



इंडियन ऑयल कॉर्पोरेशन लिमिटेड

बोंगाइगॉव रिफाइनरी

डाकघर : धालीगॉव - 783 385

जिला : चिरांग (असम)

Indian Oil Corporation Limited

Bongaigaon Refinery

P.O. : Dhaligaon, Dist. : Chirang, Assam-783385

Phone : 03664-

E-mail :

Website : www.iocli.com FAX : 03664-



रिफाइनरी प्रभाग
Refineries Division

IOCL-BGR/HSE/ENV-ST/2022-23/01

Date: 08/09/2023

To,
The Member Secretary
Pollution Control Board, Assam
Bamunimaidam
Guwahati—781021
Assam

Subject: Environment Statement for the year 2022-23

Sir,

In accordance with the Environment Protection Act, 1986, we are herewith submitting the Environment Statement of Bongaigaon Refinery a unit of Indian Oil Corporation Ltd., in the format -V for the year 2022-23 for your perusal please.

Yours faithfully,

(Biman Gogoi)
Chief Manager (HSE)
Ph.No. 9435122647

Copy to:

- 1) The Regional Executive Engineer,
Regional Laboratory cum Office,
Pollution Control Board, Assam
Ratnawali Heights (1st Floor)
(Opposite: Birjhora HS School, Near B.Ed. College)
Bongaigaon-783380
- 2) The Regional Officer,
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, Guwahati,
4th Floor, House fed Building,
GS Road, Rukminigaon Guwahati-781022

FORM – V
(See rule 14)
Environmental Statement for the Financial Year ending 31.03.2023

PART – A

(i) Name and address of the Owner/Occupier of industry
Operation or process: Mr. Nayan Kumar Barua, CGM & Refinery Head.
Indian Oil Corporation Ltd. (Bongaigaon Refinery)
Dhaligaon, Dist. Chirang
ASSAM – 783385

(ii) Industry category: Primary (STC Code) -----
Secondary (SIC Code) -----

(iii) Production Capacity: Units

Refinery Units	Capacity	Technology	Year of Commissioning
Crude Distillation Unit-I (CDU-I)	1.35 MMTPA	EIL, India	1979
Crude Distillation Unit-II (CDU-II)	1.35 MMTPA	EIL, India	1995
Delayed Coking Unit-I (DCU-I)	0.5 MMTPA	EIL, India	1981
Delayed Coking Unit-II (DCU-II)	0.5 MMTPA	EIL, India	1996
Coke Calcinations Unit (CCU)	75,000 MTPA	EIL, India	1981(Not in operation)
LPG Bottling Plant	22,000 MTPA	EIL, India	2003
Catalytic Reformer Unit (CRU)	0.192 MMTPA (Naphtha processing)	AXENS, France	1985
Diesel Hydro Treatment Plant (DHDT)	1.80 MMTPA	IOCL R& D, EIL-Delhi	2011
HGU	30KTPA	Linde	2011
MS Quality Improvement Project	0.429 MMTPA	IOCL R& D and EIL	2011
IndMax	740KTPA	IOCL R& D and EIL	2020
IndMax Gasoline De-sulphurisation Unit (Prime G+)	312 KTPA	AXENS, France	2020
BS-VI: NHT Unit	0.235 MMTPA	IOCL R&D and EIL	2021
Sulphur Recovery Unit	10 TPD	IOCL R& D and EIL	2012
Sulphur Recovery Unit(New)	20 TPD	IOCL R& D and EIL	2022

*(MMTPA : Million Metric Ton Per Annum , TPD :Ton per Day,)

(iii) Year of establishment: 20.02.1974

(v) Date of submission of last Environmental statement: 09.09.2022

PART – B

1.11. Water consumption (M ³ /day)	2021-22	2022-23
Process	2008.5	2234.5
Boiler Feed Water	2344.9	2523.0
Cooling	162.8	301.53
Service Water	2436.2	1868.46
Domestic Water	5001.6	4947.49
Project Construction	283.7	270.44
Total Water Consumed	12237.7	12145.42

1. WATER AND RAW MATERIAL CONSUMPTION:

Name of products/ Raw materials	Process Water consumption per unit of product (Figures include process and service water consumption)	
	2021-22	2022-23
(i) Water consumed m ³ /T Crude processed	0.550	0.525
(ii) Water consumed m ³ /MWH power generated	1.18	1.16

Note:

1. The water consumption figures per MT of product include Process Water and proportionate Service Water consumption in units of the complex.
2. Service Water network in the complex caters to the water requirement for sanitary purpose, service/maintenance activities and cleaning, washing and chemical preparation activities in the complex.
3. Refinery Section consists of two Crude Distillation Units, two Delayed Coker Units and one Coke Calcinations Unit. Water consumption as per convention is expressed in terms of M³/Ton of Crude throughput.
4. Conventional Refinery Units produce multiple products and it is not possible to segregate product-wise water consumption.
5. PSF plant/CCU unit remained under shutdown due to economic reason.

1.2 Raw Material Consumption:

1.2.1: Refinery Section:

Name of Raw Material(21-22)	Name of Products	Consumption of raw materials per unit of out put	
		2021-22	2022-23
Crude Oil (2775.0464 TMT)	Liquefied Petroleum Gas (LPG)	16.48	18.87
	Aviation Turbine Fuel (ATF)	0.00	0.00
	Motor Spirit (MS)	7.08	7.08
	Superior Kerosene Oil (SKO)	204.01	375.16
	High Speed Diesel (HSD)	1.81	1.79
	Light Diesel Oil (LDO)	92.46	246.01
	Naphtha	23.74	21.83
	Low Sulphur Heavy Stock (LSHS)/LVFO	347.17	45.33
	Raw Petroleum Coke (Net Basis)	23.21	20.30
	Petrosol	0.00	0.00
	Calcined Petroleum Coke (CPC)	0.00	0.00
	Bonmax	0.00	0.00
	Coke dust	0.00	6670.78
	HDTF	0.00	0.00
Sulphur Recovery	1573.35	1312.08	

1.2.2: Petrochemical Section:

PSF plant is shut down since November, 2005.

PART – C
POLLUTION GENERATED
(Parameters as specified in the Consent issued)

1.3 WATER POLLUTION:

Sl. No	Parameter	Concentration Value		Quantum Value (Kg/TMT of Crude processed)	
		(mg/l except pH)		Limit	Actual
		Limit	Actual		
1	pH	6.0 – 8.5	7.2	--	-
2	Oil & Grease	5	4.1	2	0.00
3	BOD (3 days at 27°C)	15	8.0	6	0.00
4	COD	125	52.3	50	0.00
5	Suspended Solids	20	15.3	8	0.00
6	Phenols	0.35	0.26	0.14	0.00
7	Sulphides	0.5	0.34	0.2	0.00
8	CN	0.2	0.02	0.08	0.00
9	Ammonia as N	15	4.26	6	0.00
10	TKN	40	9.73	16	0.00
11	P	3	0.58	1.2	0.00
12	Cr (Hexavalent)	0.1	BDL	0.04	0.00
13	Cr (Total)	2	BDL	0.8	0.00
14	Pb	0.1	BDL	0.04	0.00
15	Hg	0.01	BDL	0.004	0.00
16	Zn	5	0.41	2	0.00
17	Ni	1	BDL	0.4	0.00
18	Cu	1	0.40	0.4	0.00
19	V	0.2	BDL	0.8	0.00
20	Benzene	0.1	BDL	0.04	0.00
21	Benzo (a) - Pyrene	0.2	BDL	0.08	0.00

NOTE: No treated water is discharged to outside the complex. Treated Water is 100% re-used as Fire Water makeup, Cooling Water makeup and Service water after Tertiary Treatment. The effluents after Secondary Treatment are treated in the Tertiary Treatment Plant before reuse.

1.3.1 Air Pollution for (Avg. of all six Ambient Air Quality Monitoring Stations):

Pollutants	Unit of Measurement	NAAQS 2009	Average Value (2021-22)	Average Value (2022-23)	% Deviation from Prescribed standard with Reasons (from Average)
Sulphur Dioxide (SO ₂)	µg/m ³	50/80	13.44	12.25	NIL
Nitrogen Dioxide (NO ₂)		40/80	18.70	17.65	NIL
Particulate Matter (PM-10)		60/100	63.79	66.2	NIL
Particulate Matter (PM- 2.5)		40/60	31.79	28.2	NIL
Ammonia (NH ₃)		100/400	13.90	13.2	NIL
Ozone (O ₃)		100/180	25.64	20.3	NIL
Lead (Pb)		0.5/1.0	BDL	BDL	NIL
Benzene (C ₆ H ₆)		05	0.28	0.37	NIL
Arsenic (As)		06	BDL	BDL	NIL
Nickel (Ni)	ng/m ³	20	BDL	BDL	NIL
Benzo (a) Pyrene		1.0	BDL	BDL	NIL
Carbon Mono-Oxide (CO)	mg/ m ³	2/4	0.23	0.10	NIL