



हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
(भारत सरकार संस्थान) रजिस्टर्ड आफिस 17 जमशेदजी टाटा रोड, मुम्बई -400 020
HINDUSTAN PETROLEUM CORPORATION LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE) REGISTERED OFFICE: 17 JAMSHEDJI TATA ROAD, MUMBAI-400 020
CIN : L23201MH1952GOI008858



विशाख रिफाइनरी, पोस्ट बाक्स नं. 15, विशाखपट्टनम - 530 011 (आंध्रप्रदेश), फोन : 2895000, 2895100, तार : हैपेट्रेफ
VISAKH REFINERY, POST BOX NO.15, VISAKHAPATNAM-530 011 (A.P.), PHONES : 2895000, 2895100, GRAMS : HIPETREF

Date: August 03, 2015
Ref.: TSD/PS&E/APPCB/128/15

The Member Secretary,
Andhra Pradesh Pollution Control Board,
A-3, Paryavaran Bhavan,
Industrial Estate, Sanathnagar,
Hyderabad - 500 018.


Dear Sir,

Sub: Environmental statement for the year ending March 31, 2015

Please find enclosed the "Environmental Statement for the Financial Year 2014-15" in Form-V as per Rule 14 of the Environmental (Protection) Rules, 1986.

With best regards,


ssn/bbg


Sri Ganesh G.
Executive Director

cc: The Joint Chief Environmental Engineer, APPCB-ZO, Visakhapatnam
cc: The Environmental Engineer, APPCB-RO, Visakhapatnam

FORM V

ENVIRONMENTAL STATEMENT for the financial year ending 31st March, 2015

PART-A

- (i) Name and Address : Sri Ganesh G.
Executive Director
Hindustan Petroleum Corporation Limited
Visakh Refinery, Malkapuram
Viskhapatnam -530 011 (A.P)
- (ii) Industry Category : Petroleum Refinery
- (iii) Production Capacity : 8.3 Million Metric Tonnes per annum of Crude
(Installed Capacity)
- (iv) Year of Establishment : 1957
- (v) Date of last environmental Statement : September 12, 2014
Report submitted

PART - B

WATER AND RAW MATERIAL CONSUMPTION

(i) Water Consumption

S.No	Water Consumption (m ³ / calendar day)	2013-2014	2014-2015
1	Fresh water	10,420	14,447
2	Sea Water for cooling	184,853	197,210
3	Domestic	180	180

Name of products	Water consumption in m ³ /ton of crude processed		
		2013-2014	2014-2015
1. LPG/Propylene			
2. MS/Naphtha	Fresh water	0.50	0.60
3. Kerosene/ATF/MTO			
4. Diesel/JBO	Sea Cooling water for Cooling	8.7	8.21
5. LDO			
6. FO/LSHS			
7. Bitumen			

(ii) Raw Material Consumption

Name of Raw Material	Name of Products	Consumption of raw material per unit of output	
		2013-2014	2014-2015
Crude Oil	1. LPG/Propylene	1.08	1.08
	2. MS/Naphtha		
	3. Kerosene/ATF/MTO		
	4. Diesel/JBO		
	5. LDO		
	6. FO/LSHS		
	7. Bitumen		

PART - C
POLLUTION GENERATED
(As per Consent Order)

WATER

Parameter	Consent limit	Actual	% Variation with prescribed standards
pH	6.0 - 8.5	7.8	-Nil-
TSS (mg/Lit)	20	14	-Nil-
Oil & Grease (mg/Lit)	5	3.3	-Nil-
Phenols (mg/Lit)	0.35	0.15	-Nil-
Sulphides (mg/Lit)	0.5	0.23	-Nil-
BOD (mg/Lit)	15	12	-Nil-
COD (mg/Lit)	125	71	-Nil-
Effluent quantity discharged (m ³ /1000 tons of crude)	700	209.4	-Nil-

AIR

Emission from Stack:

Parameter		Standard	Actual	% Variation with prescribed standards
SPM (Tons/day)		1.11	0.83	Nil
SO ₂ (Tons /day)		11.5	9.34	Nil
HC (Tons/day)		2.5	1.4	Nil
NO _x (Tons/day)		6.5	3.81	Nil
SPM (mg/Nm ³)	i) Stacks 1 to 23	115	25.3	Nil
	ii) Stacks 24 to 27	10	9.4	Nil
	iii) Stacks 28 to 30	50	22.4	Nil

PART- D
HAZARDOUS WASTES

- A. From Process : Included in Part E
B. From Pollution Control Facilities: Included in Part E

PART - E
SOLID WASTES

Quantities of hazardous waste generated:

S.no	Source		Quantity (MT) 2013-2014	Quantity (MT) 2014-2015
1	Process	Oily sludge	700	4800
		Spent catalyst	131	498
2	Pollution Control Facilities (Sludge from ETPs)		40	45
3	Recycled/ re-utilized.		Refer Part F	

PART - F

Characteristics & Disposal practices for Hazardous & Solid Wastes

- **Oily Sludge:**

At Visakh Refinery, oily sludge to be handled is mainly from two sources. One is from the Crude and product tanks during outages for inspection & maintenance activities and the other is from Effluent Treatment Plants (ETPs), sumps cleaning, sewer cleaning, etc.

Oily sludge is stored in lined lagoons and is being mechanically processed to recover oil. Lagoon sludge processing is being carried out by M/s Plant Tech Mid Continent (I) Pvt. Ltd. About 5440 KL of sludge was processed in 2014-15. Oil recovered from sludge is transferred to Crude oil tanks for reprocessing. Residual low oily sludge is bio-remediated by M/s TERI along with the sludge from ETPs.

- **Spent Catalyst / Carbon:**

Spent catalyst / carbon are generated from process units on periodic basis, once in 4-5 years whenever replacement becomes necessary. Non-regenerable catalysts are sold to SPCB authorized recyclers or disposed to Treatment Storage and Disposal Facility (TSDF). 49 MT of spent carbon & 13 MT of spent iron oxide catalyst were disposed to authorized cement industries for co-processing and 392 MT of spent catalyst & 70 MT of spent DM plant resin were disposed to Treatment Storage and Disposal Facility (TSDF) during 2014-15.

PART - G
Impact of Pollution Control Measures on Conservation of Natural Resources
and consequently on the Cost of Production

- Effluent Treatment Plants (ETPs) were in continuous operation and effluent quality is meeting the norms on sustained basis. The average process effluent generated during the year 2014-15 was 209 m³/hr.
- Fuel Gas Amine Absorption Unit (FGAAU) for treatment of sour fuel gas was in continuous operation. The total fuel gas treated in FGAAU during 2014-15 was 107423 MT.
- Sulphur Recovery Units were in continuous operation to maintain the sulphur dioxide emissions from the refinery below the stipulated limit of 11.5 Tons/day. The total Sulphur recovered in SRU's in 2014-15 was 28905 MT.
- Flue Gas Desulphurization (FGD) units for reduction of SPM from flue gases of Fluidized Catalytic Cracking Units (FCCUs) were in continuous operation.
- Online connectivity of CAAMS (Continuous Ambient Air Monitoring Stations) data to APPCB and CPCB servers is in place. Data is being transferred on a continuous basis.
- Online connectivity of all stack analysers to APPCB has been established. Data is being transferred on a continuous basis.
- Diesel Hydrotreater (DHT) unit and the associated facilities, installed at a cost of ₹ 2730 Crores for production of Euro-IV Diesel, were commissioned.

PART – H

Additional investment for Environment protection including abatement of pollution

Description		
<u>Major Investments in the recent past (total project cost in ₹ Lakhs)</u>		
1	Diesel Hydrotreater (DHT) Project	273000
2	Flue Gas Desulphurization units in FCCUs	7500
3	Replacement of online analyzers	800
4	Online connectivity of CAAMS and stack analyzers data to APPCB and CPCB servers	11
<u>Regular Expenditure (cost in ₹ Lakhs / Year)</u>		
1	Ground water monitoring program	1
2	Leak Detection and Repair survey	3
3	Environmental monitoring by MoEF-recognized third party	15
4	Hazardous Waste disposal to TSDF	16
5	Annual Maintenance Contract of stack and CAAMS analyzers	156

PART- I

MISCELLANEOUS

ANY OTHER PARTICULARS IN RESPECT OF ENVIRONMENT

- **Continuous Ambient Air Monitoring Stations:**
Continuous Ambient Air Monitoring Stations (CAAMS), 3 in number, were in operation to measure ground level concentration of SO_x, NO_x, HC, PM 2.5, PM 10, CO, O₃, NH₃, C₆H₆ and Mercaptans in ambient air along with weather monitoring station to monitor the meteorological conditions. Monitoring by MoEF recognized laboratory is also done on regular basis.
- **ENCON Activities:**
Refinery is carrying out periodic surveys for identifying and arresting steam leaks, compressed air leaks and Nitrogen leaks in process units and offsite areas.
- **Leak Detection And Repair:**
LDAR program for monitoring and control of VOC emissions is in place.
- **Oil Spill Response Plan:**
Refinery entered into an agreement with VPT for oil spill management in the port area. This is in addition to HPCL's own facilities at Single Point Mooring (SPM) for oil spill response.
- **Ongoing Environmental Projects:**
Study by Indian Institute of Science, Bengaluru, was carried out on the odour issue in Visakhapatnam. Draft report submitted by IISc to APPCB.
- **ISO-14001:**
Refinery's ISO-14001 certificate is valid up to 3rd May, 2018.
- **Green Visakha Program:**
Plantation of 1,50,000 saplings under Phase-II in the areas allocated by VUDA/GVMC in and around Visakhapatnam has been completed at a cost of ₹ 5.7 Crores.