil in refinery.

PART-E

Solid Wastes

Solid Wastes	Total Quantity (kg)	
	2023-24	2024-25
a) From Process	Nil	Nil
b) From Pollution Control Facilities	111192000	112149000
c) 1. Quantity recycled or re-utilized within the unit	Nil	Nil
2. Sold	111192000	112149000
3. Disposed	Nil	Nil

PART-F

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

During the year 2024-25, the following hazardous and solid waste are generated. All the generated hazardous wastes are collected, transported and sold to authorized recyclers as per the Hazardous and Other Wastes (Management & Handling) Rules, 2016

1. Spent Catalyst of 580.81MT (including drum weight) was generated from process units.
2. Oily sludge of 213.17MT was recycled through Delayed Coker Unit.
3. Slop & used oil generated from the units and oil recovered from the Effluent treatment plant was recycled and processed along with crude oil in refinery.
4. Approximately 1,12,149 MT of fly-ash was generated, and 1,12,149 MT of fly-ash was sold and utilized by industries for manufacturing of fly-ash based bricks and cement manufacturing.

PART-G

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

Various clean technologies are incorporated in Refinery design from the project conception itself. Adequate funds are earmarked in capital expenditure for implementation of environmental protection measures. Most of these have been incurred out of this total planned capital investment apart from operational & maintenance expenditure on these facilities. Some salient features of these measures are as follows:

- A modern Effluent Treatment Plant has been installed in the refinery. Advanced biological treatment in ETP ensures all effluents are suitably treated.
- Sulphur recovery block with tail gas treatment unit is provided to achieve 99.5% recovery.
- Use of Low Sulfur Fuels in Furnaces to reduce SO_x emission.
- Use of low NO_x burners in Furnaces to reduce NO_x emissions.
- Stacks of sufficient heights to ensure adequate dispersal of pollutants from furnaces.
- Noise silencers and acoustic barriers used in equipment's to ensure noise levels in the surrounding area within the prescribed limits.
- Floating roof tanks, including crude oil tanks are provided with primary and secondary seal to reduce fugitive emissions and provision of Double Mechanical Seals in Lighter H/C Pumps
- Close – Blow Down (CBD) system in offsite and process units to minimize VOC emission from the operations
- Green belt development of 200-meter width around the Refinery boundary for attenuation of fugitive emissions.
- Rainwater harvesting in township through percolation pits.
- Modification in Bearing cooling water supply system in refinery process units for reduction in water consumption.
- Refinery railway siding with wagon tippler was installed for direct coal receipt/unloading operation inside refinery.
- Drum type oil skimmers and oil containment booms for control of oil spills in surface water run-off.
- Installation of PM₁₀ & PM_{2.5} analyzers for all the four fixed ambient air quality monitoring stations and the mobile van to strengthen the monitoring infrastructure as per new national ambient air quality standards
- Installation of Dry Fog Dust Suppression system for dust control in coal unloading area in CPP
- Oil containment boom for control of oil spills in surface water runoff are installed.
- Oil skimmers for control of oil spills in surface water runoff are installed.
- Installation of view cutter for pet coke yard is completed for reduction of dust.
- Implementation of Rainwater harvesting pond in more than 12 acres area with artificial recharge pits for ground water recharge.

- Implementation of Real Time Emission Monitoring Systems – Additional analyzers such as Particulate Matter (PM) and Carbon Monoxide (CO) are installed in all the stacks in refinery for emission monitoring.
- Implementation of Real Time Effluent Monitoring Systems – Additional analyzers such as Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), pH and Suspended Solids (SS) are installed to monitor the quality of treated effluent.
- Extension of existing gray water network of around 3Km for reusing of treated water for greenbelt and lawns within refinery.
- Reuse of Storm water for fire water purposes thereby reducing the usage of Raw water.
- Ash Water Recycling System (AWRS) for recycling water from Ash Storage yard
- Procurement of floating oil skimmer for collection of oil spill if any.
- Installation of two additional CRWS tanks at ETP for collection and use of contaminated rainwater.
- Reusing treated water from ETP in coke cutting at DCU.

PART-H

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

- 1 lakh saplings were planted in 90 Ha Forest land in July, 2024.
- Memorandum of Understanding (MoU) was signed with Forest Department, Madhya Pradesh for development of greenbelt in 90ha Forest Land.
- Procurement of High-Volume Sampler for manual monitoring of ambient air quality as per National Ambient Air Quality Standards.
- Procurement of Integrated Sound pressure level meter for measuring sound levels as per the Noise Pollution (Regulation & Control) Rules 2000.
- Procurement of Flue Gas analyzers for flue gas monitoring from the stacks.
- Procurement of water quality monitoring equipment for water quality analysis like pH, TDS etc.,
- Procurement of Stack monitoring kit for manual monitoring of the emissions from Stacks
- Procurement of Ultrasonic Leak Detector for detecting Hydrocarbon leakages in the refinery.
- Procurement of portable VOC & Benzene monitor for VOC and Benzene leakage identification and control of fugitive emissions and for resource conservation.
- Procurement of portable cyclone incinerator for in-house incineration of hazardous material if any.
- Construction of an additional permanent shed for coal storage for dust control.
- Construction of Permanent Sulphur Storage Yard.
- Regular Leak Detection and Repair program (LDAR) for identification and control of fugitive emissions and for resource conservation.
- Monitoring of Oily sludge from the Effluent Treatment Plant regularly
- Construction of new pet coke yard with a drainage system provided for collection of pet coke fines.
- Construction of Vermi-Composting facility for converting food waste to organic manure.

- Two nos of weather monitoring stations are also installed for continuous weather monitoring.
- Installation of view cutter and water sprinkling systems completed at fly ash storage yard for dust minimization.
- Development of rainwater harvesting pond to collect the surface runoff and to recharge the ground water.
- Installation of Carbon filter at the inlet of RO feed for increasing the recycling of ETP water for DM water generation.
- Rooftop Rainwater Harvesting with ground water recharge pit has been created in C1-cluster within the township premises for conserving the rainwater
- Replacement of CS - SS pipeline to improve the Silt Density Index (SDI) in the RO feed.
- Installation of cooling tower blow down tank for maximization of recycling of blow down.
- Installation of photo-voltaic solar power plant of 4 MW capacity within BR premises.
- Installation of Solar Power based electric fencing to township boundary wall for security at township and refinery
- Construction of Hazardous storage shed for storage of hazardous waste.
- Installation of Organic Waste Converter (OWC) at residential township for making the organic manure.
- Installation of high-pressure pumps for utilization of gray water network for greenbelt.
- Installation of Blowdown Ring Compressor resulted in recovery of flare gas.
- Augmentation of Existing Sewage Treatment Plant from 500 KLD to 750 KLD in township.
- Installed solar power plant of 140 KW installed on admin building car parking area.
- Conventional light fittings in process units were replaced by LED light fittings, saving around 120 kW power
- Modifications in Electrostatic precipitator (ESP) have resulted in reduction of Particulate matter emissions at CPP.
- Implementation of closed loop sampling system for Pressurized Dome Roof tanks resulted in reduction of HC emissions & vapor cloud formation and nitrogen consumption.
- Installation of Advance oil containment booms at oil catchers within refinery.

PART-I

Any other particulars for improving the quality of the environment

- Continuous Ambient Air Monitoring Stations (CAAMS) (4 no's) are in operation to measure ground level concentration of SOx, NOx, HC, PM 10, PM 2.5 and CO etc. in ambient air. Third party monitoring is also being done on a regular basis.
- Raising the wall height of OWS pits which are prone to submerge during the heavy rains.
- The development of greenbelt started in a phased manner from the year 2008 onwards. During the period from 2008 to 2011, plantation work was carried out through Forest Development Corporation of Madhya Pradesh. From 2011 onwards, M/s IFFDC, a subsidiary of M/s IFFCO has been engaged in carrying out additional plantation work.
- As an effort to improve greenery in the villages around refinery, a tree plantation drive was undertaken in government schools close to refinery in par village. The saplings were

also provided with tree guards. The school students, teachers and children supported this initiative with their active participation.

- 200,000 Nos of trees are already planted in surrounding villages and Bina.
- Being an organization that has always been committed to the cause of a better environment in the global perspective, World Environment Day was celebrated with huge participation from all direct, indirect employees and township residents. In line with the theme, the focus was mainly on tree plantation drive in an effort to green the premises. Apart from tree plantation, many other awareness programs were conducted, like slogan, online quiz & awareness broadcasts were launched on the eve of World Environment Day 2020, with fixing posters with tips to spread awareness as per the theme among surrounding community, township residents and employees.
- BR organized a workshop on the benefits of fly ash as a material for brick making for promotion of brick plants in this region.
- BR published the availability of fly ash on local newspapers for encouraging the users and information on availability of fly ash
- Scheme implemented for reusing of Bearing Cooling Water (BCW) Return in RO-DM plant for reduction of freshwater consumption.
- Implementation of RWH system and recharge pit at cluster C1 & A2 in the residential township.
- During the year, under 'Project URVI', a water conservation initiative such as construction of check dams, dugout ponds, fields, bunding and soil conservation jobs were completed in nearby villages
- During the year 2024-25, 1,00,000 no's of plantation carried out within and outside of refinery.

