



BPCL/MOEF/EC/2023/01

Dt: 01/06/2023

To,
Chief Conservator of Forests,
Ministry of Environment, Forests & Climate Change,
Regional Office, Western Region,
Kendriya Paryavaran Bhavan,
Link Road No. 3, E – 5, Ravi Shankar Nagar,
BHOPAL – 462 016 (MP)

SUB : Six Monthly Compliance Report of Bharat Oman Refineries Limited, Bina – 7.8 MMTPA Refinery, including Captive Power Plant and Dispatch Terminal.

Ref : Environment Clearance granted by MoEF vide letter No. J-11011/21/94-IA-II (I), Dtd: 16/02/1995, J-11011/21/1994-1AII(I), Dtd: 20/03/2009, J-11011/135/2013-IA II (I), Dtd: 28/11/2014 and J-11011/135/2013-IA II (I), Dtd: 12/05/2015

Dear Sir,

With reference to above subject, we hereby submit our six monthly compliance report for period of Dec 2022 - May 2023 on Environment Clearance granted for 7.8 MMTPA Refinery, including Captive Power Plant and Dispatch Terminal.

Thanking You,

Yours Faithfully,
For Bharat Petroleum Corporation Limited,


(Anil T Medhe)

DGM-Environment, PSM & Business Excellence

Encl: As above

Copy to:

1. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi- 110032
2. Regional Office, M.P. Pollution Control Board, Sagar

FILE NO. 5(0)-1/2022

SIX MONTHLY COMPLIANCE REPORT

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: J-11011/135/2013-IA II (I), Dtd: 12th May, 2015

FOR

EXPANSION OF REFINERY CAPACITY FROM 7.5 MMTPA TO 7.8 MMTPA OF M/S. BHARAT OMAN REFINERIES LIMITED(BORL) AT BINA, MP CONSIDERING AN INCREASE IN ANNUAL OPERATING DAYS FROM 333 DAYS TO 345 DAYS AND MAINTAINING THE SAME DAILY PROCESSING RATE- AMENDMENT

S. No	EC Conditions	Compliance Status
2.	The Proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 32 nd meeting held during 20 th -21 st January, 2015. EIA report preparation/public hearing is exempted as per para 7(ii) of EIA Notification, 2006. The committee recommended the proposal for amendment in environmental clearance.	Noted.
3.	The ministry accepts the recommendation of the expert appraisal committee (industry) for amendment in the existing clearance subject to compliance of specific conditions and general conditions.	Noted.
4.	All other conditions will remain unchanged	We have noted the condition.
5.	You are requested to keep this letter with the Environmental Clearance accorded vide letter No. J-11011/135/2013-IA II (I) dated 28 th November, 2014.	We have noted the condition.
6.	In future, in case of change in the scope of the project, the company shall obtain fresh environmental clearance	We have noted the condition.
7.	This issues with the prior approval of the competent authority	Noted. *

SIX MONTHLY COMPLIANCE REPORT

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: J-11011/135/2013-IA II (I), Dtd: 28th November, 2014

FOR

EXPANSION OF REFINERY (FROM 6 MMTPA TO 7.5 MMTPA CRUDE PROCESSING) BY DEBOTTLENECKING OF M/S. BHARAT OMAN REFINERIES LIMITED (BORL) AT VILLAGE AGASOD, TEHSIL BINA, DISTRICT SAGAR, MADHYA PRADESH. *

S. No.	EC Conditions	Compliance Status								
A	Specific Conditions									
i.	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/121/1994-IA II (I) dated 16 th February, 1995 and 20 th March, 2009 shall be satisfactorily reports submitted to the Ministry of Regional office at Bhopal.	Complying with. Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. Last 3 compliance report submission details are given below: <table border="1"> <thead> <tr> <th>Period of Compliance</th> <th>Date of submission</th> </tr> </thead> <tbody> <tr> <td>May, 22 to Nov, 22</td> <td>01.12.2022</td> </tr> <tr> <td>Dec, 21 to April, 22</td> <td>10.08.2022</td> </tr> <tr> <td>June, 21 to Nov, 21</td> <td>01.12.2021</td> </tr> </tbody> </table>	Period of Compliance	Date of submission	May, 22 to Nov, 22	01.12.2022	Dec, 21 to April, 22	10.08.2022	June, 21 to Nov, 21	01.12.2021
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May, 22 to Nov, 22	01.12.2022									
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ii	M/s BORL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R 186 (E) dated 18 th March, 2008	New norms prescribed for the refineries were incorporated into the design of the project and are being complied with. Gaseous emissions from all the process units are continuously monitored through Online Continuous Emission Monitoring System available in all the stacks for ensuring compliance with the stipulations. In addition, the monthly Stack monitoring/analysis is being done through M/s. Kadam Environmental Consultants, Vadodara (a MoEF&CC and NABL accredited laboratory) monitoring reports from Dec, 2022 to May, 2023 are enclosed as Annexure-6								
iii	Continuous on-line stack monitoring for SO ₂ , NO _x , HC and CO of all the stacks shall be carried out. Low NO _x burners shall be installed in heaters/furnaces/boiler to minimize NO _x emissions.	Continuous on-line stack monitoring for SO ₂ , NO _x , PM and CO is being carried out as per the guidelines of CPCB. Low NO _x burners installed in all new heater / furnaces to minimize the NO _x emissions.								
iv	The process emissions [SO ₂ , NO _x , HC (methane & Non-methane)], VOC and Benzene from various units shall conform to the standards prescribed under the Environment (protection) Act. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency of the pollution of the pollution control device has been achieved.	Gaseous emissions from all the process units are continuously monitored through online stack monitoring system. In addition, the monthly Stack monitoring/analysis is being done through a MoEF&CC approved laboratory.								
v	Leaks detection and repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive	Complied with. Leak Detection and Repair (LDAR) program is implemented since 2011 for monitoring of fugitive emissions in refinery & dispatch terminal and the reports are submitted along with Six monthly monitoring reports to								

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ix	<p>Ambient air quality data shall be collected as per NAAQMS standard notified by the ministry on 16th November, 2009 and trend analysis w.r.t past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.</p>	<p>Complied with.</p>																											
x	<p>The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets mitigate the noise pollution. Besides, acoustic enclosure /silencer shall be installed wherever noise levels exceed the limit.</p>	<p>Complied with. Adequate stack height provided to the proposed DG sets as part of refinery expansion. Acoustic enclosures / silencers incorporated as part of the design of the DG sets.</p> <table border="1" data-bbox="571 405 1142 808"> <thead> <tr> <th>Name of section</th> <th>Capacity</th> <th>Stack Height (meters)</th> </tr> </thead> <tbody> <tr> <td>D.G. Sets</td> <td>125 KVA</td> <td>6</td> </tr> <tr> <td>D.G. Sets</td> <td>62.5 KVA</td> <td>12</td> </tr> <tr> <td>D.G. Sets</td> <td>62.5 KVA</td> <td>12</td> </tr> <tr> <td>D.G. Sets (Stand By)</td> <td>625 KVA</td> <td>13</td> </tr> <tr> <td>D.G. Sets</td> <td>2000 KVA</td> <td>30</td> </tr> <tr> <td>D.G. Sets</td> <td>3000 KVA</td> <td>30</td> </tr> <tr> <td>D.G. Sets (Stand By)</td> <td>1250 KVA</td> <td>30</td> </tr> <tr> <td>D.G. Sets (Stand By)</td> <td>5000 KVA</td> <td>30</td> </tr> </tbody> </table>	Name of section	Capacity	Stack Height (meters)	D.G. Sets	125 KVA	6	D.G. Sets	62.5 KVA	12	D.G. Sets	62.5 KVA	12	D.G. Sets (Stand By)	625 KVA	13	D.G. Sets	2000 KVA	30	D.G. Sets	3000 KVA	30	D.G. Sets (Stand By)	1250 KVA	30	D.G. Sets (Stand By)	5000 KVA	30
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xi	<p>Total raw water requirement from Betwa river shall not exceed 6.26 MGD. Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused as make up for the raw water to cooling tower. Domestic sewage shall be treated in sewage treatment plant (STP). As proposed, no effluent shall be discharged outside the plant premises and zero discharge concepts shall be followed.</p>	<p>Complied with. The total raw water requirement does not exceed the 6.26 MGD against the approved qty. of 10 MGD. The effluent generated from the proposed expansion is treated within the existing Effluent Treatment Plant. Domestic sewage generated is treated along with the process effluent in Sequential Batch reactor. The entire treated water is reused for production of DM water in RO_DM plant and for horticulture purpose.</p>																											

S. No.	EC Conditions	Compliance Status								
	<p>maintenance schedule for each unit shall be prepared and adhered to. Fugitive emission of HC from product storage tank yards etc. must be regularly monitored sensors for detecting HC leakage shall be provide at strategic location.</p>	<p>the RO - MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. The summary of the savings done after the repair of identified leaks from Dec, 2022 to May, 2023 is given below:</p> <table border="1" data-bbox="430 163 574 1008"> <thead> <tr> <th>S. No.</th> <th>Total checked</th> <th>points</th> <th>Equipment's checked</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10759</td> <td></td> <td>Pump, compressors, valves, flanges, exchangers, PSV, PRV etc.</td> </tr> </tbody> </table> <p>Total VOC savings after attending leaks: 1.081 kg/day. HC detectors installed at strategic locations as per requirement.</p>	S. No.	Total checked	points	Equipment's checked	1	10759		Pump, compressors, valves, flanges, exchangers, PSV, PRV etc.
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1	10759		Pump, compressors, valves, flanges, exchangers, PSV, PRV etc.							
vi	<p>SO₂ emission after expansion from the plant shall not exceed 29.25 TPD. Sulphur recovery efficiency of sulphur recovery unit with tail gas treating shall not be less than 99.9%.</p>	<p>Sulphur recovery efficiency of Sulphur Recovery Unit and Tail gas treatment(TGT) sections is >99.9%. The sulphur present in crude oil gets evolved mainly in the form of H₂S gas during various stages of processing. Sulphur Recover Unit (SRU) recovers the Sulphur from Hydrogen Sulphide (H₂S) rich gas stream which is formed in various secondary processing units. H₂S rich gas is the feed to SRU & is treated in the Main Combustion Chamber & followed by two stage Clause reaction to convert H₂S into elemental Sulphur. Residual Sulphur compounds are further treated in Tail Gas Treating Unit (TGTU) in presence of catalyst. Over all very high Sulphur recovery is achieved in SRU with efficiency of >99.9%. Being complied.</p>								
vii	<p>As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, by-product (elemental sulphur), atmospheric emissions etc.</p>	<p>Being complied.</p>								
viii	<p>Ambient air quality monitoring stations, [PM₁₀, PM_{2.5}, NO_x, H₂S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Maharashtra Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modelling exercise to represent short term GLCs.</p>	<p>Complied with. BORL has installed and commissioned 4 nos. of continuous AAQMS in consultation with MPPCB. And connected to MPPCB. One station shifted to MPPCB- Sagar as per the directions of MPPCB.</p>								

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xii	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	<p>Hence, Zero Discharge Condition followed. Complied with.</p> <p>Three numbers of oil catchers are already in place on storm water drainage system inside the factory premises.</p> <table border="1" data-bbox="391 548 646 907"> <thead> <tr> <th>S. No.</th> <th>Oil Catcher</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Oil Catcher-1</td> <td>ETP, to handle the storm water flowing from the process plants</td> </tr> <tr> <td>2</td> <td>Oil Catcher-2</td> <td>ETP, to cater the storm water from Crude Receipt Terminal</td> </tr> <tr> <td>3</td> <td>Oil Catcher-3</td> <td>Near Flare stack, to cater the storm water near flare stack</td> </tr> </tbody> </table>	S. No.	Oil Catcher	Location	1	Oil Catcher-1	ETP, to handle the storm water flowing from the process plants	2	Oil Catcher-2	ETP, to cater the storm water from Crude Receipt Terminal	3	Oil Catcher-3	Near Flare stack, to cater the storm water near flare stack									
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xiii	As proposed, BORL shall be developed rain water harvesting pond in an area of 6 acres.	<p>Complied with.</p> <p>Rainwater harvesting measures have been implemented in refinery township.</p> <p>Rain water harvesting pond in 12 acres with 10 recharge wells having a capacity of 173156 m3 and recharge capacity of 25973 m3 is constructed in refinery premises.</p>																					
xiv	As proposed, oily sludge shall be disposed-off through bio-remediation. Annual oily sludge generation and disposal data shall be submitted to Ministry's Regional Office and CPCB	<p>Complied with.</p> <p>Currently, the Oily sludge generated in the Effluent Treatment Plant is reprocessed in Delayed Coker Unit (DCU). Details of generation and reprocessing from Dec, 22 to May, 23 is given below:</p> <table border="1" data-bbox="1045 1467 1316 1848"> <thead> <tr> <th>S. No.</th> <th>Month</th> <th>Quantity, MT</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Dec-22</td> <td>18.86</td> </tr> <tr> <td>2</td> <td>Jan-23</td> <td>21.1</td> </tr> <tr> <td>3</td> <td>Feb-23</td> <td>19.5</td> </tr> <tr> <td>4</td> <td>Mar-23</td> <td>16.5</td> </tr> <tr> <td>5</td> <td>Apr-23</td> <td>20.3</td> </tr> <tr> <td>6</td> <td>May-23</td> <td>18.7</td> </tr> </tbody> </table> <p>There is also a provision in existing ETP to reprocess the Oily sludge in Bio Remediation Unit.</p>	S. No.	Month	Quantity, MT	1	Dec-22	18.86	2	Jan-23	21.1	3	Feb-23	19.5	4	Mar-23	16.5	5	Apr-23	20.3	6	May-23	18.7
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xxi	All the commitment made regarding issues raised during the public hearing/consultation meeting held on 19 th February, 2014 shall be satisfactorily implemented.	Complied. Public hearing was conducted on 19.02.2014. All the issues have been addressed adequately and to the satisfaction of the stakeholders. Being Complied.
xxii	At least 5% of the total cost of the project shall be earmarked towards the enterprise social responsibility based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.	Vide MoEFCC Memorandum – F. No. 22-65/2017-IA.III dated May 1, 2018, capital investment prescribed for a brown field project of greater than Rs 1,000 Crores to Rs. 10,000 crores are 0.25 % on Corporate Environmental Responsibility (CER). It may be noted that we have applied for waiver of this condition with MoEF&CC and EAC committee recommended the same. Further, MoEFCC circular dated 30/09/2020 allocation of funds under CER is not required. As on date we have spent more than 5.24 crores under ESR towards protection of Environment. Apart from above, company is doing CSR jobs in surrounding areas in four thematic areas which includes Environment also. Being Complied.
xxiii	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.	Compliance status of Rapid Risk Assessment report is attached as Annexure-3
xxiv	Company shall adopt corporate Environment policy as per the ministry's O.M. no. J-11013/41/2006 –IA.II (I) dated 26 th April, 2011 and implemented.	Company has well laid QEHs Policy. A hierarchical system of the company to deal with environmental issues and for ensuring the compliance of Environmental clearance conditions is developed with environmental engineers in place. Periodical review of Environmental performance takes place at APEX meetings.
xxv	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The Housing may be in the form of temporary structures to be removed after the completion of the project.	The construction labour required during the construction phase were hired from the nearby villages only, so there was no requirement for development of infrastructure facilities. The medical health care facilities were taken care by the VK BORL hospital in the township premises.
B	General Conditions	
I	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	Complying with all the stipulations made by the MP Pollution Control Board and compliance reports are submitted to MPPCB regularly.

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ii	<p>No further expansion or modification in the project shall be carried out without prior approval of the ministry of Environment & forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.</p>	<p>We have noted the condition.</p>																																												
iii	<p>The project authorities must strictly comply with the rules and regulation under Manufacture, storage and import of hazardous chemicals rules, 2000 as amended subsequently. Prior approvals from chief inspectorate of factories, Chief controller of Explosives, Fire safety inspectorate etc. must be obtained, wherever applicable.</p> <p>The overall noise levels in and around the plant area shall be kept well within the standards by providing noise.</p>	<p>Rules and regulations under MSIHC rules 1989, as amended in 2000 are complied and approvals from The Petroleum and Explosives Safety Organization (PESO) and Fire safety inspectorate have been obtained for the project.</p> <p>Adequate measures are incorporated during the detailed engineering of the project such that noise levels in and around the plant shall be within the noise levels. Summary of the noise survey reports is as below:</p>																																												
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v	<p>A separate Environmental Management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.</p>	<p>Complied with. Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safe guards. Environment Management Cell Organogram is attached as Annexure-10</p>																																												
vi	<p>Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the</p>	<p>Complied.</p>																																												

S. No.	EC Conditions	Compliance Status								
vii	<p>conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.</p> <p>The Regional office of this Ministry/Central Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.</p>	<ul style="list-style-type: none"> Separate budget has been allocated to the Environment Department. Allocated budget for the FY: 2023-24 is INR 718 Lakhs. Environment budget is not being diverted to any other purpose. <p>Complying with.</p> <p>Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance.</p> <p>Last 3 compliance report submission details are given below:</p> <table border="1" data-bbox="351 801 386 990"> <thead> <tr> <th>Period of Compliance</th> <th>Date of submission</th> </tr> </thead> <tbody> <tr> <td>May, 22 to Nov,22</td> <td>01.12.2022</td> </tr> <tr> <td>Dec,21 to April,22</td> <td>10.08.2022</td> </tr> <tr> <td>June,21 to Nov, 21</td> <td>01.12.2021</td> </tr> </tbody> </table>	Period of Compliance	Date of submission	May, 22 to Nov,22	01.12.2022	Dec,21 to April,22	10.08.2022	June,21 to Nov, 21	01.12.2021
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Dec,21 to April,22	10.08.2022									
June,21 to Nov, 21	01.12.2021									
viii	<p>A copy of clearance letter shall be sent by the proponent to concerned panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestion/ representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent</p>	<p>Copy of clearance letter sent to panchayat, zila parishad/municipal corporation, urban local body.</p>								
ix	<p>The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely: [PM₁₀, PM_{2.5}, SO₂, NO_x, HC methane & non-methane) VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>Compliance report of conditions stipulated in Environment Clearance is available on the company website.</p> <p>Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance.</p> <p>The Continuous Ambient Air Quality Monitoring data and Continuous Emission Monitoring of Stacks is displayed in the digital display board at the main gate of refinery.</p>								
x	<p>The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional office of this Ministry/CPCB /SPCB shall monitor the stipulated conditions.</p>	<p>Six monthly monitoring reports are regularly submitted to the RO-MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance.</p> <p>Last 3 compliance report submission details are given below:</p> <table border="1" data-bbox="686 801 737 990"> <thead> <tr> <th>Period of Compliance</th> <th>Date of submission</th> </tr> </thead> <tbody> <tr> <td>May, 22 to Nov,22</td> <td>01.12.2022</td> </tr> <tr> <td>Dec,21 to April,22</td> <td>10.08.2022</td> </tr> <tr> <td>June,21 to Nov, 21</td> <td>01.12.2021</td> </tr> </tbody> </table>	Period of Compliance	Date of submission	May, 22 to Nov,22	01.12.2022	Dec,21 to April,22	10.08.2022	June,21 to Nov, 21	01.12.2021
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S. No.	EC Conditions	Compliance Status
xi	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.</p>	<p>Complied. The Environment Statement in Form-V for the Financial Year: 2021-22 is submitted to MPPCB vide letter No.: BORL/MPPCB/Consents/2022/17 dated 26.07.2022 & also uploaded on company website</p>
xii.	<p>The Project Proponent shall inform the public that the project has been accorded environment clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in. This shall 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 shall be forwarded to the Regional office.</p>	<p>Complied with. Informed to public by publishing in two local newspapers of Hindustan Times and Dainik Bhaskar on 21st & 23rd June 2015.</p>
xiii	<p>Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.</p>	<p>Date of Commencement of land development: September 2015</p>
8.0	<p>The Ministry may revoke or suspend the clearance, if implementations of any of the above conditions are not satisfactory.</p>	<p>We have noted the condition. *</p>
9.0	<p>The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.</p>	<p>We have noted the condition.</p>
10.0	<p>The above conditions will be enforced, inter-alia under the provisions of the water (prevention & control of pollution) Act, 1974 Air (prevention & control water of pollution) Act, 1981, the Environment (protection) Act, 1986, Hazardous waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the public liability insurance Act, along with their amendments and rules.</p>	<p>Noted.</p>

SIX MONTHLY COMPLIANCE REPORT

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: J-11011/21/1994-1A II (I), Dtd: 20th March, 2009

S. No	EC Conditions	Compliance status
i	M/s BORL shall comply with new standards/ norms for Oil Refinery Industry notified under the Environment (Protection) Rules 1986 vide G.S.R. 186 (E) dated 18 th March 2008.	New norms prescribed for the refineries were incorporated into the design of the project and are being complied with. Gaseous emissions from all the process units are continuously monitored through Online Continuous Emission Monitoring System available in all the stacks for ensuring compliance with the stipulations.
ii	M/s BORL shall comply with all the conditions stipulated vide Ministry's letter of even no. dated 16.02.1995.	Point has been noted. Compliance Status is enclosed in preceding section.
iii	The process emissions (SO ₂ , NO _x , HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Madhya Pradesh State Pollution Control Board from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Gaseous emissions from all the process units are continuously monitored through online stack monitoring system for ensuring compliance with the stipulations. In addition, the monthly Stack monitoring/analysis is being done through a MoEF&CC approved laboratory. Pl. refer Annexure-6 for monitoring reports of source emission from process units.
iv	Ambient air quality monitoring stations (SPM, SO ₂ , NO _x , H ₂ S, Mercaptans, NMHC and Benzene) shall be set up in the Refinery complex in consultation with SPCB, based on occurrence of maximum ground level concentration and down wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment shall be installed for measurement of SO ₂ , NO _x , CO and O ₂ . Data should be displayed on the gate of the refinery and important public places through sign boards. The data should be displayed on the web industry and e-mailed to the Regional office of the Ministry/CPCB/State Pollution Control Board.	Complied with. BORL has installed and commissioned 4 nos. of continuous AAQMS in consultation with MPPCB. And connected to MPPCB. One station shifted to MPPCB- Sagar as per the directions of MPPCB. The data is displayed at the main gate through digital display board.
v	Monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors and reports shall be submitted to the Ministry's regional office at Bhopal. For control of fugitive emission all unsaturated hydrocarbon will be routed to the flare system and the flare system shall be designed for smoke less burning.	Complied with. Leak Detection and Repair (LDAR) program is implemented since 2011 for monitoring of fugitive emissions in refinery & dispatch terminal and the reports are submitted along with Six monthly monitoring reports to the RO - MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. The summary of the savings done after the repair of identified leaks from Dec,2022 to May, 2023 is given below:

		<table border="1"> <thead> <tr> <th data-bbox="204 958 276 1070">S. No.</th> <th data-bbox="204 689 276 958">Total checked</th> <th data-bbox="204 465 276 689">points</th> <th data-bbox="204 219 276 465">Equipment's checked</th> </tr> </thead> <tbody> <tr> <td data-bbox="276 958 355 1070">1</td> <td data-bbox="276 689 355 958">10759</td> <td data-bbox="276 465 355 689"></td> <td data-bbox="276 219 355 465">Pump, compressors, valves, flanges, exchangers, PSV, PRV etc.</td> </tr> </tbody> </table>	S. No.	Total checked	points	Equipment's checked	1	10759		Pump, compressors, valves, flanges, exchangers, PSV, PRV etc.
S. No.	Total checked	points	Equipment's checked							
1	10759		Pump, compressors, valves, flanges, exchangers, PSV, PRV etc.							
vi	<p>Fugitive emissions in the form of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting H₂S, HC leakage shall also be provided at strategic locations. The company shall use low sulphur fuel to minimize SO₂ emission. Leak Detection and Repair program shall be implemented to control HC/VOC emissions. Work zone monitoring shall be carried out near the storage tanks besides monitoring HCs/VOCs in the work zone.</p>	<p>Total VOC savings after attending leaks: 1.081 kg/day Pl. refer Annexure-8. All unsaturated hydrocarbons are routed to the flare system and the flare system is designed for smoke less burning</p> <ul style="list-style-type: none"> All floating roof tanks along with crude oil tanks are provided with primary and secondary seals and all fixed roof tanks are provided with N₂ blanketing to reduce fugitive emissions. Sensors for detecting H₂S, HC leakage have been installed in the refinery. Fuel with low sulphur is used for refinery operation. <p>Leak Detection and Repair program is implemented to control HC/VOC emissions and The summary of the savings done after the repair of identified leaks from Dec, 2022 to May, 2023 is attached in the condition v</p>								
vii	<p>The flare area shall have H₂S and HC detectors with fire alarm system at fire station/ control room. Flare gas recovery system shall be installed. All process units shall have knockout drums in every battery area. The safety release system of light hydrocarbons which are open to atmosphere shall be connected to flare system.</p>	<p>Complied</p> <ul style="list-style-type: none"> H₂S and HC detectors are installed at flare area and are connected to control room with alarm system. Flare gas recovery system is installed. Knockout drums are available in all process units * The safety release system of hydrocarbons is connected to flare system. 								
viii	<p>The waste water shall be treated in the waste water treatment plant and the treated effluent shall meet the prescribed standards. Efforts shall be made to recycle the treated effluent to achieve zero discharge.</p>	<ul style="list-style-type: none"> The waste water after suitable treatment in ETP is being recycled to RO-DM plant. Balance if any, are being utilized for gardening / horticulture use within refinery. Continuous Effluent Quality Monitoring System is installed at the outlet of ETP and these analyzers are connected to CPCB and MPPCB for real time monitoring. Monitoring reports from Dec, 2022 to May, 2023 are enclosed as Annexure-7. 								
ix	<p>The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Wastes (Management Handling and Trans Boundary Movement) Rules 1989/2003/2008, wherever applicable. Authorization from the State Pollution Control</p>	<p>The hazardous waste generated is disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous Waste authorization is also obtained from MPPCB, valid till 31.12.2023.</p>								

	Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.	
X	The company shall strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP).	Complied with. The compliance status of CREP recommendations date 01.06.2013 is attached below: All other CREP recommendations are attached as Annexure-4
xi	The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.	Necessary features have been incorporated in refinery design to prevent fire hazards, oil spills etc. Firefighting facilities have been designed conforming to the relevant OISD standards (OISD-STD-116, OISD-GDN-115 & 200). Additionally, a Vacuum truck has been procured for handling of oil spills. All flare lines are routed to an overhead flaring stack with knockout drum.
xii	To prevent fire and explosion at Oil and Gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.	Complied with. For refinery expansion, separation distance between various facilities in the refinery has been kept in accordance with applicable OISD standards (OISD-STD-118).
xiii	Occupational health surveillance of worker shall be done on a regular basis and records maintained as per the Factories Act.	Periodical medical surveillance of workers is done regularly and records are being maintained.
xiv	Greenbelt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 33% plant area in consultation with DFO as per CPCB guidelines.	Green belt development is a continuous activity in and around boundaries of refinery. Green belt of 200m width along the boundary of refinery is developed with local species like Neem, Sheesham, Kadamba, Arabic gum, scholar tree, indian rosewood, red forest gum etc. A total of 3,98,246 saplings are planted so far in the refinery. Pl. refer Annexure-11 for brief details on greenbelt development.
xv	M/s BORL shall undertake measures for rain water harvesting to recharge the ground water and minimize fresh water consumption.	Rainwater harvesting measures have been implemented in refinery township. Rain water harvesting pond in 12 acres with 10 recharge wells having a capacity of 173156 m3 and recharge capacity of 25973 m3 is constructed in refinery premises.
6	In case of change in the scope of the project, M/s, BORL shall obtain fresh environment clearance under the provisions of EIA Notification, 2006	Point has been noted.

SIX MONTHLY COMPLIANCE REPORT

OF

ENVIRONMENT CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: No: J-11011/21/94-IA-II (I), Dtd: 16-02-1995

FOR

6 MMTPA GRASSROOT REFINERY, INCLUDING CAPTIVE POWER PLANT (CPP) AND MARKETING TERMINAL (BY BPCL) AT BINA, M.P. OF BHARAT OMAN REFINERIES
LIMITED

*

S. No	EC Conditions [EC. No: J-11011/21/94-IA-II (I), Dtd: 16-02-1995]	Compliance status
i	The project authority must strictly adhere to the stipulations made by the M.P. Pollution Control Board and the State Government.	All the conditions stipulated by Pollution Control Board of Madhya Pradesh through Air, Water & Hazardous authorizations are strictly adhered to and compliance of same is submitted to MPPCB regularly. Pl. refer Annexure-1 .
ii	Any expansion of the plant, either with the existing product mix or new product(s) or storage facilities etc. can be taken up only with the prior approval of this ministry.	Any expansion or modernization in the plant will be taken up only with the prior approval of the Ministry of Environment & Forests.
iii	Total emissions of SO ₂ from the entire refinery complex should not exceed the range 30 - 40 TPD.	Sulphur recovery efficiency of Sulphur Recovery Unit and Tail gas treatment(TGT) sections is >99.9%. The sulphur present in crude oil gets evolved mainly in the form of H ₂ S gas during various stages of processing. Sulphur Recover Unit (SRU) recovers the Sulphur from Hydrogen Sulphide (H ₂ S) rich gas stream which is formed in various secondary processing units. H ₂ S rich gas is the feed to SRU & is treated in the Main Combustion Chamber & followed by two stage Claus reaction to convert H ₂ S into elemental Sulphur. Residual Sulphur compounds are further treated in Tail Gas Treating Unit (TGTU) in presence of catalyst. Over all very high Sulphur recovery is achieved in SRU with efficiency of >99.9%.
iv	The gaseous emissions from various process units should conform to the standards prescribed by the concerned authorities, from time to time. At no time the emissions level should go beyond the stipulated standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should be shut down immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.	Gaseous emissions from all the process units are continuously monitored through Online Continuous Emission Monitoring System available in all the stacks for ensuring compliance with the stipulations. In addition, the monthly Stack monitoring/analysis is being done through a MoEF&CC approved laboratory. Monitoring reports from Dec, 2022 to May, 2023 are enclosed as Annexure-5 & 6 for Ambient air quality and source emission monitoring reports.
v	Sulphur recovery units with more than 99% efficiency for sulphur recovery should be provided	Sulphur recovery unit with Tail Gas Treatment Unit (TGTU) with >99.5% efficiency for Sulphur recovery is operated
vi	Low NOx burners to avoid excessive formulation of NOx should be provided.	Low NOx burners are provided in all fired heaters of the refinery for reduction of NOx emissions.

vii	At least four ambient air quality monitoring stations should be set up in the refinery area in the down wind direction as well as where maximum ground level concentrations of SO ₂ , NO _x , HC and SPM are anticipated. The monitoring network should be decided based on the modeling exercise to represent the short term GLCs. A mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should also be planned.	Complied with. BORL has installed and commissioned 4 nos. of continuous AAQMS in consultation with MPPCB. And connected to MPPCB. One station shifted to MPPCB- Sagar as per the directions of MPPCB. A mobile van with adequate facilities to monitor ambient air quality outside the refinery premises is available.												
viii	Fugitive emissions of HC from storage tanks, crude oil tanks etc., should be minimized by adopting necessary measures. Action plan should be prepared for this purpose and submitted to this ministry.	All floating roof tanks along with crude oil tanks are provided with primary and secondary seals and all fixed roof tanks are provided with N ₂ blanketing to reduce fugitive emissions. Regular fugitive emissions monitoring being done to check the VOC emissions.												
ix	Adequate facilities for monitoring the fugitive emissions should be planned	Leak Detection and Repair (LDAR) program is implemented since 2011 for monitoring of fugitive emissions in refinery & dispatch terminal and the reports are submitted along with Six monthly monitoring reports to the RO - MoEF&CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment Clearance. The summary of the savings done after the repair of identified leaks from Dec, 2022 to May, 2023 is given below: <table border="1" data-bbox="837 264 986 1106"> <thead> <tr> <th>S. No.</th> <th>Total checked</th> <th>points</th> <th>Equipment's checked</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10759</td> <td></td> <td>Pump, compressors, valves, flanges, exchangers, PSV, PRV etc. *</td> </tr> </tbody> </table> <p>Total VOC savings after attending leaks: 1.081 kg/day Pl. refer Annexure-8 for brief details of Leaks identified & closed during the period.</p>	S. No.	Total checked	points	Equipment's checked	1	10759		Pump, compressors, valves, flanges, exchangers, PSV, PRV etc. *				
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x	The stack should be of appropriate design and height and should be attached to pollution control system where ever necessary. Height of stacks attached to AVU, HCU, CPP etc. should not be less than 100m.	Stacks of appropriate design and adequate height are provided in all units. Height of stacks attached to CDU, HCU UB & CPP units is 100 m. <table border="1" data-bbox="1166 573 1465 1106"> <thead> <tr> <th>Name of section</th> <th>Stack Height (meters)</th> <th>Control equipment to be installed</th> </tr> </thead> <tbody> <tr> <td>Boilers (CPP)</td> <td>100</td> <td>Cyclone, E.S.P, Green Belt</td> </tr> <tr> <td>Boiler (Utility)</td> <td>100</td> <td>Heater/Furnace-Low Sulphur Fuel, Low NOX Burner</td> </tr> <tr> <td>CDU/VDU Heater (Stack-1)</td> <td>100</td> <td>Green Belt, Heater/Furnace-Low</td> </tr> </tbody> </table>	Name of section	Stack Height (meters)	Control equipment to be installed	Boilers (CPP)	100	Cyclone, E.S.P, Green Belt	Boiler (Utility)	100	Heater/Furnace-Low Sulphur Fuel, Low NOX Burner	CDU/VDU Heater (Stack-1)	100	Green Belt, Heater/Furnace-Low
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HCU/Dhd heater (Stack-6)	100		Sulphur Fuel, Low NOX Burner																																				
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xi	<p>Designing of LPG spheres including the exclusion zone should be finalized in consultation and approval of the department of Explosives.</p>																																						
xii	<p>Ground water should not be tapped for the industrial as well as domestic uses including the township. Alternate source has to be finalized keeping in view its impact on other competent users.</p>		<p>Betwa river water is used to meet the water requirement of refinery and township. Therefore, no ground water is tapped.</p>																																				
xiii	<p>Recycling/Reuse of the treated effluent to the maximum extent possible should be planned.</p>		<p>Treated effluents from ETP are recycled to RO-DM plant. Balance treated effluent is being utilized for greenbelt development inside refinery.</p>																																				

xiv	Adequate numbers of influent and effluents quality monitoring stations have to be planned with adequate facilities especially for the parameters like phenols, sulphides, oil and grease, suspended solids, BOD, COD, pH and flow.	Influent & effluent quality monitoring is carried out on regular basis by in-house laboratory & also by an external MoEF approved laboratory. Pl. refer Annexure-7 for effluent monitoring reports.																						
xv	System to recover oil from the oily sludge and incinerator for burning the residues should be provided.	Also installed Continuous Effluent Quality Monitoring Station at ETP out let for the parameters such as pH, BOD, COD, TSS and Flow as per the CPCB guidelines and real-time data is transferred to MPPCB and CPCB portals continuously. For maximum recovery of hydrocarbons, ETP Oily sludge is recycled to the Delayed Coker Unit. Alternatively, Bio-remediation facility has been provided for conversion of residual oil from the oily sludge. BOREL has also tied-up with TSDF, Indore for incineration of ETP sludge.																						
xvi	Hazardous substances and solid wastes should be handled, stored and disposed off as per the hazardous wastes (Management and Handling) Rules, 1989 of the EPA 1986.	The hazardous waste generated is stored, handled and disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous Waste authorization is also obtained from MPPCB, valid till 31.12.2023.																						
xvii	Cutting of trees from the project sites should be kept to minimum while developing the site and planning the infrastructural facilities.	Cutting of trees has been kept minimum during the site and planning of infrastructural facilities																						
xviii	The industrial township should not be located in the down wind direction with respect to the refinery.	The residential colony is developed on southern side of the refinery with respect to predominant wind pattern																						
xix	Adequate sanitation facilities and cooking fuel should be provided to the laborers to avoid tree cutting and nuisance in the area.	Adequate sanitation facilities were provided to laborers *																						
xx	The labours of the contractor should leave the place after completion of the work at site to avoid creation of slum in the adjoining areas of the project.	The temporary housing of the construction labour was removed from the project area to avoid creation of slum in the adjoining area																						
xxi	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing acoustic hoods, silencers etc on all the sources of noise generation.	Adequate measures are incorporated during the detailed engineering of the project such that noise levels in and around the plant shall be within the noise levels. Summary of the noise survey reports is as below:																						
		<table border="1"> <thead> <tr> <th>Month</th> <th>Parameter</th> <th>Tower No.8</th> <th>Tower No.10</th> <th>Tower No.6</th> <th>Tower No.4</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Dec-22</td> <td>Leq Day</td> <td>57.1</td> <td>63.3</td> <td>54.4</td> <td>59.7</td> </tr> <tr> <td>Leq Night</td> <td>51.9</td> <td>61.2</td> <td>52.1</td> <td>53.8</td> </tr> <tr> <td>Leq (day/night)</td> <td>56</td> <td>62.7</td> <td>53.7</td> <td>58.4</td> </tr> </tbody> </table>	Month	Parameter	Tower No.8	Tower No.10	Tower No.6	Tower No.4	Dec-22	Leq Day	57.1	63.3	54.4	59.7	Leq Night	51.9	61.2	52.1	53.8	Leq (day/night)	56	62.7	53.7	58.4
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		Parameter	Tower No.3	Tower No.5	Tower No.7	Tower No.9
			Leq Day	Leq Night	Leq (day/night)	
	Mar-23		53.8	57.2	60.9	56.5
			51.2	53.3	57.6	52.8
			53.1	56.3	60.0	55.6
xxii	A green belt of at least 200 m and adequate density in the downwind direction using native plant species should be developed in consultation with the local DFO.	Pl. refer the Annexure-9 for the noise reports. Green belt development is a continuous activity in and around boundaries of refinery. Green belt of 200m width along the boundary of refinery is developed with local species like Neem, Sheesham, Kadamba, Arabic gum, scholar tree, indian rosewood, red forest gum etc. A total of 3,98,246 saplings are planted so far in the refinery. Pl. refer Annexure-11 for greenbelt development details along with species selection.				
xxiii	Necessary approvals from the Chief Explosives Directorate, Inspector of Factories, Fire Safety Inspector etc., should be obtained and copies of approval letters be made available to this ministry.	Necessary approvals from concerned authorities are obtained and copies submitted to your office vide our letter No. BORL/MoEF/EC/2018/03 dated 01/01/2019.				
xxiv	The project authority should set up laboratory facilities for collection and analysis of samples under the supervision of competent technical personnel, who will directly report to the chief Executive.	The laboratory facility had been established with competent technical personnel reporting to senior management and is NABL accredited.				
xxv	An Environmental Management Cell should be established with suitably qualified people to carry out various functions and should be set up under the control of a senior executive who will report directly to the head of the organization.	Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safe guards. Pl. refer Annexure-10 for the organogram of Environment dept.				
xxvi	Medical surveillance of workers should be done regularly to avoid possibility of contracting occupational diseases against the worker engaged in the various plants and record maintained.	Periodical medical surveillance of workers is done regularly and records are being maintained.				
xxvii	The project authorities should carry out a water balance study at the proposed weir site and submit the report within 12 months.	Water balance study has been carried out at the weir site and report submitted.				
xxviii	The funds earmarked for the environmental protection measures should not be diverted for other purposes and year wise expenditure should be reported to this ministry.	Complied. <ul style="list-style-type: none"> Separate budget has been allocated to the Environment Department. Allocated budget for the FY: 2023-24 is INR 718 Lakhs. Environment budget is not being diverted to any other purpose. 				

3	The project authorities should also comply with the additional stipulations and conditions prescribed in the EIA and risk analysis reports.	Being Complied. Pl. refer Annexure 2 & 3 for compliance status of EIA and Risk Analysis reports respectively.
4	The ministry or any other competent authority may stipulate any further conditions, after assessing the pollution caused after the implementation of the project.	Noted and agreed to comply with the directions of the MoEF& CC, if any.
5	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Point has been noted.
6	The above conditions will be enforced inter-alia under the provisions of the water (prevention and control of pollution) Act 1974, the Air (Prevention and control of pollution) Act 1981, The Environment Protection Act – 1986.	Point has been noted.

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