सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
उत्तर क्षेत्रीय कार्यालय, चंडीगढ़ / Northern Regional Office, Chandigarh

No. 4-83/2004 - RO (NZ) / 180-181 Dated: 15.02.2018

प्रति,

निदेशक, (अनुवीक्षण सैल),
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
इंदिरा पर्यावरण भवन,
जोर बाग रोड, अलीगंज,
नई दिल्ली - 110003

विषयः- Naphtha Cracker Complex at Panipat Refinery by M/s IOCL, Vill Baljatan, Dist Panipat, Haryana – Certification of compliance reg.

संदर्भः J-11011/153/2004-IA II(I) dated 4.1.2005

महोदय,

उपरोक्त संदर्भित पत्रांक के संदर्भ में उक्त परियोजना को पर्यावरणीय दृष्टिकोण से अनुमति देते समय अनुबद्ध शर्तो के अनुपालन एवं certification of compliance के निर्देशानुसार, अनुवीक्षण प्रतिवेदन (मॉनिटरिंग रिपोर्ट) एतद् द्वारा संलग्न कर प्रेषित है ।

भवदीय,

संलग्नः उपरोक्तानुसार

सलाहकार

प्रतिलिपिः- Sh. H.V. Farkya, DGM (HS&E), Indian Oil Corporation Ltd., Panipat Refinery, P.O.- Panipat Refiner, Panipat – 132 140, for information.

सलाहकार

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बेज नं. 24-25, सेक्टर-31ए, चंडीगढ़-160030 / Bays No. 24-25, Sector-31 A, Chandigarh-160030
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Ministry of Environment, Forest & Climate Change
Northern Regional Office,
Chandigarh-160030
MONITORING REPORT
PART – I
DATA SHEET

1.	Project Type	Industry (Petrochemical)
2.	Name of the Project	Naphtha Cracker Complex at Panipat Refinery by M/s IOCL, Vill Baljatan, Dist Panipat, Haryana.
3.	Clearance letter (s)/ O.M No. & dates	J-11011/153/2004-IA II(I) dated 4.1.2005
4.	Location a. District (s) b. State (s) c. Latitudes/Longitudes	 Panipat Haryana 29°29' N / 76°52'E
5.	Address for correspondence a. Address of Concerned Project CE (with Pin Code/ Tel No./ Telex/Fax/E-mail address) b. Address of Exe Project Engg/Manager (with Pin code/Tel No./ Telex/Fax/E-mail address)	Shri H. V. Farkya, GM (HS&E) M/s Indian Oil Corporation Ltd., Project Building Panipat Refinery, Panipat - 132140, Haryana Tel. 0180-2524525: Fax 0180-2578833 E-mail: farkyahv@indianoil.in Same as above
6.	Salient features a. Of the project b. Of the EMP	The project envisaged setting of Naptha Cracker unit to produced 0.8 TMTPA of ethylene, 0.35 TMTPA, LLDPE/HDPE, 0.3 TMTPA dedicated HDPE unit, 0.6 TMTPA Poly Propylene unit and 0.3 TMTPA MEG unit. EIA/EMP submitted to the Ministry.
7.	Break-up of the project area a. Submergence area: Forest and Non forest b. Others	The project set up in Baljatan village in 756 acres land. Additional 254 acres has been acquired to the East of the project site, for truck parking area, collection of rain-water, administrative building etc. Balance area is being used as temporary fabrication ya4rd for Naphtha Crackers Project. Another 187 acres land has been acquired to the North West of the project site, which would be used primarily for shifting of the existing Petcoke yard from the Naphtha Cracker project site, strengthening of the green belt etc. About 306 ha. land is required for NCU.
8.	Breakup of the project affected population with enumeration of those losing houses/dwelling units only agricultural land only both dwelling units & agricultural land & landless laborers/artisans: a. SC, ST/Adivasi b. Others (Please indicate whether these figures are based on any scientific and systematic survey	NA

	carried out or only provisional figures, if a survey is carried out give details & year of survey)	
9.	Financial details: a. Project cost as originally planned and subsequent revised estimates and the year of price reference b. Allocation made for EMP with item wise and year wise break-up c. BC ratio/IRR and the year of assessment d. Whether © includes the cost of EM as shown in the above e. Actual expend. incurred on project so far f. Actual expenditure incurred on EMP so far	 Original: Rs. 6,300 Crs (Oct' 03 basis) Revised: Rs. 14,439 Crs (Nov' 06) Over Rs. 225 Crs was provided 23.3% (Original) (Revised based on Nov' 06 estimate 20.2%) Yes Rs. 13,332.18 Crs Recurring exp Rs 1.513 Cr & non-recurring Rs 6.404 Cr during 2016-17.
10.	Forest land requirement a. The status of approval for diversion of forest land for non-forestry use b. The status of clearing felling c. The status of CA, if any d. Comments on the viability & sustainability of CA program in the light of actual field experience so far	NA
11.	Status of construction: (actual and/or planned) a. Date of commencement b. Date of completion	 December 2006. Unit Commissioned in March 2010
12.	Reasons for the delay, if project is yet to start	NA
13.	Dates of site visits a. Date of previous site visit: b. Date of present site visit:	 1.8.2006, 19.2.2013 & 23. 1.2016 23.12.17
14.	Details of correspondence with project Authorities for obtaining act on plans/information on status of compliance to safeguards other than the routine letters for logistic support for site visits). (The first monitoring report may contain the details of all the letters issued so far, but the later reports may cover only the letter issued subsequently)	As below

Date	**Letter from RO**	**Date**	**Reply from PA**
-	-	15.7.16	Comp. without analytical data submitted.
-	-	24.3.17	Req for compliance certification.
11.4.17	Inf sought for certification	13.4.17	Requisite information sub.
-	-	22.1.18	Information sought during visit sub.

PART-II
STATUS OF COMPLIANCE
&
PART-III
DETAILED MONITORING REPORT
No. J-11011/153/2004-IA II(I) dated 4.1.2005

The comprehensive review of the Panipat refinery complex was under taken during the visit. It was noted that there are six environmental clearances were granted to the refinery for processing of crude oil and its derivatives. These are:

1. No. J-11011/27/91-IA.II (I) dated 16.07.1992 for setting up of a grass root refinery at Karnal, Distt by Indian Oil Corporation Limited.
2. No. J-11011/60/2000-IA.II dated 09.04.2001 for expansion of Panipat Refinery (PREP) from 6 MMTPA to 12 MMTPA.
3. No. J-11011/52/2000-IA.II (I) dated 30.04.2001 for integrated Paraxylene and Purified Terphthalic acid projects at Panipat by M/s IOCL.
4. No. J-11011/9/2001-IA.II(I) dated 06.12.2001 for MS Quality up gradation project at Panipat Refinery By IOCL.
5. No. J-11011/52/2000-IA.II(I) dated 20.01.2003 for modification in plant layout of Paraxylne and purified Terephthalic Acid (PX/PTA) project within Panipat Refinery Complex and Integrated with Panipat Refinery (PR) and Panipat Refinery Expansion Project (PREP)
6. No. J-11011/7/2004-IA.II(I) dated 09.08.2004 for expansion of Panipat Refinery (From 12 MMTPA to 15 MMTPA) and setting up of Indalin + Unit at Panipat Refinery Complex of IOCL, Panipat Refinery, Haryana

Besides, Ministry had granted Environmental Clearance for Naphtha Cracker Unit (NCU) in 2005 for which certification of compliance is being issued. Later, another clearance was granted on 23.05.2014 for Butene-1 Project which is located in existing Panipat Naphtha Cracker Complex. Recently, Environmental Clearance vide letter dated 22.02.2017 was also granted for Recovery of Styrene and Synthetic Olefins Production from RFCC and DCU off gases (from Panipat Refinery) and its integration with NCU.

SPECIFIC CONDITIONS:		
i.	The gaseous emissions (SO_2, NO_x and HC, Benzene) from the various process units should conform to the standards prescribed under EP Rules, 1986 or norms stipulated by the SPCB whichever is more stringent. At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	**Being Complied:** Monitoring reports of various stacks have been submitted on six monthly basis which show parameters within the prescribed limits. 68 online monitors for SOx, NOx, CO & SPM have been installed. .
ii.	Adequate AAQ monitoring stations (SPM, SO2, NOx and HC, Benzene) should be set up in the NCC in consultation with SPCB, based on occurrence of maximum ground level concentration and down-wind direction of wind i.e. maximum impact zone. The monitoring network must be decided based	**Being Complied:** Continuous online stack monitoring analyzers have been installed for measurement of SO_2, NOx, CO & PM connected to servers of CPCB & HSPCB. It was submitted that VOCs (HC & Benzene) monitoring was being carried out at 3250 locations on quarterly basis. 6 AAQ stations (4

	on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment should be installed for measurement of SO_2 and NOx. Data on VOC should be monitored and submitted to the SPCB/Ministry.	at PR, 1 each at PNC & township) have been installed to monitored air quality and reports do not show any anomaly.
iii.	Measures for fugitive control should be taken by installation of internal floating roof tanks for storage of liquid HCs and provision of double mechanical seals to all pumps handling high vapor pressure materials, sensors for detecting HC/toxic gas leakages at strategic locations, regular inspection of floating roof seals, maintenance of valves and other equipments and regular skimming of separators/ equalization basin.	**Being Complied:** It was submitted that storage tanks were provided as per the approved safety rules. Adequate measures like vapor recovery system, regular maintenance etc. have been taken.
iv.	All new standards/norms that are being proposed by CPCB for petrochemical plants shall be applicable for the proposed Naphtha Cracker and downstream polymer units. The company shall conform to the proposed process vent standards for organic chemicals including non-VOCs and all possible VOCs i.e. TOCs standard and process vent standards for top priority chemicals. The company shall install online monitors for VOC measurements. Action on the above should be taken during the detailed design stage of the PNC. The project authorities shall take necessary measures to comply with the above proposed emission norms including monitoring facilities and intimate the same to the Ministry.	**Being Complied:** Same as mentioned above in conditions i & iii. PP has submitted that MINAS standards for Petrochemicals being followed.
v.	M/s IOCL shall adopt Leak Detection And Repair (LDAR) programme for quantification and control of fugitive emissions.	**Being Complied:** It was submitted that LDAR system has been adopted.
vi.	The company shall also ensure that the total SO_2 emission from the PNC shall not exceed 138 kg/hr during the normal operations.	**Being Complied:** It was submitted that SO_2 emission is below 40-50 kg/hr.
vii.	To mitigate NO_x emission, the company shall install low NO_x burners.	**Being Complied:** 876 low NOx burners have been installed.
viii.	The waste water effluent from the PNC should not exceed 750 m^3/hr. The waste water shall be segregated in different streams at the source. The treated effluent should comply with the standards stipulated by HSPCB/CPCB for discharge on land for irrigation. The treated effluent should be used for cooling service, greenbelt, dust suppression and firewater. As per the commitment given, there should be zero	**Being Complied:** PA has submitted that treated effluent of stipulated quality was being recycled in DMRO and reused for cooling service, greenbelt, dust suppression and firewater. It was noted that normally less than 1813 m3/hr raw water from WJC cannel was being consumed in PNC.

	effluent discharge due to the proposed project. The company should ensure that there will be no discharge of treated effluent into Thirana drain.	
ix.	The oily sludge generated from the ETP after oil recovery shall be taken to the existing refinery facilities for further treatment and disposal into the SLF. The spent catalyst shall be disposed off into the secured landfill facility. The design of the secured landfill site shall be as per the CPCB guidelines. The company shall firm up the plan for construction of HW facility within the PNC or send the hazardous waste to SLF site being developed by the Haryana Environmental Management Society. The final plan during detailed design stage of PNC for construction of HWM facility shall be submitted to the Ministry.	**Being Complied:** It was observed during the visit that Secured Landfill provision has been made within the complex at Refinery site. The annual returns for hazardous waste have been submitted to the HSPCB regularly. Spent alumina and other waste have been disposed off to approve recyclers.
x.	Green belt should be provided to mitigate the effects of fugitive emissions all around the plant in an area of 40 ha. In addition to 240 ha. of area already afforested in consultation with DFO as per CPCB guidelines. Green belt in the NW direction should be strengthened keeping in view the winds from SE and E direction. The trees should be planted in both sides of approach roads and truck parking area.	**Being Complied:** Plantation was being carried out on both sides of approach roads. About 574 ha have been brought under plantation and green belt. .
xi.	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per Factories Act.	**Being Complied.** All the employees has been provided regular medical checkup as per Factories Act.
GENERAL CONDITIONS:		
i.	The PA must strictly adhere to the stipulations made by HSPCB and State Government.	**Being Complied:** PP has obtained consents under Air & Water Acts from HSPCB. An application was made for renewal of consents. About 2905853 MT Naphtha was processed during 2015-16. Further, all the major conditions under Air & Water Acts have been complied as submitted.
ii.	No further expansion or modification of the plant should be carried out without prior approval of MOEF.	**Being Complied:** The condition was being complied as all the necessary permissions were obtained prior to further expansion.
iii.	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	**Being followed as submitted by PP.**
iv.	All the recommendations made in the EIA/EMP and RA report should be implemented.	**Being Complied as submitted by PP.**
v.	The overall noise levels in and around the	**Being Complied:** Acoustic hoods, silencers,

	plant area should be kept well within the standards (85dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	enclosures etc. on all sources of noise generation have been provided to meet the required noise stipulations. Monitoring reports do not show any anomaly.
vi.	The PA must strictly comply with the provisions made in MSIHC Rules 1989, as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from CCE must be obtained before commissioning of the project.	**Being Complied:** CCE / PESO approval was obtained as submitted.
vii.	The PA must strictly comply with the rules and regulations with regard to handling and disposal of Hazardous wastes, in accordance with the Hazardous waste (Management and Handling) Rules, 2003. Authorization from SPCB must be obtained for conditions/ treatment/ storage/disposal of hazardous wastes.	**Being Complied.** PP has obtained an authorization from HSPCB under HWMH rules. It was submitted that membership of Common Hazardous Waste Management Facility, Pali has been obtained.
viii.	The PA will provide adequate funds both recurring and non-recurring expenses to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	**Being Complied:** Rs. 29.67 Crs. has been incurred towards environment management during 2010-16. The activities includes, O & M and AMC bio-methanation plants, LDAR of Fugitive Emission check, Environment monitoring, Operation of mobile van, Bio-remediation of sludge, O & M of Secured landfill site, Tree plantation & maintenance, O & M of DMRO Plant and O & M of ETP. It includes Rs. 5.92 Crs. as a capital cost for purchase of mobile van and installation of online monitors. Moreover, Rs 2.56 Cr was incurred on CSR activities during 2016-17.
ix.	The stipulated conditions will be monitored by the RO of this Ministry at Chandigarh/ CPCB/ SPCB. A six monthly compliance status report and the monitored data should be submitted to them regularly.	**Being Complied:** Regional office has monitored the project regularly. Further, six monthly compliance report have been submitted regularly.
x.	The PA should inform the public that the project has been accorded EC by the Ministry and copies of the clearance letter are available with the SPCB/ committee and may also be seen at website of the MLOEF at http://www.envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the regional office.	**Not Complied:** It was pointed out in last inspection report that PP has published the advertisements as per the condition but the copies were not submitted. The copies have not been submitted yet. Thus, condition is considered not complied for the present visit.
xi.	The PA should inform the RO as well as	**Being Complied:** Final approval of the project

	the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	has been accorded by IOC's Board of Directors in their meeting on 22.12.2006.
xii.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	**No comments from PP.**
xiii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions.	**No comments from PP.**
xiv.	The above conditions will be enforced, inter-alia under the provisions of the Water (P & C PO) Act, 1974, the Air (P & CP) Act, 1981, the EP Act, 1986, HWMH Rules, 2003 and the PLI Act, 1991 along with their amendments and rules.	**Being Complied:** It is evident from the above status that majority of the conditions have been complied.

END NOTE:

1. **Chronology of events:** PP has submitted TOR application to MOEFCC vide letter dated 12.11.2016 which was considered and issued by the Ministry vide letter dated 15.2.2017. PP has requested vide email dated 24.3.2017 for issuance of certification of compliance for the proposed expansion at NCU. The Regional Office had requested for information w.r.t. issuance of certification vide letter dated 11.4.2017. Requisite information was submitted by PP vide letter dated 13.4.2017 and information sought during the visit was submitted vide email dated 16.1.18.
2. **Implementation of Conditions:** All the major conditions of CC & A such as production, generation of trade effluent & reuse of treated effluent etc. are being complied as claimed by PA. The major conditions stipulated in the EC have been complied as reviewed above.
3. **Housekeeping:** Overall it was found satisfactory.
4. **Review w.r.t. MOEFs letter dated 30.5.2012:** The above mentioned report was prepared after site visit on 23.12.2017 for the proposed expansion.
5. **With regards to issuance of show cause/closure notices:** Nil as intimated during visit.

Advisor