Status as on 31.03.2020

Subject: Status of Environmental Clearance Conditions for MS quality up-gradation and HSD quality up-gradation in Barauni Refinery

Ref: Ministry’s clearance letter no J-11011/15/2015 - IA II (I) dated 06.03.2017.

<table>
<thead>
<tr>
<th>SN</th>
<th>Point</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Specific Conditions</td>
<td></td>
</tr>
</tbody>
</table>
| ii. | Continuous on-line stack monitoring for SO$_2$, NOx and CO of all the sacks shall be carried out. | • Continuous on-line stack analyzers for monitoring of SO$_2$, NOx, CO & PM have been installed and connected to CPCB server for 20 nos. of stacks.  
• SOx, NOX, CO and PM analysers for remaining 2 stacks for furnaces of heat duty less than 10 MKcal/hr are also being procured as a part of ongoing BS-IV project.  
• Complied. |
| iii. | The process emissions {SO$_2$, NOx, HC (Methane & Non-methane)}, VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act, 1986. 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 control device has been achieved. | • SO$_2$, NOx, CO & PM are monitored with online SO$_2$, NOx, CO and PM analyzers.  
• Process emissions from all units are monitored once in two months except SRU (which is monitored monthly) by MoEF approved external agency M/s Mantec Environmental Laboratories.  
• Total SO$_2$ emissions from existing units at BR are less than the stipulated limit of 815 kg/hr.  
• Complied. |
| iv. | Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall | • Leak detection and repair programme is already in place at Barauni Refinery and same is carried out on quarterly basis. |
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 maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.

- Preventive maintenance schedule for each unit is in place and same is strictly adhered to.
- Monitoring of fugitive emission from tank farm area is included in Leak Detection and Repair Programme.
- 394 nos of hydrocarbon detectors are installed in strategic locations in the various process units, tank farm, and other plausible locations.
- Complied.

v. SO2 emissions after expansion from the plant shall not exceed 815 kg/hr and further efforts shall be made for reduction of SO2 load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H2S emissions. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating shall not be less than 99.9%.

- Total SO2 emission from existing units at BR is less than the stipulated limit of 815 kg/hr.
- SRU (Sulphur Recovery Unit) unit (without tail gas treating) consisting of 2 chains of capacity 40 MT/day of Sulphur production each is installed at Barauni Refinery.
- As per norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008, existing SRU installed in the refinery should have 98.7% sulphur recovery and Barauni Refinery complies this standard.
- New SRU envisaged in upcoming project (capacity expansion) will be installed with overall sulphur recovery efficiency of min 99.9%.
- Complied.

vi. 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, byproduct (elemental sulphur), atmospheric emissions etc.

- Sulphur balance record is being maintained as a part of Environmental data.
- Complied.

vii. Flare gas recovery system shall be installed.

- Flare gas recovery system is installed and operational in the refinery.
- Complied.
### viii. Ambient air quality monitoring stations, [PM10, PM2.5, SO2, NOx, H2S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be devised based on modeling exercise to represent short term GLCs.

- Five nos. of offline ambient air quality monitoring stations (four in refinery and one in township) and three nos. of continuous ambient air quality monitoring station has been provided at strategic locations at BR for monitoring of ambient air quality.
- Ambient air quality is checked twice in a week in five nos. of offline ambient air quality monitoring stations as per MoEF&CC standards 2009.
- **Complied.**

### ix. The total water requirement from artesian wells after expansion of proposed project shall not exceed 651 m³/hr and prior permission shall be obtained from the competent authority.

- Average fresh water requirement for 2019-20 is 629.3 m³/hr which is within the allowable limit of 651 m³/hr.
- Barauni Refinery has received NOC from CGWA on 19.06.2018.

### x. As proposed, Industrial effluent generation shall not exceed 497 m³/hr after proposed expansion and treated in the integrated effluent treatment plant. The plant shall be based on Zero Liquid Discharge and as proposed RO to be installed within the plant. Treated effluent shall be recycled/reused within the factory premises. Domestic sewage shall be treated in sewage treatment plant (STP).

- Industrial effluent generation for 2019-20 is 486.3 m³/hr which is within the allowable limit of 497 m³/hr and is treated in the effluent treatment plant of the refinery.
- Industrial effluent generation post project shall be maintained within 497 m³/hr.
- Zero liquid discharge is being maintained at Barauni Refinery except during heavy rainfall, when excess surface run off may have to be allowed to flow into Refinery owned pit (Burrow Pit) adjacent to refinery premise in the West.
- Treated effluent is being reused for following purpose in the refinery:
  - Cooling Tower makeup water
  - Fire water make up
  - Coke cutting water
  - Make up water for Eco Ponds
  - Horticulture in Eco park
- Domestic sewage is treated in biological treatment plant of the refinery.
- **Complied.**

### xi. Automatic mechanical Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.

- Oil catchers have been constructed at following strategic locations of the refinery:
  - West of AVU-III
  - West of RFCCU
  - South of DHDT
  - East of Coker A
  - North of Coker A
- **Complied.**
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>xi.</td>
<td>The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| xii. | RCC pit for storage of Oily Sludge is in place and mechanized skid process has been deployed for better recovery of oil from oily sludge in place of melting pit. Presently M/s Balmer Lawrie is engaged for this job. 

- Residual oily sludge is bio-remediated in HDPE lined pit as well as confined space bio-remediator. 

- Complied. |
|   |   |
| xiii. | At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESR) based on Public Hearing issues and itemwise details along with time bound action plan shall be prepared and submitted to the Ministry’s Regional Office at Ranchi.  

- A total of Rs 399,63,000 for CSR/ESR activities in FY 2019-20. The detail of expenditure is enclosed as Annexure-2. |
|   |   |
| xiv. | Green belt should be developed in 33% of the plot area to mitigate the effect of fugitive emission all around the plant in consultation with DFO as per CPCB guidelines. Thick green belt around factory premises should be ensured.  

- Total plot area of the refinery including BTP: 887.83 acres. 
- Green belt area in Refinery: 148.39 acres. 
- Green belt area in Refinery Township: 82.19 acres. 
- Total green belt area: 230.58 acres. 
- Number of trees planted till date since 1995 is 111,144. 
- In view of unavailability of space within the refinery premises, scope for extensive tree plantation is limited. However, tree plantation is being taken up both in refinery and township at available spaces. 525 nos. plants were planted in 2019-20. |

B General Conditions
|   | The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority. | • Stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority are being followed.  
• Complied. |
|---|---|---|
| ii. | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and 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. | • Prior approval of ministry would be taken before carrying out any expansion or modification of the plant if required.  
• Complied. |
| iii. | The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated. | • Five nos. of offline ambient air quality monitoring stations (four in refinery and one in township) and three nos. of continuous ambient air quality monitoring station has been provided at strategic locations at BR for monitoring of ambient air quality which are located both in upwind as well as downwind direction.  
• Complied. |
| iv. | The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed. | • Ambient air quality is checked twice in a week in five nos. of offline ambient air quality monitoring stations as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009.  
• Complied. |
| v. | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules viz. 75 dBA (day time) and 70 dBA (night time). | • The ambient noise levels from existing facilities conform to the standards prescribed under Environment (Protection) Act, 1986 Rules.  
• For personnel working in the proximity of high noise generating equipments, appropriate PPEs are used, and exposure is controlled through job rotation, education and awareness.  
• Adequate noise control measures shall be taken in new facilities in the project.  
• List of PPEs provided is attached as annexure-4.  
• Complied. |
| vi. | The company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water. | Rain water harvesting has been implemented at 21 buildings of Barauni Refinery and township in which water collected from roof top of various buildings is recharged to ground water. Additionally, whole surface run-off of township is also diverted to 3 nos. of recharge pits.  
- Storm water drain of the refinery has been routed to ETP and storm water is being reused in refinery operation after treatment along with ETP water except during heavy rainfall, when excess surface run off may have to be allowed to flow into Refinery owned pit (Burrow Pit) adjacent to refinery premise in the West.  
- Complied. |
| vii. | Training shall be imparted to all employees on Safety and health aspects of chemical handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemical shall be imparted. | Training is continuously imparted to all employees on chemical handling.  
- Pre – employment medical examination of all employees are carried out before joining the organization.  
- Routine periodical medical examination as per statutory requirement is carried out on regular basis.  
- Complied. |
| viii. | The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing relating to the project shall be implemented. | Presently Environmental Monitoring of all required parameters in Refinery is carried out periodically. The existing practice shall be extended for the proposed project as per EIA/EMP report.  
- Recommendations of Quantitative Risk Analysis is being implemented along with project execution. |
| ix. | The company shall undertake all relevant measures for improving the socio economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration. | Being done based on the drawn up schedule as part of CSR. CSR plan is finalized in consultation with mukhiyas of surrounding villages.  
- Complied |
| x. | The company shall undertake eco-developemental measures including community welfare measures in the project area for the overall improvement of the environment. | Being done based on the drawn up schedule as part of CSR.  
- Complied |
| xi. | A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. | • BR has a full-fledged environment protection cell and a well equipped dedicated pollution control laboratory established back in 1975.  
• Complied |
| xii. | The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds to earmark for environment management/pollution control measures shall not be diverted for any other purpose. | • Being complied.  
• In addition to one time investment in facilities for combating pollution, separate funds are allocated for specific activities such as environment monitoring, operation and maintenance of effluent treatment plant, oil recovery from oily sludge through mechanized skid process and studies related to environment etc. |
| xiii. | A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad / Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. | • The instant project being environment project was exempted from public hearing. Further, no suggestions were received from Panchayat, Zila Parisad / Municipal Corporation, Urban local Body and the local NGO while processing the proposal. Nevertheless, copy of clearance has been sent to District Magistrate, Begusarai and Municipal Commissioner, Begusarai Nagar Nigam vide letter dated 22.02.2020. Attached as Annexure-5.  
• Complied |
| xiv. | The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company. | • A six monthly compliance report and the monitored data are submitted regularly.  
• EC Compliance status of various projects is being hosted on [https://www.iocl.com/Talktous/SNotices.aspx](https://www.iocl.com/Talktous/SNotices.aspx). Alternatively, one can reach IOCL home page at [https://www.iocl.com](https://www.iocl.com) and thereafter selecting “We’re Listening” tab followed by opening “Statutory Notices”.  
• Complied |
| xv. | The environmental statement for each financial year ending 31st March in Form-V as its mandated shall be submitted 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 | • Environment Statement for each financial year is submitted to Bihar State Pollution Control Board. Same shall be sent to Regional Office of MoEF&CC by e-mail. |
with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.

| xvi. | The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at [http://moef.nic.in](http://moef.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 concerned Regional Office of the Ministry. | • The information regarding accord of Environment clearance for the subject project has been advertised in two local newspapers. Copy enclosed as Annexure-3.  
• Complied. |

| xvii. | The 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 start of the project. | • Noted for Compliance. |
Status and Action Plan for Compliance of Revised Emission and Effluent Standards 2008 at Barauni Refinery

Status as on 31.03.2020

Schedule -I: Petroleum Oil Refinery

A. Effluent Discharge

<table>
<thead>
<tr>
<th>SN</th>
<th>Standard</th>
<th>BR status and action plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Treated Effluent Quality</td>
<td>COMPLIED.</td>
</tr>
</tbody>
</table>

B. Emissions

<table>
<thead>
<tr>
<th>SN</th>
<th>Standard</th>
<th>BR status and action plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>H₂S in Fuel Gas</td>
<td>COMPLIED.</td>
</tr>
<tr>
<td>3</td>
<td>SO₂ Emissions</td>
<td>COMPLIED.</td>
</tr>
<tr>
<td>4</td>
<td>NOₓ Emissions</td>
<td>COMPLIED.</td>
</tr>
<tr>
<td>5</td>
<td>CO Emissions</td>
<td>COMPLIED.</td>
</tr>
</tbody>
</table>
|   | 6  | Particulate Matter (PM) Emissions | Barauni Refinery processes more low sulphur crude in recent years. Only about 5% high sulfur crude processing takes place. As a result internal fuel oil quality has been improved w.r.t emission of particulate matter. Further, particulate matter analyzers have been installed in all stacks of refinery and connected to CPCB server since June-16. The online analyzer data available now help us fine tuning fuel firing and optimization of gas mix amongst various furnaces and the controlling the PM parameters within the statutory limit.  
COMPLIED. |
<table>
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<tbody>
<tr>
<td></td>
<td>7</td>
<td>Nickel and Vanadium (Ni+V) Emissions</td>
<td>COMPLIED.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Sulphur Content in Liquid Fuel</td>
<td>COMPLIED.</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Continuous Monitoring System for SO₂ &amp; NOₓ emissions</td>
<td>&gt; COMPLIED.</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Opacity of Flue Gas ex FCCU Regenerators</td>
<td>&gt; RFCCU was commissioned at Barauni Refinery along with flue gas scrubbing technology supplied by M/s Belco, USA. In the Belco unit, the flue gas is scrubbed with water &amp; diluted caustic solution (&lt;0.5 % concentration by wt.) to remove SOx and particulate matter. PM level in flue gas is less than 30 mg/Nm3. High volume of condensed water vapor generated during water scrubbing of flue gas escapes through the BELCO stack as whitish plume. Opacity meter under such condition is not considered relevant as it will not be effective due to high moisture content in flue gas. &gt; Further, PM analyzers have been installed in RFCCU stack through which particulate matter ex- RFCCU stack is monitored, which is closely akin to monitoring of opacity in flue gas. Therefore opacity meter installation at RFCCU is not planned. &gt; Complied.</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Sulphur Recovery from SRU at Barauni refinery</td>
<td>meets the revised standard.</td>
</tr>
<tr>
<td>SN</td>
<td>Standard</td>
<td>BR status and action plan</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Storage tanks with capacity between 4 to 75 m3 and TVP of more than 10 kpa</td>
<td>Not Applicable.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Storage tanks with capacity between 75 to 500 m3 and TVP of 10 to 76 kpa</td>
<td>Not Applicable.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Storage tanks with capacity of more than 500 m3 and TVP of 10 to 76 kpa</td>
<td>Storage tanks of Crude, MS &amp; SRN have TVP of 10 to 76 kpa. All such tanks are IFRT or EFRT. COMPLIED.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Storage tanks with capacity of more than 500 m3 and TVP of more than 76 kpa</td>
<td>Not Applicable</td>
<td></td>
</tr>
</tbody>
</table>

C. Fugitive Emission

SRU at Barauni refinery meets the revised standard. COMPLIED.
| 17 | Provision of secondary seals in floating roof tanks | All such tanks at Barauni Refinery are equipped with double seal.  
COMPLIED. |
| 18 | Emission control in Rail Tank Wagon/ Road Tank Truck loading for Gasoline and naphtha for VOC reduction | Barauni Refinery complies most of the revised standards for petroleum refineries as notified in Gazette of India on 18th March'08 except vapor recovery system in tank wagon/tank truck. For VOC reduction of 99.5% and emission control to 5 gm/m³ in case of Gasoline and Naphtha loading, VOC recovery system at Loading Gantry would be required. Existing gantry at Barauni refinery does not have adequate space for laying a bigger dia header all along the gantry and other equipments for vapour recovery system. It will also require the shutdown of product loading gantry for 3-4 months to install this facility. Outage of gantry for such a long period cannot be allowable in view of the chances of market dry out of the major petroleum products. |
| 19 | Equipments leak and LDAR programme | COMPLIED. |

D. Emission Standards for VOC from Wastewater Collection and Treatment

| 20 | VOC Collection & Treatment System | VOC treatment system as a part of ETP modernization project has been installed and commissioned.  
COMPLIED. |

Scheduale -VI, Part C: Petroleum Oil Refinery

| SN | Standard | BR status and action plan |
| 21 | Quantum limit for discharge of total effluent | COMPLIED. |
| 22 | Limit of quantity of effluent discharged | COMPLIED. |
### SUMMARY OF CSR EXPENDITURE FY 2019-20

<table>
<thead>
<tr>
<th>Sr</th>
<th>Name of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Barauni Refinery Swasthya Paricharika Prashikshan Yojana (Nursing Scholarship Scheme)</td>
</tr>
<tr>
<td>2</td>
<td>Scholarship scheme of ‘Barauni Refinery Dinkar Uchch Shiksha Sahayata Yojana’ under CSR scheme of Barauni Refinery for the FY 2019-20</td>
</tr>
<tr>
<td>3</td>
<td>Scholarship scheme of ‘Barauni Refinery Shri Krishan Singh Chatravratti Yojana’ under CSR scheme of Barauni Refinery for the FY 2019-20</td>
</tr>
<tr>
<td>4</td>
<td>Provision of sports materials to the youth of Mahna &amp; Nurpur Villages for promoting sports culture under the CSR activities of Barauni Refinery</td>
</tr>
<tr>
<td>5</td>
<td>Provision of 02 Nos of RO plants in Mahendrapur &amp; Bihat Village of Begusarai District</td>
</tr>
<tr>
<td>6</td>
<td>Development of Community Pokhar (Pond) in Sabaura Village nearby Barauni Refinery under CSR Project</td>
</tr>
<tr>
<td>7</td>
<td>Construction of toilets in 06 Nos of govt schools located in nearby areas of Barauni Refinery</td>
</tr>
<tr>
<td>8</td>
<td>Kendriya Vidyalaya Expenditure for 2019-20</td>
</tr>
<tr>
<td>9</td>
<td>Gyanodaya Scholarship Scheme for Students studying in ITI &amp; Polytechnic Colleges</td>
</tr>
</tbody>
</table>

**Total Expenditure for FY 2019-20**: 399,63,000
Copy of advertisement regarding receipt of Environment Clearance in two local newspapers
## List of PPEs provided from Oct’2019 to Mar’2020

<table>
<thead>
<tr>
<th>S.N</th>
<th>Item</th>
<th>No of pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ear plug</td>
<td>969</td>
</tr>
<tr>
<td>2.</td>
<td>Dust Mask</td>
<td>1517</td>
</tr>
<tr>
<td>3.</td>
<td>Chemical Resistant (PVC) suit</td>
<td>12</td>
</tr>
<tr>
<td>4.</td>
<td>Chemical Resistance (Nitrile) hand gloves</td>
<td>169</td>
</tr>
<tr>
<td>5.</td>
<td>Safety Goggles</td>
<td>22</td>
</tr>
<tr>
<td>6.</td>
<td>Heat Resistant hand gloves</td>
<td>33</td>
</tr>
<tr>
<td>7.</td>
<td>Face Shield</td>
<td>02</td>
</tr>
<tr>
<td>8.</td>
<td>Chemical cartridge respirator</td>
<td>13</td>
</tr>
<tr>
<td>9.</td>
<td>Safety Helmet</td>
<td>263</td>
</tr>
<tr>
<td>10.</td>
<td>Spark Arrestor</td>
<td>16</td>
</tr>
</tbody>
</table>
Ref.No.: TS/HSE/2020/02/1146,  

Date: 22.02.2020

To,

District Magistrate,  
Begusarai, Bihar

Sub: Copy of EC received by IOCL, Barauni Refinery for record

Dear Sir,

A copy of Environmental Clearance from MoEF&CC, received by IOCL, Barauni Refinery via F. No. J-11011/15/2015-IA-II (I), for the project for MS quality upgradation & HSD quality upgradation in Barauni Refinery at District – Begusarai, Bihar by M/s IOCL, is attached for your kind perusal and record.

Thanking you,

Yours faithfully,

(S K Bhanu)  
DEPUTY GENERAL MANAGER (HSE)

Encl: As above.
Ref.No.: TS/HSE/2020/02/1145

Date: 22.07.2020

To,

Municipal Commissioner,
Begusarai Nagar Nigam
Begusarai, Bihar

Sub: Copy of EC received by IOCL, Barauni Refinery for record

Dear Sir,

A copy of Environmental Clearance from MoEF&CC, received by IOCL, Barauni Refinery via F. No. I-11011/15/2015-I&II (I), for the project for MS quality up-gradation & HSD quality up-gradation in Barauni Refinery at District – Begusarai, Bihar by M/s IOCL, is attached for your kind perusal and record.

Thanking you,

Yours faithfully,

(S K Bhanu)
DEPUTY GENERAL MANAGER (HSE)

Encl: As above.