

MAHARASHTRA POLLUTION CONTROL BOARD

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Mumbai - 400 022

Consent order No :- Formate 1.0/ BO/CAC-Cell/ EIC No MU-5684-14/ 14th CAC/ 6298
Date-12/05/2016

To,
M/s Hindustan Petroleum Corporation Limited.
Mumbai Refinery, B D Patil Marg,
Mahul, Mumbai-400074

Subject: Renewal of Consent to Operate under RED category.

Ref : 1. Earlier Consent granted vide no. Formate 1.0/BO/CAC-Cell/C NoMU-5684-14/14thCAC-8930 dtd. 24.09.2014.

2. Your application approved in CAC meeting held on 02.02.2016.

Your application: CR15120000434
Dated: 09.07.2015

For: Renewal of Consent to Operate

under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2008 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. The consent is granted for a period from the 01.09.2015 to 31.08.2020.
2. The actual capital investment of the industry is Rs. 8301.49 Crs. (As per C.A. Certificate submitted by industry).
3. The Consent is valid for the manufacture of -

Sr. No.	Product / By-Product Name	Maximum Quantity in TMT/A
1	Light distillates (LPG, LAN, HAN, Reg. Gasoline, premium Gasoline)	1968
2	Middle distillate (ATF, SKO, HSD, LDO)	3313
3	Lube oil base stock	331
4	Other heavy products including refinery fuel loss (IFO, Asphalt, CBFE, fuel +loss)	2288
5	Elemental Sulphur	26

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4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1.	Trade effluent	7200 CMD from process	As per Schedule -I	The industry should operate arrangement to recycle treated effluent to the maximum extent possible and the rest should be discharged in to nalla meeting to Mahul creek.
		80354 CMD as sea water blow down.	As per Schedule -I	Discharge into Mahul creek.
2	Domestic effluent	600	As per Schedule -I	The treated sewage is mixed in biological Treatment Section of Effluent Treatment Plant.

5. Conditions under Air (P& CP) Act, 1981 for air emissions:

Sr. no.	Description of stack / source	Number of Stack/ Height in Meter	Standards to be achieved
1.	Process	2	As per Schedule -II
2.	Boiler	2	As per Schedule -II
3	Furnace	23	As per Schedule -II
4	Incinerator	2	As per Schedule -II
5	Gas Turbines (48 MW)	5	As per Schedule -II

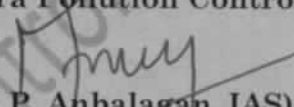
6. Conditions under Hazardous Waste (MH & TM) Rules, 2008 for treatment and disposal of hazardous waste:

Sr. No.	Type Of Waste	Category	Quantit.	UOM	Treatment	Disposal
1	Oily sludge from crude & product tank	4.1	6000	MT/A	--	Recovery
2	Residual sludge cake after Recovery of oil	4.1	3000	MT/A	--	Bio-remediation
3	Slit accumulation from the incoming sea water	4.1	1000	MT/A	--	Bio-remediation
4	Sludge from w.w.t	4.1	20	MT/A	--	Bio-remediation/Solid compaction by

						dewatering
5	Spent resin	4.2	73.5	MT/A	--	CHWTSDF
6	Spent Catalysts	4.2	4332	MT/A	--	CHWTSDF
7	Insulation material		500	MT/A	--	CHWTSDF
8	Spent (obsolete chemicals)		—		--	CHWTSDF
9	Cupronickel scrap	Sch-II B-1, B-6	8	MT/A	--	Sale to authorized vendor.

7. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
8. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.

For and on behalf of the
Maharashtra Pollution Control Board


(Dr. P. Anbalagan, IAS)
Member Secretary

Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No.	Date	Drawn On
1.	49808960	885530	26.06.2015	SBI Bank
2.	100	885529	26.06.2015	SBI bank
3.	3,38,31,220	885978	29.02.2016	SBI bank

Copy to:

1. Regional Officer -Mumbai and Sub-Regional Officer-Mumbai-III, MPCB. They are directed to ensure the compliance of the consent conditions. The BG of Rs 5 lakh and 2 lakh towards provision of automatic mechanical oil skimmers at sea cooling water channel flow and provision of flow meter along with data logger system respectively shall be returned back as industry has complied the same.
2. Chief Accounts Officer, MPCB, Mumbai.
3. CC/CAC desk- for record & website updation purposes.

Schedule-I

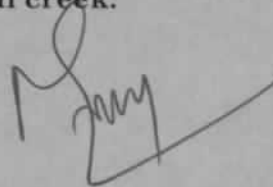
Terms & conditions for compliance of Water Pollution Control:

1) A] As per your application, you have provided the Effluent Treatment Plant (ETP) with the design capacity of 7200 CMD.

B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr No.	Parameters	Standards prescribed by Board
		Limiting Concentration in mg/l, except for pH
01	pH	6.0-8.5
02	Oil & Grease	5
	Suspended Solids	20
04	BOD (3 days 27oC)	15
05	COD	125
06	Phenol	0.35
07	Sulphides	0.5
08	CN	0.20
09	Ammonia as Nitrogen (N)	15
10	TKN	40
11	P	3.0
12	Cr (Hexavalent)	0.1
13	Cr (Total)	2.0
14	Pb	0.1
15	Hg	0.01
16	Zn	5.0
17	Ni	1.0
18	Cu	1.0
19	V	0.2
20	Benzene	0.1
21	Benzo(a)-Pyrene	0.2

C) Out of 7200 CMD effluent generated from the project, the industry should recycle treated effluent to maximum extent possible and the rest should be discharged in nalla meeting to Mahul creek.



Quality of sea water outlet/discharge to sea:

Sr. No.	Parameter		Standards prescribed by Board
1	pH	Not to exceed	6.0 to 8.5
2	Oil & Grease	Not to exceed	Inlet + 10 mg/l
3	Temperature	Not to exceed	5 Deg. C higher than intake water temperature
4	Free Chlorine	Not to exceed	1 mg/l

The sea water blowdown from the cooling system i.e 80354 CMD shall be discharged into sea through a separate channel.

Notes:

(i) Concentration limits shall be complied with at the outlet discharging effluent (excluding discharge from sea water cooling systems) to receiving environment (surface water bodies, marine systems or public sewers). In case of application of treated effluent directly for irrigation/horticulture purposes (within or outside the premises of refinery). Make up water for cooling system, fire fighting etc. the concentration limits shall also be complied with at the outlet before taking the effluent for such application. However any use in the process such as use of sour water in desalter is excluded for the purpose of application.

(ii) In case of circulating seawater cooling, the blow-down from cooling system shall be monitored for pH and oil & grease (also hexavalent & total chromium, if chromate treatment is given to cooling water) and shall confirm to the concentration limits for these parameters. In case of reuse of treated effluent as cooling water make-up. All the parameters (as applicable for treated effluent) should be monitored and confirm the prescribed standards.

(iii) In case of once through cooling with seawater, the oil & grease content in the effluent from cooling water shall not exceed 1.0 mg/l.

NOTE: Above standards are prescribed as per Notification from MOEF vide No. G.S.R. 186(E), dated 18.03.2008

- 2) A.] As per your consent application, you have provided the sewage treatment system with the design capacity of 600 CMD.

B] The treated sewage is mixed in biological Treatment Section of Effluent Treatment Plant.

C] In case the treatment system is combined for trade effluent and sewage then the standards and disposal path prescribed at sr. no.1 B & C of schedule I shall be applicable.

- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or/and extension or addition thereto.

- 4) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

- 5) The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Cess Act, 1977 and as amended, by installing water meters, filing water cess returns in Form-I and other provisions as contained in the said act.

Sr. no.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling (Sea cooling water)	90242
2.	Domestic purpose	870
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	9660
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0
5	Agriculture/Gardening	1500

- 6) The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.

M. J. J. J.

Maharashtra Pollution Control Board

Schedule-II

Terms & conditions for compliance of Air Pollution Control:

- As per your application, you have provided the Air pollution control (APC) system and also erected following stack (s) and to observe the following fuel pattern-

Sr. No.	Stack Attached To	APC System	Ht. in Mtrs	Type of Fuel	Qty.	UoM	S %	SO ₂
1.	FR-APS (11-F-1)	Stack	61.00	Fuel Oil + Refinery Gas/Natural Gas + Liquid Naptha	Fuel Oil = 888.0	TPD	Fuel Oil = 0.5-1.0 wt %	As per CPCB Guidelines for Source Emissions
2.	FR-VPS (12-F-1)	Stack	61.00		Refinery Gas/Natural Gas = 1125.0			
3.	FR-APS (11-F-2)	Stack	61.00					
4.	Old FCCU (14-F1-X)	Stack	61.00					
5.	Old FCCU Regenerator FGSU	Stack	61.00		Naptha = 630.0			
6.	FRE-APS (31-F-1)	Stack	61.00					
7.	FRE-VPS (32-F-1)	Stack	60.00					
8.	DHDS (71-F-01)	Stack	60.00					
9.	H2 reformer (73-F-02)	Stack	60.00					
10.	Old SRU Incinerator (75-F-01)	Stack	60.00					
11.	PDS Furnace (73-F-01)	Stack	60.00					
12.	Boiler (SG-10/11)	Stack	88.50					
13.	Boiler (SG-12)	Stack	60.00					
14.	New FCCU (114 F-3001)	Stack	64.00					
15.	New FCCU Regenerator FGSU	Stack	60.00					
16.	NSU Furnace 101-F-1001	Stack	60.00					
17.	CCR Inter Heater, 102-F-1001 & 102-F-2003/2004	Stack	71.00					
18.	CCR Inter Heater 1 & Charge heater 102-F-2001& 2002	Stack	71.00					
19.	Isom Nhdt Heater 103-F-1001	Stack	60.00					

20.	Prime G+ Furnace 105-F-1001	Stack	60.00				
21.	DHT 700F1001/2 Furnace	Stack	60.00				
22.	DHT New SRU incinerator 704F4001	Stack	60.00				
23.	Gas Turbine (GTG 1)	Stack	60.00				
24.	Gas Turbine (GTG 2)	Stack	60.00				
25.	Gas Turbine (GTG 3)	Stack	60.00				
26.	Gas Turbine (GTG 4)	Stack	60.00				
27.	Gas Turbine (GTG 5)	Stack	65.00				
28.	LR-VPS (F-101)	Stack	60.00				
29.	NMP-I (F-201/202)	Stack	60.00				
30.	NMP-II (F-3201/3202)	Stack	60.00				
31.	NMP-III (F-4201/4202)	Stack	60.00				
32.	LR PDA (F-4101)	Stack	60.00				
33.	LR IOH (F-401)	Stack	30.50				
34.	LOUP (99-F-01/02/03)	Stack	71.00				

Following Air pollution control arrangements shall be provided to limit the emissions:

- Flue gas Scrubber Unit (FGSU-I) for existing old FCCU.
 - The unit should provide, operate and maintain the fugitive emissions control devices.
2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time / Environmental Clearance / CREP guidelines.
 3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	As per CPCB guidelines of source emissions.
Oxides of Nitrogen		
Carbon Monoxide (CO)		
Nickel and Vanadium (Ni+v)		
Hydrogen Sulphide (H ₂ S) in fuel gas		

4. Storage of Volatile Liquids : General Petroleum Products

(1) Storage tanks with capacity between 4 to 75m³ and total vapour Pressure (TVP) of more than 10 kpa should have Fixed Roof Tank (FRT) with pressure valve vent.

(2) Storage tank with the capacity between 75 to 500 m³ and total vapour Pressure (TVP) of 10 to 76 kpa should have Internal Floating Root Tank (IFRT) of External Floating Root Tank (EFRT) or Fixed Roof Tank with vapour control or vapour balancing system.

(3) Storage tanks with the capacity of more than 500 m³ and total vapour Pressure (TVP) of 10 to 76 kpa should have Internal Floating Roof Tank or External Floating Roof Tank or Fixed Roof Tank with vapour control system.

(4) The tanks with the capacity of more than 75 m³ and total vapour Pressure (TVP) of more than 76 kpa should have Fixed Root Tank with vapour control system.

(5) Requirement for seals in Floating Roof Tanks:

(i) (a) IFRT and EFRT shall be provided with double seals with minimum vapour recovery of 96%.

(b) Primary seal shall be liquid or shoe mounted for EFRT and vapour mounted for IFRT. Maximum seal gap width will be 4 cm and maximum gap area will be 200 cm²/m of tank diameter. (c) Secondary seal shall be rim mounted. Maximum seal gap width will be 1.3 cm and maximum gap area will be 20 cm²/m of tank diameter. (d) Material of seal and construction shall ensure high performance and durability.

(ii) Fixed Roof Tanks shall have vapour control efficiency of 95% and vapour balancing efficiency of 90%

(iii) Inspection and maintenance of storage tanks shall be carried out under strict control. For the inspection, API RP 575 may be adopted, In-service inspection with regard seal gap should be carried out once in every six months and repair to be implemented in short time. In future, possibility of on-stream repair of both seals shall be examined.

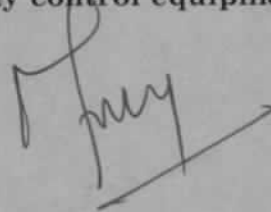
5. Solvents for Lube-Base Oil production (Furfural, NMP, MEK, Toluene and MIBK)

IFRT with double seals and inert gas blanketing with vapour removal efficiency of at least 97% shall be provided.

Emission control for Road tank truck/Rail tank wagon loading		
Loading of Volatile Products	Gasoline and Naphtha:	
	(i) VOC reduction, %.	(i) 99.5
	(ii) Emission, gm/m ³	(ii) 5
	Benzene:	
	(i) VOC reduction, %	(i) 99.99

	(ii) Emission, mg/m ³	(ii) 20
	Toluene/Xylene: (i) VOC reduction, %	(i) 99.98
	(ii) Emission, mg/m ³	(ii) 150
<p>Note:</p> <p>(i) It shall be applicable for Gasoline, Naphtha, Benzene, Toluene and Xylene loading.</p> <p>(ii) Road tank Truck shall have Bottom loading and Roll tank wagon shall have Top submerged loading.</p> <p>(iii) Annual leak testing for vapour collection shall be done.</p>		

6. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement well before its life come to an end or erection of new pollution control equipment.
7. **The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).**

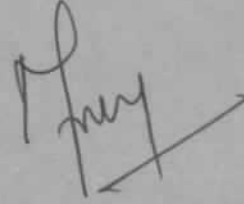


Maharashtra Pollution Control Board

Schedule-III
Details of Bank Guarantees

Sr. No.	Consent (C to E/O/R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	Rs 10 lakhs	Submitted	O & M of Pollution Control system and compliance of consent conditions	31.08.2020	31.12.2020

*The BG of Rs 10 lakh towards O & M of PCS and compliance of consent conditions shall be extended for a period upto 31.08.2020.



Maharashtra Pollution Control Board

Schedule-IV

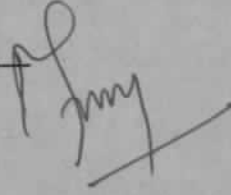
General Conditions:

- 1) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) Industry should monitor effluent quality, stack emissions and ambient air quality monthly.
- 3) The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) The firm shall submit to this office, the 30th day of September every year , the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
- 7) The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW(MH&TM) Rules 2008, which can be recycled/processed/reused/recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) The industry should comply with the Hazardous Waste (M,H & TM) Rules, 2008 and submit the Annual Returns as per Rule 5(6) & 22(2) of Hazarsous Waste (M,H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30th June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
- 10) The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent (in case of Renewal of consent).
- 11) Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act,1981 and Environmental Protection Act,1986 and industry specific standard under EP Rules 1986 which are available on MPCB website(www.mpcb.gov.in).
- 12) The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.
- 13) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.

- 14) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
- 15) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 16) Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
 - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel
- 17) The industry should not cause any nuisance in surrounding area.
- 18) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 19) The applicant shall maintain good housekeeping.
- 20) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a statement on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end, with the Environment Statement.
- 21) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 22) The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 23) The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
- 24) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
- 25) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended.
- 26) The applicant shall comply with the conditions stipulated in Environmental Clearance granted by MoEF vide No. J-11011/415/2008-IA-II(I) dtd. 04.09.2009.

- 27) The applicant shall operate online continuous monitoring system for process stack emission analysis & and operate the same regularly.
- 28) The applicant shall operate three continuous automatic ambient air and micrometeorological monitoring station at location indicated by State Board to be set up and operate at its own cost measure SO₂, NO_x and particulate matter. These CAAQMS shall also have necessary provision of networking to the Air Quality Monitoring network of MPCB.

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Maharashtra Pollution Control Board