DESCRIPTIVE REPORT ON STATUS OF COMPLIANCE TO CONDITIONS OF ENVIRONMENT CLEARANCE AND ENVIRONMENT MANAGEMENT

Compliance Status (for the period of **(April 2020 – September-2020)** of Environmental Clearance issued by SEIAA, Gujarat, vide letter **Reference no. SEIAA/GUJ/EC/6(b) & 7(e)/28/2016 Dated 27.01.2016**

(**Detail of project:** "Expansion of the existing Isolated Chemical Storage capacity from existing 4, 84,614 KL to 7, 22,903 KL and modification of the existing Jetty" at GIDC, Dahej, Taluka Vagra, Dist. Bharuch, Gujarat by M/s Gujarat Chemical Port Terminal Company Limited.)

<table>
<tr><th>SN</th><th>Conditions</th><th>Status / Action taken</th></tr>
<tr><td>A</td><td colspan="2">SPECIFIC CONDITION</td></tr>
<tr><td>1</td><td>The GCPTCL shall strictly adhere to the provisions of the CRZ Notification, 2011 issued by the Ministry of Environment, Forest and Climate Change, GOI.</td><td>GCPTCL adheres to the key/major provisions of the CRZ Notification, 2011 issued by the Ministry of Environment, Forest and Climate Change, GOI.

<u>KEY PROVISION AND ITS COMPLIANCE</u>
<table>
<tr><th>SN</th><th>Reference/ Point No. of CRZ Notification 2011</th><th>Applicable provision</th><th>Compliance</th></tr>
<tr><td>01</td><td>03</td><td>Prohibited activities within CRZ - setting up of new industries and expansion of existing industries except – those directly related to water front or directly needing foreshore facilities.</td><td>This provision is applicable for establishment of Jetty and/or its modification/expa nsion.</td></tr>
<tr><td>02</td><td>04</td><td>Regulation of permissible activities in CRZ area - Clearance shall be given for any activity within the CRZ only if requires waterfront and foreshore facility.</td><td>GCPTCL for its jetty expansion project in 2016 applied for CRZ clearance and obtained EC & CRZ clearance granted by SEIAA (State Level Environment Impact Assessment Authority, Gujarat) vide letter no. SEIAA/GUJ/EC/6(b) & 7(e)/28/2016 dated 27.01.2016 and CRZ notification 2011.</td></tr>
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<tr><td></td><td></td><td>
<table>
<tr><td>03</td><td>4.2</td><td>Procedure for clearance of permissible activities should be as prescribed in the notification.</td><td>Noted and had been followed.</td></tr>
<tr><td>04</td><td>05</td><td>Preparation of Coastal Zone Management Plan.</td><td>Not Applicable. State Govt. prepares the State Level CZMP.</td></tr>
</table>

COMPLIED.
</td></tr>
<tr><td>2</td><td>The GCPTCL shall ensure that nets, barricades should be provided in area of transfers to avoid spillage of material in intertidal and sub tidal area.</td><td>Provision of nets, barricading etc. were ensured during the construction phase in area of transfer of material to avoid spillage of material in intertidal and sub tidal areas.

Piling and service platform are the two key structural activities of Jetty establishment (i.e. making provision of mooring dolphins and loading arm).

For the purpose, we had considered and adopted state of the art technology like ready to use steel piles imported via sea route and pre-caste slabs with due consideration to eliminating/minimizing likelihood of environment impact. Typical photographs are appended as below for ready reference.

 

COMPLIED.</td></tr>
<tr><td>3</td><td>The GCPTCL shall ensure that fabrication yard should be located away from the CRZ area.</td><td>Fabrication works were carried out within the terminal facility at a designated location opted at a distance far away from the CRZ area.

Overall plan of GCPTCL premises showing the designated location of fabrication yard is attached as Annexure 01 in the main report.</td></tr>
</table>

		 **COMPLIED.**
4	The GCPTCL shall ensure that the loading arms will have alarms systems, which will serve as warning to the operators and emergency shutdown system will be activated and all the cargo operation will be stopped in case of any accident/eventuality.	The loading arms are provided with alarms systems, which will serve as warning to the operators and emergency shutdown system will be activated and all the cargo operation will be stopped in case of any accident/eventuality. Detail description is appended as below for ready reference. Typical documents detailing alarm set value and ESD for Ethane product loading arm is attached as **Annexure 2** in the main report. ---------- **Detail Description** – Total eight marine loading arms are provided for handling different types of hazardous chemicals. Two marine loading arms provided for handling Ethane product with Material of Construction Stainless Steel are of FMC Technologies make and the balance are of M/s. SVT make.  All the loading arms are of quick connect/disconnect type and equipped with alarm system (left/right type and drift type) as well as emergency shutdown system (ESD) to stop cargo operation and bring the operation in a safe, static condition. The activation of ESD is one of the pre-requisites mutually agreed by the Ship and Shore (i.e. GCPTCL) for prior to start Ethane cargo and the records are maintained. The record of one of such ESD check dated 28.04.2020 is attached as **Annexure 3** in the main report. **COMPLIED.**
5	The GCPTCL shall ensure that vessels visiting the berths should not release oily waste, ballast & solid waste. Wastes from the marine crafts should not be allowed to be discharged in marine environment.	Vessels visiting the berths do not allowed to release/discharge oily waste, ballast & solid waste including wastes in marine environment and is ensured through implementation of “Indemnity Letter and Condition of Use of GCPTCL Jetty One such letter duly endorsed by the Vessel Master is attached as **Annexure 04** in the main report. **COMPLIED.**

6	Protocol for inspection of marine structure, loading arms, oil spill combating equipment should be maintained.	Standard Maintenance Practices/ARC (Annual Rate Contract)/RAGAGEP (Reasonably And Generally Accepted Good Engineering Practice) are in place for carrying out through inspection and maintenance of marine structure, loading arms and oil spill combating equipment. Further details is appended as below for ready reference. ---------- **Marine Structure and Loading Arm regarding –** **A. Marine Structure -** Following specific efforts/best practices were accomplished through external competent expert with regards to protection of marine structure – **1. Efforts with regards to Corrosion Monitoring–** M/s. Lloyd's Register Marine Consultancy Services carried out Jetty Condition Survey in Year 2017 with a special emphasize to conducting thorough visual examination of the Jetty including the splash zone, supports above water, piping etc. to determine the condition of the Jetty and issued a certificate with a comment "Jetty is in a satisfactory condition". Copy of the certificate is attached as **Annexure 05** in the main report. **2. Efforts with regards to Prevention of Corrosion–** Work Order has been awarded to M/s. Corrosion Technology Services India Pvt. Ltd for servicing/repair/maintenance of Jetty Cathodic Protection System. Copy of the work order is attached as **Annexure 06** in the main report. **B. Loading Arm -** Standard Maintenance Practices (SMP) is in place for conducting Preventive Maintenance (PM) of loading arm. And PM requirement is integrated in SAP. Copy of SMP and duly completed sample report of inspection of loading arm is attached as **Annexure 07** and **08** respectively in the main report. **Oil Spill Combating Equipment regarding –** Supply and maintenance of Oil Spill Equipment including competent persons to handle Oil Spill, if any is outsourced. Work Order has been awarded to competent agency M/s. Sea Care Marine Services for providing Tier 1 oil spill response (OSR) as per IMO (International Maritime Organization) on 24 x 7 basis.

<table>
<tr><td></td><td></td><td>Copy of valid work order, typical sample of certificate of training and maintenance schedule for OSR equipment is attached as Annexure 09, 10 and 11 respectively in the main report.

COMPLIED.</td></tr>
<tr><td>7</td><td>The GCPTCL shall obtain all necessary clearances permission from different Government Departments / Agencies before commencing any construction activity related to the proposed project, including permission under Forests (Conservation) Act.</td><td>Obtained requisite permissions from the relevant government departments / authorities prior to start construction work.

The details of the permissions so obtained are appended as below.
<table>
<tr><td>CTE
(Annexure 12 in the main report)</td><td>CTE Amendment No-72483 GPCBIBRCH-B/CCA-347(3)/ ID-151341 with outward date 30/09/2015.

CTE Amendment No. 101047 GPCBBRCH-B/CTE-347(5)/ID-15134 with outward date 21.05.2019</td></tr>
<tr><td>CC & A
(Annexure 13 in the main report)</td><td>GPCB/BRCH-B/CCA-347(3)/ID-15134/408519 dtd.30.03.2017.

GPCB/BRCH-B/CCA-347(4)/ID-15134/494730 dtd.14.02.2019

GPCB/BRCH-B/ CCA-347(5)/ID-15134 dated 27.03.2020</td></tr>
<tr><td>GMB (Gujarat Maritime Board)
(Annexure 14 in the main report)</td><td>• GMB/N/PVT-1/601(10)/285/5605 dated 21.09.2015 in principle approval for construction of two Mooring Dolphins and allied facilities.
•
• GMB/N/PVT-1/601(10)/94/3512 dated 06.06.2016 for construction of two Mooring Dolphins and allied faculties.

• GMB/N/PVT/-1/229/89/3694 dated 28.05.2019 in principle approval for new development / modification at GCPTCL-Dahej</td></tr>
<tr><td>PESO(Petroleum and Explosive Safety Organization, Nagpur)
(Annexure 41 A in the main report)</td><td>G-22(47)167, P2 (4) 359 dated.28.07.2016

G-22(47)167 dated. 06.06.2016

P-2(4)1005 dated 02.07.2020</td></tr>
<tr><td>DISH (Director of Industrial Safety and Health)
(Annexure 16 in the main report)</td><td>DISH/F-PLAN/2020/177 dated 29.01.2020</td></tr>
<tr><td>Forest Division</td><td>No forest land is involved in the proposed project hence forest approval was not sought.</td></tr>
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</table>

		COMPLIED.
8	The GCPTCL shall have to maintain an up to date records for generation and disposal of the dredging material and it shall be submitted to the GMB & this department for every generation and disposal.	Not applicable as dredging activity was not part of this project. Due to availability of adequate depth at the berth no dredging was required to be carried out. **Not Applicable.**
9	The GCPTCL shall strictly implement the measures suggested in the MEIA by the National Institute of Oceanography, Mumbai and suggested in EIA by Kadam Environmental Consultants, Baroda for mitigation of likely adverse impacts on coastal and marine environment.	Mitigation measures as suggested in the MEIA report (carried out by the National Institute of Oceanography, Mumbai) and in EIA report (carried out by M/s. Kadam Environmental Consultants, Baroda which is MoEF&CC (recognition valid till 11.03.2021, and NABL accredited laboratory (Certificate No. TC-7099, valid till 26.03.2022) are complied with and its implementation status as on date is attached as **Annexure 17** in the main report. Some of suggestions (but not limited to) implemented are appended as below for ready reference. **Terrestrial EIA** – • Transportation of chemicals between jetty and terminal is done through pipelines. • Carrying out regular monitoring of Ambient Air Quality and Workplace. • Inert Gas blanketing for storage of sensitive chemicals. • Pumps are equipped with double mechanical seal • Provision of separate storm water drainage and effluent drainage (OWS/PWS) • Floating roof tanks with rim seal protection… **Marine EIA** – • Traffic movement is continuously monitored by VTMS (Vessel Traffic Management System) engaged by GoG (Government of Gujarat) and GMB (Gujarat Maritime Board) to avoid any eventuality. • Implemented and adhered to “SHIP SHORE Safety Checklist Protocol” for every ship as a part of SIGGTO (The Society of International Gas Tanker and Terminal Operators). • Tier 1 Oil Spill Response (OSR) plan in place… For further details, you may please refer **Annexure 17** in the main report. **COMPLIED.**
10	No ground Water shall be taped to meet with the Water requirements during the construction and/or operation phases.	No ground water is taped to meet with the water requirements during the construction and/or operation phases. The Water requirement is met through water allocation from Gujarat Industrial Development Corporation (GIDC), Dahej. Copy of MoU with GIDC is attached as **Annexure 18** in the main report.

<table>
<tr><td></td><td></td><td>COMPLIED.</td></tr>
<tr><td>11</td><td>The GCPTCL shall participate financially for any common facility that may be established or any common study that may be carried out for the Gulf of Khambhat region for environment protection and/or management purpose.</td><td>GCPTCL will participate financially for any common facility that may be established or any common study that may be carried out for the Gulf of Khambhat region for environment protection and/or management purpose. However, GCPTCL has not received any such participation request.

COMPLIED.</td></tr>
<tr><td>12</td><td>The GCPTCL shall bear the cost of the external agency that may be appointed by the F & E department for supervision/monitoring of proposed activities.</td><td>GCPTCL will bear the cost of the external agency that may be appointed by the F & E department for supervision/monitoring of proposed activities.

COMPLIED.</td></tr>
<tr><td>13</td><td>The GCPTCL shall ensure that the Corporate Social Responsibility (CSR) activities shall be carried out on need base of the local people.</td><td>GCPTCL conducts CSR (Corporate Social Responsibility) activities based on the needs of the community/population staying in nearby villages – e.g. Lakhigam.

During the last two years GCPTCL had facilitated Lakhigam by providing following specific amenities/facilities but not limited to, under the provision of CSR as requested by the local people–
<table>
<tr><th>SN</th><th>Facilities</th><th>Evidence –
You may please refer</th><th>Cost incurred</th></tr>
<tr><td>1</td><td>Assembly Hall at Lakhigam</td><td>• Annexure 19 in the main report Letter from Principal Government Secondary and Higher Secondary School – Lakhigam dated 17.09.2019
  </td><td>Rs. 33.19 Lacs</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>Construction of Houses for BPL Families (10 + 20 = 30 Houses)</td><td>Annexure 20 : in the main report letter from Sarpanch – Lakhigram dated 14.10.2020</td><td>Rs. 42.02 +Rs. 74.42 = Rs.116.44 Lakhs</td></tr>
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		3	Maths/Science Laboratory at Secondary & Primary School, Lakhigam	**Annexure 21** in the main report Letter from Principal of Primary School Lakhigam	Rs. 25.48 Lakhs
		4	Chief Minister Relief Fund for COVID -19	**Annexure 22 :** Acknowledgement letter to main report for Contribution to GSDMA-CSR Fund dated 05.09.2020	Rs. 500 Lakhs
		6	Donation to Seva Rural Trust,Jhagadia for installation of Bio Optical Meter	• **Annexure 23** Letter dt. 03.10.20 from Sewa Rural trust is attached.	Rs. 30 Lakhs
		7	Donation to Gram Seva Trust, Kharel for upgradation of NICU/ICU facilities	**Annexure 24**: in main report letter dt.18.09.20 from Gram Seva Trust Kharel	Rs. 25 Lakhs
		8	Donation to Civil Hospital for setting up New Born Hearing Centre	**Annexure 25 A**: in main report letter from Gujarat CSR Authority dated 09.07.2019	Rs. 12.11 Lacs
		9	Donation to Civil Hospital for setting up New Born Hearing Centre Services	**Annexure 25 B**: Letter dt. 27.11.20 From Gujarat CSR Authority is attached	Rs. 3.42 Lacs
		10	Construction of Cooking Shed at Lakhigam	**Annexure 26:** cooking shade is provided at Lakhigam 	Rs. 9.04 lacs

		11	Donation to N D Desai Hospital and Medical Collage	**Annexure 26 A**: in the main report letter dated 28.09.2020 to provide 20 NICU beds	Rs. 50 Lacs
		12	Construction of 40 nos. of houses for BPL Families	**Annexure 27** Letter dt. 20.10.20 from TDO is attached	Rs. 126 lacs (In progress)
		13	Construction of Sub health Centre at Lakhigam	**Annexure 28** Letter dt. 31.12.20 from TDO is attached	Rs. 50 Lacs (In progress)

The other key CSR activities includes –

- Construction of PHC Building – 0.99 Lacs
- Installation of R O Water Plant at Community Hall – 5.86 lacs
- Water Tank for bath at Lakhabava Temple – 3.06 lacs
- Contribution to Shilpa School – Rs. 3 Lacs
- Contribution to Navratri Festival – Rs. 1 lacs
- Food Distribution during flood – Rs. 3 Lacs
- MS Grill at Govt. Office - Rs. 0.4 Lacs
- Distribution of School Bags, Uniform, etc at secondary school & Construction of Roof – Rs. 4.63 lacs
- Laboratory Building Secondary School – Rs. 3.71 Lacs
- Donation of tarpaulin sheet in Kerala – 17.09 lacs
- Summit of IIT – 5.9 lacs
- Contribution to mentally disabled children society 5 lacs
- Distribution of Masks and Food at Lakhigam during Covid pandemic

-

Total expenditure incurred as a part of CSR and/or socioeconomic activities during the last 2 years was @ INR 10.34 crore.

COMPLIED.

14	The GCPTCL shall take up socio-economic upliftment activities in consultation with the District Collector / DDO. A separate budget shall be provided for this purpose.	The following socio – economic upliftment activities have been taken up in the Lakhigam village in consultation with TDO/DDO/District Collector.

SN	Facilities	Evidence – Refer	Cost incurred
1	Offering employment from nearby community/population.	-	+80% employment in Non-Supervisory level is from nearby community/population. This is a kind

		of an ongoing enablement.

COMPLIED.

15	No construction debris and / or any other type of water / wastewater shall be disposed of in CRZ areas.	No discharge of wastewater or disposal of construction debris is done in CRZ areas. Major part of wastewater generation is sewage and considerable quantity of trade effluent, which is possible only during non-routine activities like cleaning of tanks, which is possible once in blue moon as chemical specific independent storage tanks are built. In such cases, the effluent generated is taken to ETP for treatment and disposal as prescribed in CC & A. Septic tanks/soak pit systems have been provided for disposal of sewage.   Very insignificant quality of trade effluent titled as cooling tower blow down is generated as routine and is being used on land for green belt development as its quality confirms to the prescribed limit. **COMPLIED.**
B	**CONSTRUCTION PHASE**	
16	Construction material and debris shall be properly stored and handled to avoid negative impacts such as air pollution & public nuisances by blocking the roads and public passage. The debris shall be removed from the construction site immediately after the construction is over.	The construction materials were stored at fabrication yard which was confined and located at Terminal premises and thus no road and public passage was blocked. Effective administration of construction debris including timely removal from site was ensured through supervision, field round and feedback mechanism Likelihood of adverse impact to air pollution is restricted with provision of paved roads for vehicular movement. **COMPLIED.**

17	It shall be ensured that there is no adverse impact on the drainage of the area due to construction activities.	It was ensured that there was no adverse impact on the drainage of the area due to construction activities. The site has been provided storm water drainage network independent to trade effluent network. Copy of storm water drainage is enclosed as **Annexure 29** in the main report. **COMPLIED.**
18	The construction camps shall be kept outside the CRZ areas and construction labours shall be provided with adequate amenities like drinking Water, fuel, sanitation, etc. to ensure that the existing environment condition is not deteriorated by them.	Providing construction camps along with necessary amenities and facilities such as drinking water, sanitation (mobile toilets and sewage plant) etc. was the direct responsibility of the contractor and such camps were not allowed within the company premises and were located outside. Workers engaged for construction activities were preferred/opted from neighbouring community/population. **COMPLIED.**
19	Topsoil excavated during construction activities shall be stored for use in horticultural / landscape development within the project area.	Topsoil excavated for construction of MEG tanks is stored within GCPTCL premises for its use for use in horticulture / landscape development purpose.  Approximately 35 Ha. Green belt/Green cover has been developed within the premises. All the topsoil approx. 455 tractors had already been utilized in green belt/ landscape development

		   **COMPLIED.**
20	Ready mix concrete shall be used as far as possible. Water demand during construction shall be reduced by use of curing agents, plasticizers and other best practices.	GCPTCL had ensured use of ready mix concrete for construction purpose. Following specific best practices were implemented with a view to minimizing water demand during the construction phase - • Use of steel piles in place of RCC (Reinforced Concrete Cement), • Use of curing method, and • Use of pre-caste slabs etc. Sample photographs of the arrangement is appended as below for ready reference.

		     **COMPLIED.**
21	The diesel generator set, if to be provided during the construction phase shall be enclosed type and conforming to the EPA rules for air & noise emission standards.	The DG Set used by the contractor during project execution were of enclosed type confirming to the EPA Rules for air and noise emission standards. Typical examples of using enclosed type DG Set – Cummins make - at Jetty are appended as below for ready reference. 

<table>
<tr><td></td><td></td><td> 

COMPLIED.</td></tr>
<tr><td>22</td><td>The overall noise level in and around Jetty area shall be kept within the standards by providing noise control measures including engineering controls on all sources of noise generation. The ambient noise level shall conform to the std. prescribed under the environment act, 1986 & rules.</td><td>No high noise generating equipment and activities were preferred/opted at Jetty and thus noise level was maintained within the prescribed limit.

The details of ambient noise level monitoring during the construction period is presented as below.

<table>
<tr><th>Location of Noise monitoring</th><th colspan="3">Noise Levels dB(A) : Day Time</th></tr>
<tr><th></th><th>Average</th><th>Minimum</th><th>Maximum</th></tr>
<tr><td>Service platform area</td><td>67</td><td>62</td><td>71</td></tr>
<tr><td>Control room area</td><td>59</td><td>54</td><td>63</td></tr>
<tr><td>Landfall point area</td><td>57</td><td>53</td><td>62</td></tr>
</table>

<table>
<tr><th>Location of Noise monitoring</th><th colspan="3">Noise Levels dB(A) : Night Time</th></tr>
<tr><th></th><th>Average</th><th>Minimum</th><th>Maximum</th></tr>
<tr><td>Service platform area</td><td>56</td><td>54</td><td>62</td></tr>
<tr><td>Control room area</td><td>48</td><td>46</td><td>53</td></tr>
<tr><td>Landfall point area</td><td>44</td><td>43</td><td>46</td></tr>
</table>

From the above details, it is confirmed that the overall noise level in and around the Jetty area is within the limit prescribed in EPA, 1986.

The details of ambient noise level monitoring during the reporting period i.e., (April 2020 to September 2020) is presented as below.

<table>
<tr><th>Area/Location</th><th>Average</th><th>Minimum</th><th>Maximum</th></tr>
<tr><td colspan="4">Ambient Air Noise Monitoring – DAY/NIGHT in dB(A)</td></tr>
<tr><td>Nearby Store</td><td>56/52</td><td>47/46</td><td>66/60</td></tr>
<tr><td>Main Gate</td><td>61/55</td><td>54/52</td><td>70/62</td></tr>
<tr><td>Material Gate</td><td>60/55</td><td>56/51</td><td>68/64</td></tr>
<tr><td>Landfall Point</td><td>57/55</td><td>51/50</td><td>61/58</td></tr>
<tr><td colspan="4">At Workplace Noise Monitoring – in dB(A)</td></tr>
<tr><td>Jetty Service Platform</td><td>58/52</td><td>54/48</td><td>66/59</td></tr>
<tr><td>BOG Compressor House</td><td>64/55</td><td>55/49</td><td>70/68</td></tr>
</table>
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<tr><td></td><td></td><td>
<table>
<tr><td>Mechanical Workshop</td><td>57/52</td><td>51/50</td><td>62/58</td></tr>
<tr><td>Gantry Area</td><td>60/50</td><td>57/42</td><td>63/60</td></tr>
</table>

From the above details, it is confirmed that the overall noise level in and around the Jetty area is within the limit prescribed in EPA, 1986.

COMPLIED.</td></tr>
<tr><td>23</td><td>Vehicles hired for bringing construction material at site should be in good condition and conform to applicable air and noise emission standards and should be operated only during non-peak hrs.</td><td>Vehicles hired for bringing construction material at site were in good condition with valid PUC.

Steel piles were imported through sea route and movement of other construction materials were permitted during non-peak hours.

COMPLIED.</td></tr>
<tr><td>24</td><td>Fly ash shall be used as building material in the construction as per provision of fly ash notification under EPA.</td><td>Fly ash bricks were used in construction of building e.g. MEG substation.

  

COMPLIED.</td></tr>
<tr><td>C</td><td>OPERATION PHASE</td><td></td></tr>
<tr><td>C-1</td><td>WATER</td><td></td></tr>
<tr><td>25</td><td>There shall be no change in existing water consumption, domestic wastewater generation and industrial effluent generation due to the proposed expansion.</td><td>There is no increase in the existing water consumption, domestic wastewater generation and industrial effluent generation from the consented quantities.

Details of water consumption during the last 3 years appended as below for ready reference –
<table>
<tr><th>Year</th><th>2017-18</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Allocated water supply by GIDC KLD</td><td>1590</td><td>1590</td><td>1590</td></tr>
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<tr><td>Average consumption of water in KLD</td><td>613</td><td>512</td><td>651</td></tr>
</table>

Water consumption during April. to September 2020 is 593 KLD.

Details of wastewater generated during the last 3 years is appended as below for ready reference –

<table>
<tr><td></td><td>Year</td><td>2017-18</td><td>2018-19</td><td>2019-20</td></tr>
<tr><td>Industrial</td><td rowspan="2">Consented Quantity in KLD</td><td>125</td><td>125</td><td>125</td></tr>
<tr><td>Domestic</td><td>40</td><td>40</td><td>40</td></tr>
<tr><td>Industrial</td><td rowspan="2">Generation in KLD</td><td>2.5</td><td>2.8</td><td>2.7</td></tr>
<tr><td>Domestic</td><td>38.72</td><td>36.33</td><td>35.43</td></tr>
</table>

<table>
<tr><td></td><td>Year</td><td>(Apr.19 to March.20)</td></tr>
<tr><td>Industrial</td><td rowspan="2">Consented Quantity in KLD</td><td>125</td></tr>
<tr><td>Domestic</td><td>40</td></tr>
<tr><td>Industrial</td><td rowspan="2">Generation in KLD</td><td>3</td></tr>
<tr><td>Domestic</td><td>12</td></tr>
</table>

COMPLIED.
</td>
</tr>
<tr>
<td>26</td>
<td>There shall be no discharge of any kind of wastewater / sewage / effluent in to the creek / sea or in the CRZ areas.</td>
<td>No discharge of wastewater / sewage is done into the creek / sea or in CRZ areas. For the purpose, following arrangement are in place.

• Septic tanks/soak pit systems have been provided for disposal of sewage.

• 15 m3 capacity STP installed at Jetty.

• 125 m3 capacity ETP is provided for treatment and disposal of industrial effluent, if any generated as a part of non-routine activities like cleaning of tanks etc. which is applicable once in blue moon.</td>
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		• In routine, the primary source of generation of industrial effluent is cooling tower blow down, which is directly diverted to ETP (Guard pond in view of no chemical treatment is given at cooling tower) for establishing its further use on land for gardening/plantation within the Terminal premises in compliance to CC & A requirement. **COMPLIED.**
27	The company shall harvest rain Water through storm Water trench and use it as fire Water.	The surface runoff water from storm water channel is recovered and stored in firewater reservoir.  **COMPLIED.**
C-2	**AIR**	
28	There shall be no process gas emission from the Terminal.	GCPTCL is a Port and Storage Terminal and its main activities involves handling of hazardous chemicals (i.e. receiving/dispatch and storage) in an enclosed system. As no manufacturing activity is involved, no process gas emissions is envisaged. At pressurized gantry, complete closed circuit process has been following for transfer of hazardous chemicals into tanker. For atmospheric loading of Acetic Acid, water scrubbing system is provided. **COMPLIED.**
29	There shall be no additional fuel consumption or flue gas emission due to the proposed expansion.	Consumption of fuel (HSD) is envisioned for operation of existing emergency DG Set- 2000 KVA capacity and diesel generating fire water pumps during the reporting period. No new DG set had been proposed under this EC. Details of consumption of fuel for the reporting period is 9.556 KL only mostly consumed for conducting functional performance of DG Set

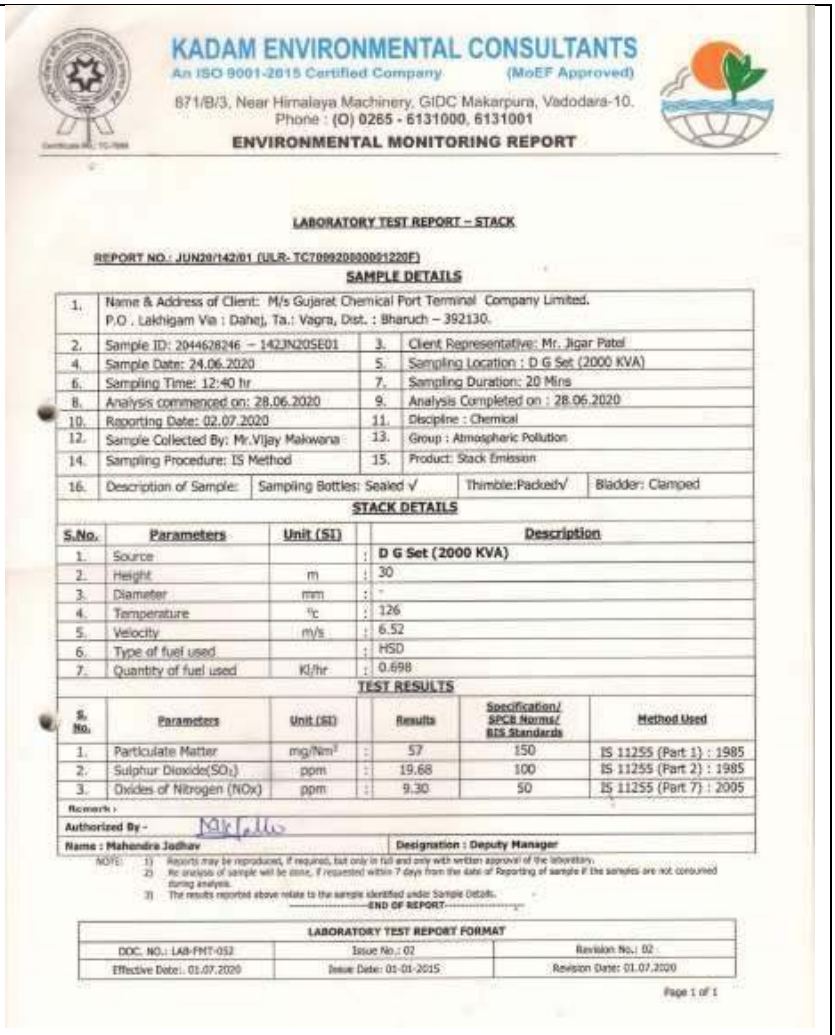
and Diesel Generating Fire Water Pumps - 3 nos. of 710 m3/Hr capacity.

DG Set stack emission monitoring has been carried out through MoEF&CC (recognition valid till 11.03,2021 and NABL accredited laboratory (Certificate No. TC-7099, valid till 26.03.2022). Monitoring report for the April 2020 to September 2020 is presented in tabular form as below for ready reference:-

Parameter –Stack	GPCB consented limit -	Average	Minimum	Maximum
PM	150 mg/m3	47	37	57
SO2	100 ppm	15.69	11.7	19.68
NOx	50 ppm	8.75	8.2	9.3

The results of stack monitoring report mentioned in above table are well within the prescribed limit of GPCB.

The Typical Stack Monitoring report for April 2020 to Sept 2020 is appended as below for ready reference.

		 **KADAM ENVIRONMENTAL CONSULTANTS** An ISO 9001-2015 Certified Company (MoEF Approved) 871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10. Phone : (O) 0265 - 6131000, 6131001 **ENVIRONMENTAL MONITORING REPORT** **LABORATORY TEST REPORT – STACK** REPORT NO.: JUN20/142/01 (ULR- TC709920000001220F) **SAMPLE DETAILS** 1. Name & Address of Client: M/s Gujarat Chemical Port Terminal Company Limited. P.O . Lakhigam Via : Dahej, Ta.: Vagra, Dist. : Bharuch – 392130. 2. Sample ID: 2044628246 – 142JN20SE01 | 3. Client Representative: Mr. Jigar Patel 4. Sample Date: 24.06.2020 | 5. Sampling Location : D G Set (2000 KVA) 6. Sampling Time: 12:40 hr | 7. Sampling Duration: 20 Mins 8. Analysis commenced on: 28.06.2020 | 9. Analysis Completed on : 28.06.2020 10. Reporting Date: 02.07.2020 | 11. Discipline : Chemical 12. Sample Collected By: Mr.Vijay Makwana | 13. Group : Atmospheric Pollution 14. Sampling Procedure: IS Method | 15. Product: Stack Emission 16. Description of Sample: Sampling Bottles: Sealed √ Thimble:Packed√ Bladder: Clamped **STACK DETAILS** S.No. | Parameters | Unit (SI) | Description 1. Source : D G Set (2000 KVA) 2. Height m : 30 3. Diameter mm : - 4. Temperature °c : 126 5. Velocity m/s : 6.52 6. Type of fuel used : HSD 7. Quantity of fuel used Kl/hr : 0.698 **TEST RESULTS** S. No. | Parameters | Unit (SI) | Results | Specification/ SPCB Norms/ BIS Standards | Method Used 1. Particulate Matter mg/Nm³ : 57 150 IS 11255 (Part 1) : 1985 2. Sulphur Dioxide(SO_2) ppm : 19.68 100 IS 11255 (Part 2) : 1985 3. Oxides of Nitrogen (NOx) ppm : 9.30 50 IS 11255 (Part 7) : 2005 Remark : Authorized By - Name : Mahendra Jadhav Designation : Deputy Manager NOTE: 1) Reports may be reproduced, if required, but only in full and only with written approval of the laboratory. 2) Re analysis of sample will be done, if requested within 7 days from the date of Reporting of sample if the samples are not consumed during analysis. 3) The results reported above relate to the sample identified under Sample Details. ----------END OF REPORT---------- LABORATORY TEST REPORT FORMAT DOC. NO.: LAB-FMT-052 | Issue No.: 02 | Revision No.: 02 Effective Date:. 01.07.2020 | Issue Date: 01-01-2015 | Revision Date: 01.07.2020 Page 1 of 1 COMPLIED.
30	Fugitive emission at workplaces shall be controlled and kept below the limits prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated std.	Fugitive emissions at work places are monitored and records are maintained. Following best practices/RAGAGEP have been are implemented with a view to eliminate/reduce the fugitive emissions. • Handling of products through closed systems – use of piping and loading arms for transfer/handling of products Flange joints in the piping network are of full faced gasket joint and valves (stem) equipped with graphite fitting etc.

- Material transfer pumps are of centrifugal type and are provided with double mechanical seals.

- Prevention/Reduction of evaporation loss - Rim seal type vapour seal mechanism is provided for storage tanks containing highly volatile products i.e. class 'A' petroleum products.

- Leak Detection and Alarm Repair –103 LEL detectors are installed at prominent locations to continuously measure the release of hazardous material, if any from the pipeline/storage tank etc. and subsequent initiating corrective measures.

Monitoring of Fugitive Emission –
Regular monitoring of fugitive emission (Volatile Organic Component) is carried out through Schedule-I Environmental Auditor– M/s. MANTRA (Man Made Textile and Research Association, Gujarat) - refer **Annexure 30** in the main report**.**

Summary of fugitive emission monitoring for April 2020 to September 2020 is appended as below for ready reference.

Location	VOC (mg/m3)
Near Atmospheric Gantry	1.16
Near Pressurize Gantry	1.21
Near BOG Area	1.26

		Near LPG Tank Farm: 1.32 Near Propane Tank Farm: 1.25 Near Py Gas Tank Farm: 1.08 Near Methanol Tank Farm: 1.19 Near Px Tank Farm: 1.02 Near Hydrocarbon Tank (Naphtha): 1.48 Near Acetic Acid Tank Farm: 1.42 No limit prescribed for VOC. Analytical report of one such fugitive emission monitoring is attached as **Annexure 31** in the main report. **Workplace monitoring** – Workplace monitoring for presence of hazardous chemicals, if any is carried out through MoEF&CC (recognition valid till 11.03,2021 and NABL accredited laboratory (Certificate No. TC-7099, valid till 26.03.2022)– M/s. Kadam Environmental Consultants, Gujarat – details attached as **Annexure 33** in the main report. Summary of monitoring of hazardous chemical at workplace for the reporting period i.e., **(April.20 to September.20)** is appended as below for ready reference.

Hazardous chemical	Average mgm3	Minimum mg/m3	Maximum mg/m3
Px	5.39	3.70	6.98
Methanol	3.20	1.61	5.18
Hydrocarbon	1.96	1.30	2.80
Butadiene	ND	ND	ND
Acetic Acid	ND	ND	ND
Caustic Fumes	ND	ND	ND
Propylene Oxide	ND	ND	ND

		Report of one such workplace monitoring for the reporting period is attached as **Annexure 32** in the main report. **COMPLIED.**
31	For control of fugitive emission following steps shall be followed:	GCPTCL has implemented following systems as a part of controlling fugitive emission during storage and handling including transfer of products –

	• Closed handling system shall be provided. • Pumps shall be provided with mechanical seals to prevent leakages. • System of leak detection and repair of pump/pipeline based on prevention maintenance. • The products shall be taken to or from storage tanks through closed pipeline.	Closed handling systems for handling of chemicals: closed piping network has been provided across the Terminal as well as up to end user of the products like Ethane, Naphtha, PX etc.  • Hazardous material transfer pumps are of centrifugal type and are provided with double mechanical seals. • Some of the products are handled in tankers/trucks - Loading arm (instead flexible hose connection) are provided for transfer of products into tanker.  As a part of LDAR (Leak Detection Alarm and Repair), about 103 Hydrocarbon detectors (i.e. LEL detector) are installed at areas considered as potential leak prone area like tank farm, pumping station – manifold area, gantry, material transfer pipelines etc. including Jetty. The audio – visual detection of LDAR system is integrated at main control room as well as fire station. The system is operated in auto and contribute to early detection of leakage of products, if any taking place and subsequent initiating corrective actions.

<table>
<tr><td></td><td></td><td>Practice of carrying out calibration of the detectors has been established and records are maintained.

COMPLIED.</td></tr>
<tr><td>32</td><td>Ambient air quality status in the area, particularly with respect to VOCs in addition to general parameters shall be monitored and its records shall be maintained.</td><td><u>Ambient Air Quality Monitoring (VOC)</u> –
Ambient air quality monitoring for the presence of VOC is carried out through schedule 1 Environment Auditor – M/s. MANTRA (Man Made Textile and Research Association, Gujarat). Refer Annexure 30 in the main report.

Summary of fugitive emission monitoring for April 2020 to September 2020 period is appended as below for ready reference.

<table>
<tr><th>Location</th><th>VOC mg/m3</th></tr>
<tr><td>Near Atmospheric Gantry</td><td>1.16</td></tr>
<tr><td>Near Pressurize Gantry</td><td>1.21</td></tr>
<tr><td>Near BOG Area</td><td>1.26</td></tr>
<tr><td>Near LPG Tank Farm</td><td>1.32</td></tr>
<tr><td>Near Propane Tank Farm</td><td>1.25</td></tr>
<tr><td>Near Py Gas Tank Farm</td><td>1.08</td></tr>
<tr><td>Near Methanol Tank Farm</td><td>1.19</td></tr>
<tr><td>Near Px Tank Farm</td><td>1.02</td></tr>
<tr><td>Near Hydrocarbon Tank (Naphtha)</td><td>1.48</td></tr>
<tr><td>Near Acetic Acid Tank Farm</td><td>1.42</td></tr>
</table>

No limit prescribed for VOC.

Analytical report of one such fugitive emission monitoring is attached as Annexure 31 in the main report.

<u>Ambient Air Quality Monitoring</u> –

Ambient Air quality monitoring for the general parameters as prescribed in the CC & A is carried out through MoEF&CC</td></tr>
</table>

(recognition valid till 11.03,2021 and NABL accredited laboratory (Certificate No. TC-7099, valid till 26.03.2022)– M/s. Kadam Environmental Consultants, Gujarat. Refer **Annexure 33** in the main report**.**

Summary of Ambient Air Quality Monitoring for the reporting period i.e., (April.2020 to September 2020) is appended as below for ready reference.

Location – Near Store

Parameter – AAQM	GPCB consented limit - µg/m3	Average µg/m3	Minimum µg/m3	Maximum µg/m3
PM10	100	64.4	24.00	94.00
PM2.5	60	19.40	16.00	25.00
SO2	80	7.45	5.84	8.47
NOx	80	13.81	10.07	18.72
HCL	200	5.19	ND	16.54
Cl2	100	3.05	ND	5.91
CO	5000	461	ND	1340
HC	160	ND	ND	ND
NH3	400	4.16	ND	11.47
H2S	500	ND	ND	ND
CS2	2000	ND	ND	ND
HF	60	0.09	ND	0.23

All the parameters are well within the prescribed limit.

Note – reference method of analysis is indicated in the report and ND = Not Detectable.

Report of Ambient Air Quality Monitoring for the reporting period is attached as **Annexure 34** in the main report**.**

COMPLIED.

C-3	**HAZARDOUS WASTE**	
33	The company shall strictly comply with rules and regulation with regards to handling and disposal of hazardous waste in accordance with hazardous waste (Management, Handling and Transboundary Movement) rules 2008, as may be amended from time to time. Authorization from GPCB must be obtained for collection/ treatment/	GCPTCL strictly comply with rules and regulation with regards to handling and disposal of hazardous waste in accordance with hazardous waste (Management, Handling and Transboundary Movement) rules 2008, as may be amended from time to time. **AUTHORIZATION –** GCPTCL had obtained authorization from GPCB for collection, storage, transportation and disposal of hazardous waste vide CC & A order no. AWH- 98682 dated 14.02.2019, valid upto 25.11.2023. Copy of CC & A is attached as **Annexure 35** in the main report. **MEMBERSHIP SUBSCRIPTION –** The hazardous wastes generated is being disposed in an environment friendly manner to the GPCB authorized agency/recycler

	storage/ disposal of hazardous wastes.	i.e. M/s. BEIL, M/s. Bombay Barrel, Anas Green Environment & Ambuja cement (for April 2020 to September 2020). Copy of Consents and Authorisation for BEIL, Anas Green and Ambuja Cement is attached as **Annexure 36, 37 and 38** respectively in the main report. Summary of disposal of hazardous waste from April. 2019 to March 2020 is appended as below for ready reference.

SN	Title – Hazardous Waste	Category	Consented quantity MT/ Year	Total disposal during Apr 2019 to March 2020
1	Used or Spent Oil	5.1/I	7.2	NIL
2	ETP Sludge	35.3/I	6.0	NIL
3	Discarded Containers/Barrels/ Liners	33.1/I	3.0	2.56 MT
4	Used Foam pig of chemical	C-1/II	12.0	2.94 MT
5	Oil Soaked Cotton & Other waste	33.2/I	10.0	NIL
6	Tank Sludge-Iron Sludge	3.1/I	100	NIL
	Cargo /Tank Residue , washing Water and sludge containing oil	3.1/I	100	78.58 MT
7	Cargo Tank Residue containing Chemicals	3.2/I	100	NIL
8	Ballast / Bilge Water containing oil from ship	3.4/I	100	NIL

Summary of disposal of hazardous waste from Apr.20 to Sept.20 is appended as below for ready reference.

SN	Title – Hazardous Waste	Category	Consented quantity MT/ Year	Total disposal during Apr 2020 to Sept. 2020

1	Used or Spent Oil	5.1/I	7.48	NIL
2	ETP Sludge	35.3/I	6.0	NIL
3	Discarded Containers/Barrels/ Liners	33.1/I	3.0	NIL
4	Used Foam pig of chemical	C-1/II	12.0	NIL
5	Oil Soaked Cotton & Other waste	33.2/I	10.0	NIL
6	Tank Sludge-Iron Sludge	3.1/I	100	NIL
	Cargo /Tank Residue , washing Water and sludge containing oil	3.1/I	100	NIL
7	Cargo Tank Residue containing Chemicals	3.2/I	100	NIL
8	Ballast / Bilge Water containing oil from ship	3.4/I	100	NIL

Copy of online generated manifest for the disposal of hazardous waste in March 2020 is attached as **Annexure 39** in the main report.

HAZARDOUS WASTE STORAGE FACILITY –

Centralized hazardous waste storage facility with impervious bottom and leachate collection arrangement has been provided within the Terminal premises far away from CRZ area.

		Pig Storage  Channel – Leachate collection  Pipeline to ETP – Leachate collection   **COMPLIED.**
34	Necessary arrangements shall be made for safe disposal of municipal solid wastes as per provisions of the Municipal Solid Waste (Management and Handling) Rules, 2000 as amended from time to time and solid waste shall not be released in marine water / coastal area in any case.	Solid waste generated at site is being disposed as per the provisions of the Solid Waste Management Rules, 2016 and not being disposed in the marine water / coastal area. **COMPLIED.**

35	Oil spills, if any shall be properly collected & disposed as per rules.	Following provisions are in place to handle accidental oil spills, if any in environment friendly manner. **Terminal area -** • Centralized and independent oil storage and handling facilities under custody of store department at Terminal premises is provided with RCC/PCC flooring. • Close circuit (OWS – Oily Water System) to transfer oil contaminated washed water/spilled oil, if to ETP. • Hand operated pump are provided to facilitate transfer of oil from barrel in easy and convenient way while ensuring zero spillage. • Provision of drip tray for collection and recovery of oil spill, if any for lubricating type machineries. • Leakage of hazardous material, if any taking place during tanker movement/shifting, the leaked/leaked product will be collected in drums and stored at hazardous waste storage shed. • Dyke wall with drain collection sump equipped with controlled valve operation for bulk storage of hazardous chemicals.   **Jetty area -** Making provision of oil spill combating Equipment regarding – supply and maintenance of Oil Spill Equipment including competent persons to handle Oil Spill, if any is outsourced. Work Order has been awarded to competent agency M/s. Sea Care Marine Services for providing Tier 1 oil spill response (OSR) as per IMO (International Maritime Organization) on 24 x 7 basis. **COMPLIED.**
36	The hazardous waste shall be packed and stored in separate designated hazardous waste storage facility with impervious bottom and leachate collection facility, before its disposal.	GCPTCL has provided designated hazardous waste storage facility nearby ETP located within Terminal premises far away from CRZ area. Following types of packaging mechanism is being followed for hazardous waste before permitting its disposal at TSDF, recycler or Incineration purpose. • M/s. BEIL Incineration facility located at Ankleswar is having GPCB CCA (AWH 89137) valid till 31.07.2022. • M/s. BEIL TSDF facility located at Dahej is having GPCB CCA (AWH 70720) valid till 17.04.2025. • The CCA (AWH 109859) to M/s Anas Green issued by GPCB for recycling facility is valid up to 22.06.2025.

- The CCA (AWH 25627) to M/s Bombay Barrel issued by GPCB for recycling facility is valid up to 30.09.2022.
- The CCA (AWH 97567) to M/s Ambuja Cement issued by GPCB for recycling facility is valid up to 18.09.2023.

Type of hazardous waste	**Packing method**	**Disposal method**
Spent oil/used oil	Metal container.	Authorized recycler- M/s Bombay Barrels, Ahmedabad
Discarded container/Barrels/ Liners	Direct disposal	Authorized recycler-
Used foam pig of chemical	In HDPE/LDPE liner bag of appropriate capacity – 200 kg / 500 kg.	Incineration and Co-Processing at M/s Ambuja Cement , Kodinar, Sourashtra .
Oil soaked cotton and other waste	In plastic container or HDPE/LDPE liner bag of appropriate capacity	Incineration and Co-Processing at M/s Ambuja Cement , Kodinar, Sourashtra
Tank sludge	In HDPE/LDPE liner bag.	TSDF- M/s BEIL, Dahej
ETP sludge	In HDPE/LDPE liner bag of appropriate capacity.	TSDF- M/s BEIL, Dahej

Centralized hazardous waste storage facility with impervious bottom and leachate collection arrangement has been provided within the Terminal premises far away from CRZ area.

<table>
<tr><td></td><td></td><td> 

Pig Storage
 
Channel – Leachate collection
 
Pipeline to ETP – Leachate collection
 

COMPLIED.</td></tr>
<tr><td>37</td><td>There shall be no additional hazardous waste generation from the proposed expansion.</td><td>No additional hazardous wastes is generated due to proposed expansion.

Details of disposal of Hazardous Waste for the last 3 years is appended as below for ready reference.

<table>
<tr><th colspan="4">Hazardous waste generation and disposal statement (Qty in MT)</th></tr>
<tr><td>Waste Category</td><td>2017-2018</td><td>2018-2019</td><td>2019-2020</td></tr>
<tr><td>Common TSDF (Insulation waste)</td><td>1.6</td><td>32.1</td><td>Nil</td></tr>
<tr><td>Common incineration (Pigging Waste)</td><td>0.46</td><td>4.16</td><td>2.94</td></tr>
<tr><td>Recyclers (Waste oil)</td><td>3.22</td><td>3.04</td><td>Nil</td></tr>
</table>
</td></tr>
</table>

		<table><tr><td>ETP Sludge</td><td>Nil</td><td>1.65</td><td>Nil</td></tr><tr><td>Cargo/ tank residue</td><td>Nil</td><td>Nil</td><td>78.58</td></tr><tr><td>Discarded Container</td><td>Nil</td><td>Nil</td><td>2.56</td></tr></table> Copy of Form No 3 (Record of Hazardous Waste Generation – INTERNAL) and 4 (Annual Return of Hazardous Waste Generation and Disposal) for the last 3 years covering reporting period is attached as **Annexure 40** in the main report**.** **COMPLIED.**
38	All possible efforts shall be made for co-processing of the hazardous waste prior to disposal in to TSDF/CHWIF.	**Noted** and efforts shall be made for co-processing of the hazardous waste. **COMPLIED.**
C-4	**SAFETY**	
39	The project management shall strictly comply with the provisions made in Manufacture Storage and Import of Hazardous Chemicals Rules, 1989 as amended in 2000, for handling of hazardous chemicals.	The provisions made in Manufacture Storage and Import of Hazardous Chemicals Rules, 1989 as amended in 2000, for handling of hazardous chemicals are complied with like – <table><tr><th colspan="3">MSIHC Rules- Compliance of Applicable Rules</th></tr><tr><th>SN</th><th>Conditions</th><th>Compliance</th></tr></table>

			1	An occupier to identify the major accident hazards and taken adequate steps to prevent such major accidents and to limit their consequences to persons and the environment. Provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety.	• Major Accident Hazards has been identified and incorporated in On Site Emergency Action Plan. The plan was last reviewed in January 2020. ▪ Following controls have been implemented as a part of prevention of Major Accidents – → Storage tankages are confirming to API/ASTM codes and practices → Process Hazard Analysis and Risk Assessment has been carried out for bulk storage of Hazardous Chemicals and recommendations implemented. → Standard Operating Procedures are in place for handling of Hazardous Chemicals → Standard Maintenance Practices are in place for ensuring integrity of installations etc. → Training and Awareness on HSE-F topics is one of the ongoing activity.
			2	An occupier shall not undertake any industrial activity unless he has been granted an approval for undertaking such an activity and has submitted] a written report to the concerned authority containing the particulars specified in Schedule 7	Noted and being complied with. Latest approval obtained from the office of Petroleum Explosives and Safety Organization, Nagpur as well as from the office of Directorate of Industrial Safety and Health, Ahmedabad for installation and commissioning of 20” pipeline and its chill down line for handling Butane/Propane/LPG/Propylene dated 02.07.2020. Copy of an approval is attached as **Annexure 41 A** in the main report.

			3	An occupier shall prepare a safety report on that industrial activity and send a copy of that report to the concerned authority. The occupier shall within three years of the date of the last safety report, make a further report and shall end a copy of the report to the concerned authority.	Last Safety Report was prepared by M/s. Pro Safe Consultants, Surat for industrial activity carried out at GCPTCL i.e. receipt, storage and transfer/dispatch of Hazardous Chemicals. As a part of integration of relevant information for the recent changes/ modification, job done by M/s. Pro Safe Consultants.
			4	An occupier shall carry out an independent safety audit of the respective industrial activities with the help of an expert, not associated with such industrial activities and forward a copy of the auditor's report along with his comments to the concerned Authority	Last Statutory Safety Audit was carried out by an external agency in the year 2018. As per statutory requirement, it is due in year 2020. Work Order had been awarded to M/s. Trivedi Associate to conduct statutory Safety Audit of GCPTCL industrial activities with reference to IS 14489. Copy of Safety Audit Report is attached as **Annexure 41 C** in the main report.
			5	An occupier shall prepare and keep up-to-date an on-site emergency plan containing details how major accidents will be dealt with on the site.	On Site Emergency Action Plan was prepared and submitted to the office of Asst. Directorate of Industrial Health and Safety (DISH), Bharuch as requested. The plan was last reviewed and modified in January 2020.
			6	The occupier shall ensure that a mock drill of the on-site emergency plan is conducted every six months.	Noted and being complied with. Latest Mock Drill report dated 30.06.2020 is attached as **Annexure 41 B** in the main report.
			7	OFF-SITE EMERGENCY PLAN – the occupier shall provide the concerned authority with such information relating to the industrial activity under his control.	Copy of an On Site Emergency Action Plan was submitted to the office of Asst. Directorate of Industrial Health and Safety (DISH) vide our letter Dated 13,08.2020

<table>
<tr><td></td><td></td><td>
<table>
<tr><td>8</td><td>The occupier shall take appropriate steps to inform persons outside the site either directly or through District Emergency Authority who are likely to be in an area which may be affected by a major accident about (a) the nature of the major accident hazard; and (b) the safety measures and the “Do’s’ and ‘Don’ts’’ which should be adopted in the event of a major accident.</td><td>Community awareness program under title “Jan JagrutiAbhiyan” is conducted at least once in a year or on need basis for the people/community staying in close vicinity to the organization with special attention to HSE risks and its consequences in case disaster including industrial disaster.</td></tr>
</table>
COMPLIED.
</td></tr>
<tr><td>40</td><td>Necessary permission from various statutory bodies like PESO, Nagpur, and Factory Inspectorate etc. shall be obtained prior to commissioning of the additional storage tanks.</td><td>
GCPTCL had obtained requisite permissions from the relevant Government departments/authorities prior to start construction work.

The details of the permissions so obtained are appended as below.
<table>
<tr><td>CTE
(Annexure 12 in the main report)</td><td>CTE Amendment No-72483 GPCBIBRCH-B/CCA-347(3)/ ID-151341 with outward date 30/09/2015.

CTE Amendment No. 101047 GPCBBRCH-B/CTE-347(5)/ID-15134 with outward date 21.05.2019</td></tr>
<tr><td>CC & A
(Annexure 13 in the main report)</td><td>GPCB/BRCH-B/CCA-347(3)/ID-15134 / 408519 dtd.30.03.2017.

GPCB/BRCH-B/CCA-347(4)/ID-15134/494730 dtd.14.02.2019

GPCB/BRCH-B/ CCA-347(5)/ID-15134 dated 27.03.2020</td></tr>
<tr><td>GMB (Gujarat Maritime Board)
(Annexure 14 in the main report)</td><td>• GMB/N/PVT-1/601(10)/285/5605 dated 21.09.2015 in principle approval for construction of two Mooring Dolphins and allied facilities.

• GMB/N/PVT-1/601(10)/94/3512 dated 06.06.2016 for construction of two Mooring Dolphins and allied faculties.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td>• GMB/N/PVT/-1/229/89/3694 dated 28.05.2019 in principle approval for new development / modification at GCPTCL-Dahej</td></tr>
<tr><td>PESO (Petroleum and Explosive Safety Organization, Nagpur) (Annexure 41 A in the main report)</td><td>G-22(47)167, P2 (4) 359 dtd.28.07.2016

G-22(47)167 dtd. 06.06.2016.

P-2(4)1005 dated 02.07.2020</td></tr>
<tr><td>DISH (Director of Industrial Safety and Health) (Annexure 16 in the main report)</td><td>DISH/F-Map/2015/1997 dtd. 02.11.2015.

DISH/F-PLAN/2020/177 dtd 29.01.2020</td></tr>
<tr><td>Forest Division</td><td>No forest land is involved in the proposed project hence forest approval was not sought.</td></tr>
</table>
COMPLIED.
</td></tr>
<tr><td>C41</td><td>Design of the bulk storage installation shall be done in accordance with the applicable oil industry safety directorate (OISD) std. All safety & firefighting requirements as per these norms shall be put in place inside product tank farm.</td><td>All the storage tanks and related installation including fire protection facility have been constructed/provided as per design code API 650 and/orOISD norms like OISD 117/156/244.

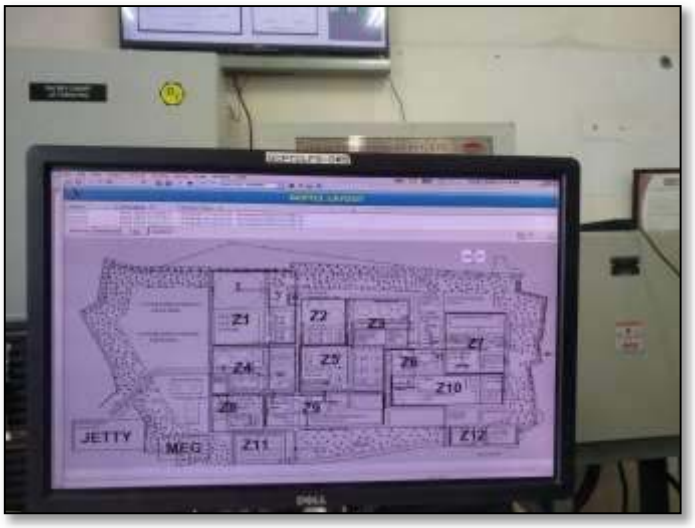
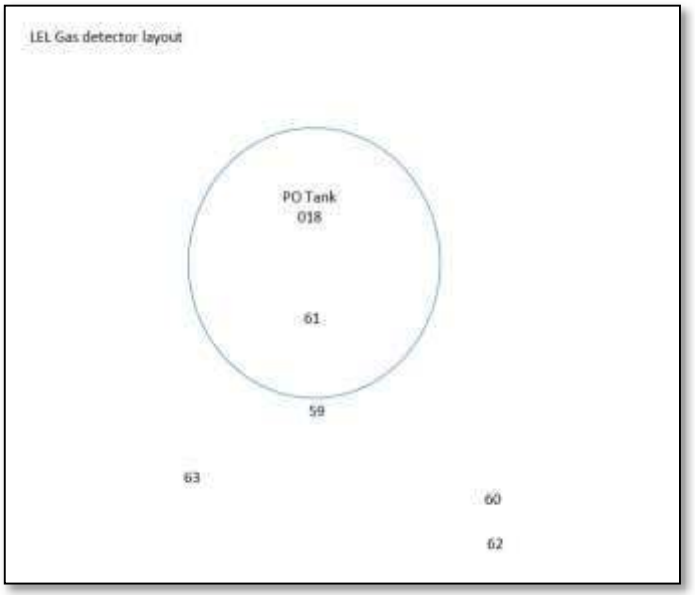
COMPLIED.</td></tr>
<tr><td>42</td><td>Strict supervision by plant personnel shall be carried out during transfer or receipt of products.</td><td>Supervision by plant personnel is carried out during product transfer or receipt.

<u>At Jetty</u> -
The Cargo operation (transfer/receipt of product) is carried out under strict supervision by Jetty Officer/Loading Master and ship representative. This requirement is mutually agreed between ship and shore and being enforced/ensured through enlisted in Ship/Shore checklist (Point no 24). You may kindly refer Annexure 03 in the main report.</td></tr>
</table>

		Continuous communication between ship and shore with regards to monitoring safe cargo operation is maintained thru' VHF set. **<u>At Terminal</u>** - Operation related to receipt/transfer of product is carried out in accordance to standard operating procedure – SOP. Typical SOP for handling of MEG is attached as **Annexure 42** in the main report.   Worker using PPE during making hose connection **COMPLIED.**
43	Proper earthing shall be provided on the pipelines and storage tanks. The tank gauging operator shall not be earthed with the tank (i.e. he shall wear non conducting shoes).	Proper earthing is provided on the pipelines and storage tanks. Employees are provided with insulating type safety shoes. Total 200+ earthing pit provided across the Terminal premises. Procedures are in place to maintain the earth pit and monitor/measure earth pit resistance. Copy of SMP and sample earth pit resistance measurement report for the reporting period is attached as **Annexure 43** in the main report. 

		 **COMPLIED.**
44	Lightening protection devices shall be provided for all storage tanks.	Lightening Protection Devices (LA – Lightening Arrester) are provided across the Terminal including Jetty. Advanced Direct Strike Lightning Protection devices are provided across the terminal including Jetty and building structures and fire water pump house. Total 30+ LA provided. Copy of a drawing showing location of each Lightening Arrestor mounting location is attached as **Annexure 44** in the main report**.**  **COMPLIED.**
45	The entire tank farm area shall be provided with leak detection sensors located at areas prone to fire risk/leakages.	As a part of LDAR (Leak Detection and Repair), about 103 Hydrocarbon detectors (i.e. LEL detector) are installed at prominent locations across the Terminal considered as potential leak prone like tank farm, pumping station – manifold area, gantry, material transfer pipelines etc.

		The audio – visual detection of LDAR system is integrated at main control room as well as fire station. The system is operated in auto and contribute to early detection of leakage of products, if any taking place and subsequent initiating corrective actions. Practice of carrying out calibration of the detectors has been established and records are maintained.   <u>Further explanation</u> – • Fire and Gas detection network (LDAR System) has been established across the Terminal and Jetty area. • 103 LEL gas detectors have been installed across the Terminal and Jetty area which is divided into 12 different zones for ease of identification of exact location and quick response. • The very basic intent of the network is to detect a gas leakage, if any in the field area and generate signal so that gas detectors can identify the leakage and initiate an alarm sequence on the panel located at control room as well as at Fire Station. Alarm communication devices are also installed in the field to generate audible and visible alarm.

		• **<u>Installation of the detector</u>** - The location of the detectors are so selected that it can detect gas leak, if any, on faster basis as well as to facilitate its functional testing. Graphical presentation of 12 zone as well as typical lay out of installation of Gas detector for one of the tank farm (PO Tank) is appended as below for ready reference.   • **<u>Functional testing of detectors</u>**- The detectors are being tested at an interval of 06 months for checking of its healthiness by third party M/s Detection instrument, Mumbai and the records are being maintained. Typical record of functional testing of the detector is appended as below for ready reference.”

<table>
<tr>
<td></td>
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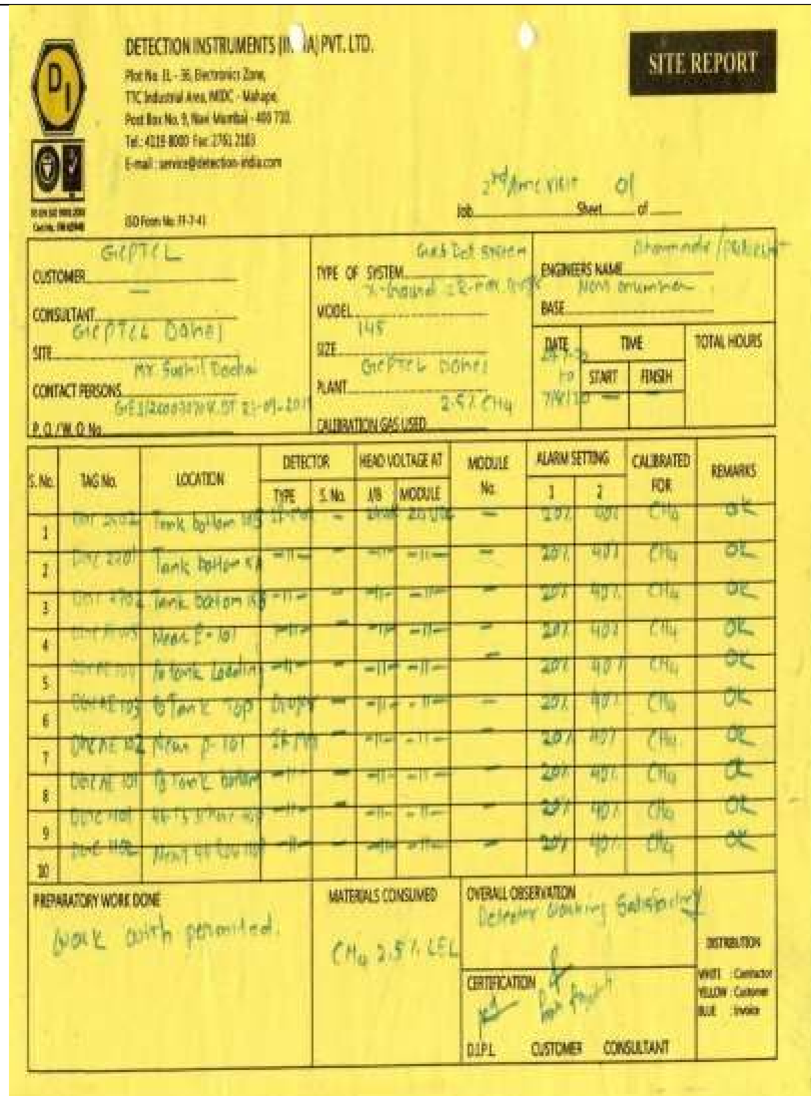
<td>

<table>
<tr><td colspan="4">DETECTION INSTRUMENTS (INDIA) PVT. LTD.
Plot No. EL - 36, Electronics Zone,
TTC Industrial Area, MIDC - Mahape,
Post Box No. 9, Navi Mumbai - 400 710.
Tel.: 4119 8000 Fax: 2761 2163
E-mail : service@detection-india.com
(ISO Form No. FF-7-4)</td><td colspan="2">SITE REPORT
Job 2nd Amc visit Sheet 01 of</td></tr>
<tr><td colspan="2">CUSTOMER GCPTCL
CONSULTANT —
SITE GCPTCL Dahej
CONTACT PERSONS Mr. Sushil Dodia
P.O./W.O. No. [illegible] DT 21-09-2019</td><td colspan="2">TYPE OF SYSTEM Gas Det. System
MODEL [illegible]
SIZE 145
PLANT GCPTCL Dahej
CALIBRATION GAS USED 2.5% CH4</td><td colspan="2">ENGINEERS NAME [illegible]
BASE
DATE [illegible] to 7/11/19
TIME START — FINISH —
TOTAL HOURS</td></tr>
</table>

S. No.	TAG No.	LOCATION	DETECTOR TYPE	DETECTOR S. No.	HEAD VOLTAGE AT J/B	HEAD VOLTAGE AT MODULE	MODULE No.	ALARM SETTING 1	ALARM SETTING 2	CALIBRATED FOR	REMARKS
1	[illegible]	Tank bottom [illegible]	[illegible]	—	[illegible]	[illegible]	—	20%	40%	CH4	ok
2	[illegible]	Tank bottom [illegible]	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK
3	[illegible]	Tank bottom [illegible]	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK
4	[illegible]	Near [illegible]	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK
5	[illegible]	[illegible] tank loading	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK
6	[illegible]	[illegible] tank top	[illegible]	—	-‖-	-‖-	—	20%	40%	CH4	OK
7	[illegible]	Near P-101	[illegible]	—	-‖-	-‖-	—	20%	40%	CH4	OK
8	[illegible]	[illegible] tank bottom	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK
9	[illegible]	[illegible]	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK
10	[illegible]	[illegible]	-‖-	—	-‖-	-‖-	—	20%	40%	CH4	OK

PREPARATORY WORK DONE: Work with permitted.
MATERIALS CONSUMED: CH4 2.5% LEL
OVERALL OBSERVATION: Detector working satisfactory
CERTIFICATION: D.I.P.L. CUSTOMER CONSULTANT
DISTRIBUTION: WHITE : Contractor YELLOW : Customer BLUE : Invoice

COMPLIED.
</td>
</tr>
<tr>
<td>46</td>
<td>Remotely operated valves (ROV's) shall be provided at strategic points on the pipeline circuit and also on feeder lines. These ROV's shall be interlocked for auto-activation in the event of emergency and provision shall be made for activation by the emergency shutdown station.</td>
<td>ROV / MOV interlocked with auto-activation mechanism are provided in discharge line of bulk storage of products and in pipeline circuit to prevent emergency scenario.

List of ROV / MOV is attached as Annexure 45 in the main report.</td>
</tr>
</table>

		 ROV in Ethane System **COMPLIED.**
47	All storage tank shall be fitted with appropriate controls to avoid any leakages. Close handling system for petroleum products shall be provided. Double mechanical seals shall be provided for pumps for reduction of fugitive emissions and leakages, wherever required.	All storage tank containing hazardous materials are provided with Low, Low-Low, High and High-High level and/or pressure type audio alarm and trip system to prevent leakage from the storage tank. List of such system provided for MEG tank is attached as **Annexure 46** in the main report. Addition to this to monitor leak spot and insulation problem, CEMENTYS DTS (Distributed Temperature Sensors) type system has been installed. Closed handling systems for handling of chemicals: closed piping network has been provided across the Terminal as well as up to end user of the products like Ethane, Naphtha, PX etc. Hazardous material transfer pumps are of centrifugal type and are provided with double mechanical seals. Some of the products are handled in tankers/trucks - Loading arm (instead flexible hose connection) are provided for transfer of products into tanker. Sample photograph of the arrangement may be referred in point no 31. **COMPLIED.**
48	High temp and high pressure alarm with auto activation of Water sprinklers as well as safety relief valve shall be provided.	High temp and high pressure alarm with auto activation of water sprinklers as well as safety relief valve (PRV/PVRV) are provided for bulk storage of hazardous chemicals. List of tanks equipped with PRV/PVRV/Nitrogen blanketing is attached as **Annexure 47** in the main report.

		 Hazardous material storage tank farm and handling facilities (e.g. gantry) is provided with water Sprinkling System. • Auto-activating type water sprinkling system (i.e. deluge valve mechanism) as per OISD norms has been provided and maintained for cooling purpose on spheres, gantry and pumping manifold. The system is getting activated on breaking QBD – sensing element heat with a set point @ 69 deg. C. • Manual type water sprinkling system (i.e. deluge valve mechanism) as per OISD norms has been provided and maintained for cooling purpose on storage tanks handling hazardous materials."  **COMPLIED.**
49	All venting equipment shall have vapour recovery system. All the pumps & other equipment's where there is a likelihood of leakages shall be provided with Leak detection and Alarm System. The detector sensitivity shall be in ppm levels.	GCPTCL is a Port and Storage Terminal and its main activities involves handling of hazardous chemicals (i.e. receiving/dispatch and storage) in an enclosed system. As no manufacturing activity is involved, no process gas emissions is envisaged. At pressurized gantry, complete closed circuit process has been following for transfer of hazardous chemicals into tanker. For atmospheric loading of Acetic Acid, water scrubbing system is provided.

Addition to this, following specific efforts / best practices have been implemented as a part of eliminating / minimizing evaporation loss of highly volatile products during its storage.

- Prevention/Reduction of evaporation loss - Rim seal type vapour seal mechanism is provided for storage tanks containing highly volatile products i.e. class 'A' petroleum products.

- LDAR (Leak Detection and Repair) - about 103 hydrocarbon detectors (i.e. LEL detector) are installed at areas considered as potential leak prone area like tank farm, pumping station – manifold area, gantry, material transfer pipelines etc. including Jetty.

  The audio – visual detection of LDAR system is integrated at main control room as well as fire station.

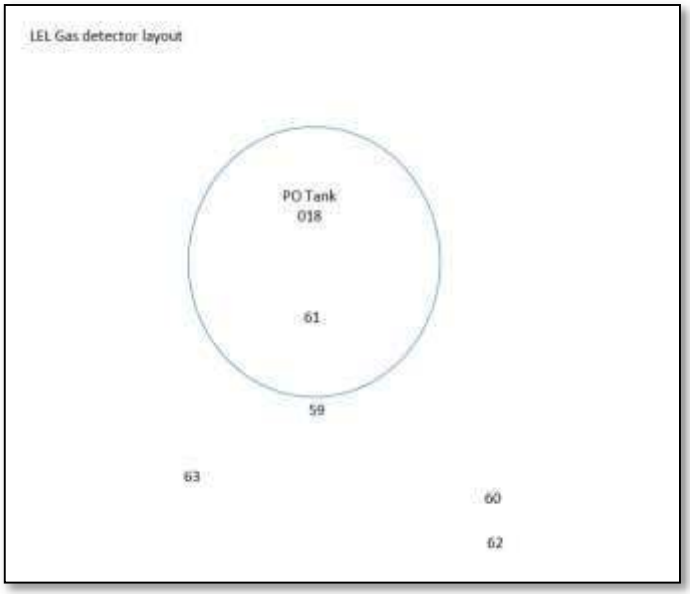
  The system is operated in auto and contribute to early detection of leakage of products, if any taking place and subsequent initiating corrective actions.

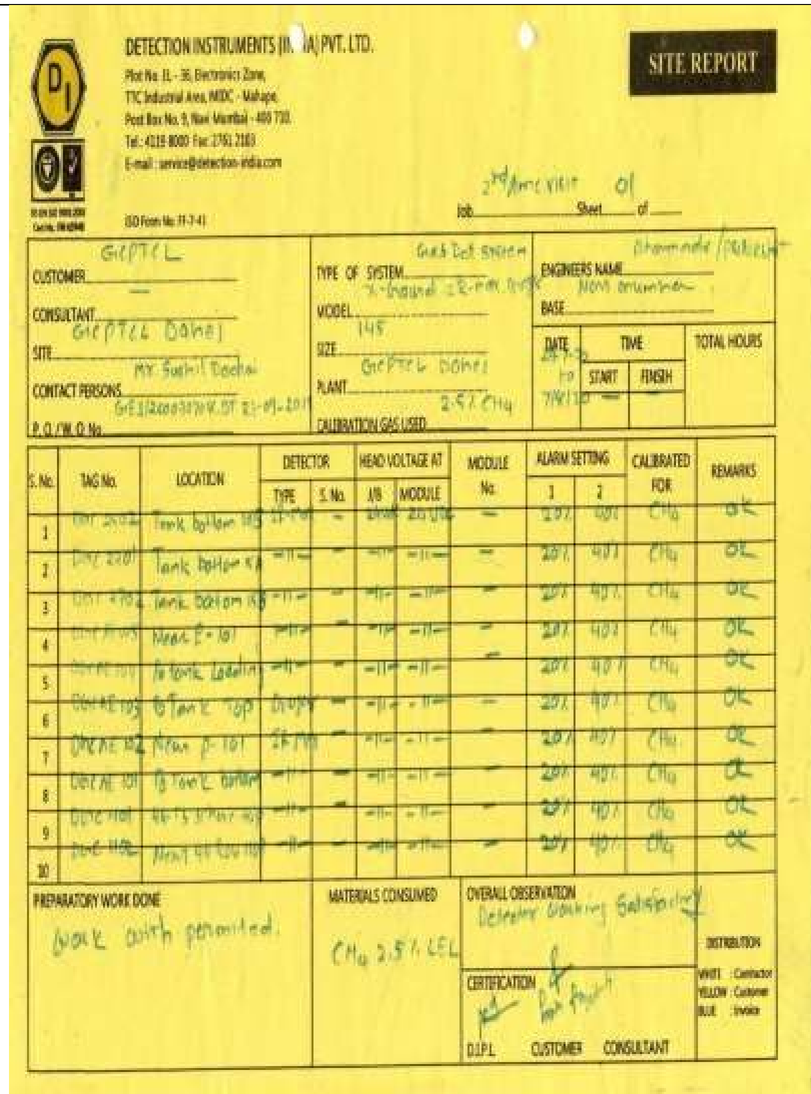
  Practice of carrying out calibration of the detectors has been established and records are maintained.

Further explanation –

- Fire and Gas detection network (LDAR System) has been established across the Terminal and Jetty area.

- 103 Fixed Combustible gas detectors have been installed across the Terminal and Jetty area for LEL detection which is divided

		into 12 different zones for ease of identification of exact location and quick response. • The very basic intent of the network is to detect a gas leakage, if any in the field area and generate signal so that gas detectors can identify the leakage and initiate an alarm sequence on the panel located at control room as well as at Fire Station. Alarm communication devices are also installed in the field to generate audible and visible alarm. • **Installation of the detector** - The location of the detectors are so selected that it can detect gas leak, if any, on faster basis as well as to facilitate its functional testing. Graphical presentation of 12 zone as well as typical lay out of installation of Gas detector for one of the tank farm (PO Tank) is appended as below for ready reference.  • **Functional testing of detectors**- The detectors are being tested at an interval of 06 months for checking of its healthiness by third party M/s Detection instrument, Mumbai and the records are being maintained. Typical record of functional testing of the detector is appended as below for ready reference.

<table>
<tr>
<td></td>
<td></td>
<td>


DETECTION INSTRUMENTS (INDIA) PVT. LTD.
Plot No. EL - 36, Electronics Zone,
TTC Industrial Area, MIDC - Mahape,
Post Box No. 9, Navi Mumbai - 400 710.
Tel.: 4119 8000 Fax: 2761 2183
E-mail : service@detection-india.com
ISO Form No. 11-7-41
SITE REPORT
Job 2nd AMC visit Sheet 01 of
CUSTOMER GCPTCL
CONSULTANT —
SITE GCPTCL Dahej
CONTACT PERSONS Mr. Sushil Dochak
P.O./W.O. No. [illegible]
TYPE OF SYSTEM Gas Det. System
MODEL [illegible]
SIZE 145
PLANT GCPTCL Dahej
CALIBRATION GAS USED 2.5% CH_4
ENGINEERS NAME [illegible]
BASE
DATE [illegible] TIME START FINISH TOTAL HOURS

<table>
<tr><th>S. No.</th><th>TAG No.</th><th>LOCATION</th><th>DETECTOR TYPE</th><th>DETECTOR S. No.</th><th>HEAD VOLTAGE AT J/B</th><th>HEAD VOLTAGE AT MODULE</th><th>MODULE No.</th><th>ALARM SETTING 1</th><th>ALARM SETTING 2</th><th>CALIBRATED FOR</th><th>REMARKS</th></tr>
<tr><td>1</td><td>[illegible]</td><td>Tank bottom [illegible]</td><td>[illegible]</td><td>–</td><td>[illegible]</td><td>[illegible]</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>2</td><td>[illegible]</td><td>Tank bottom [illegible]</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>3</td><td>[illegible]</td><td>Tank bottom [illegible]</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>4</td><td>[illegible]</td><td>Near E-101</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>5</td><td>[illegible]</td><td>Tank loading</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>6</td><td>[illegible]</td><td>Tank top</td><td>[illegible]</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>7</td><td>[illegible]</td><td>Near P-101</td><td>[illegible]</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>8</td><td>[illegible]</td><td>Tank bottom</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>9</td><td>[illegible]</td><td>[illegible]</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
<tr><td>10</td><td>[illegible]</td><td>Near [illegible]</td><td>-||-</td><td>–</td><td>-||-</td><td>-||-</td><td>–</td><td>20%</td><td>40%</td><td>CH_4</td><td>OK</td></tr>
</table>

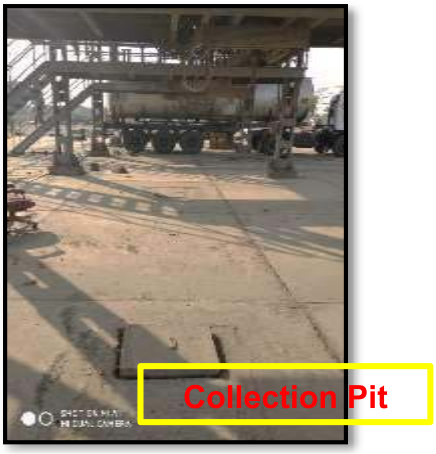
PREPARATORY WORK DONE: Work with permitted.
MATERIALS CONSUMED: CH_4 2.5% LEL
OVERALL OBSERVATION: Detector working Satisfactory
CERTIFICATION: D.I.P.L. CUSTOMER CONSULTANT
DISTRIBUTION: WHITE : Contractor YELLOW : Customer BLUE : Invoice

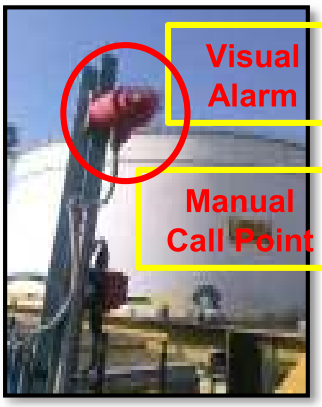
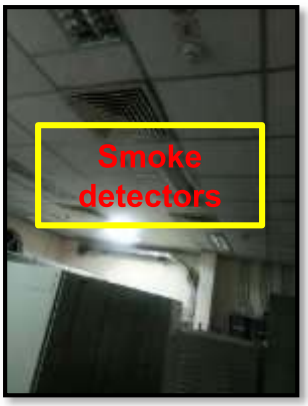
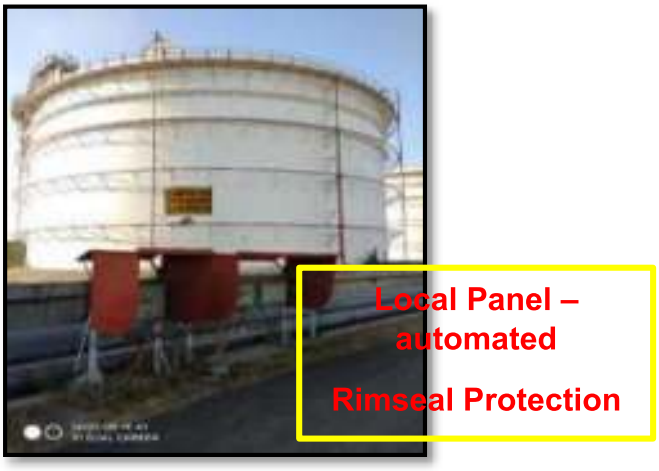
COMPLIED.
</td>
</tr>
<tr>
<td>50</td>
<td>All new tanks shall be provided with breather valves / PRV. Nitrogen blanketing shall be provided for MTBE, MEG, methanol & acetic acid tanks.</td>
<td>List of tanks including MTBE, MEG, Methanol and Acetic Acid equipped with PRV/PVRV/Nitrogen blanketing is attached as Annexure 47 in the main report.

COMPLIED.</td>
</tr>
<tr>
<td>51</td>
<td>During product transfer, spillages shall be avoided and garland drain be constructed to avoid mixing of accidental spillages with domestic waste & storm Water drain.</td>
<td>Following specific efforts / best practices / RAGAGEP are in place to ensure elimination/minimize spillage of hazardous chemicals during its storage and handling.

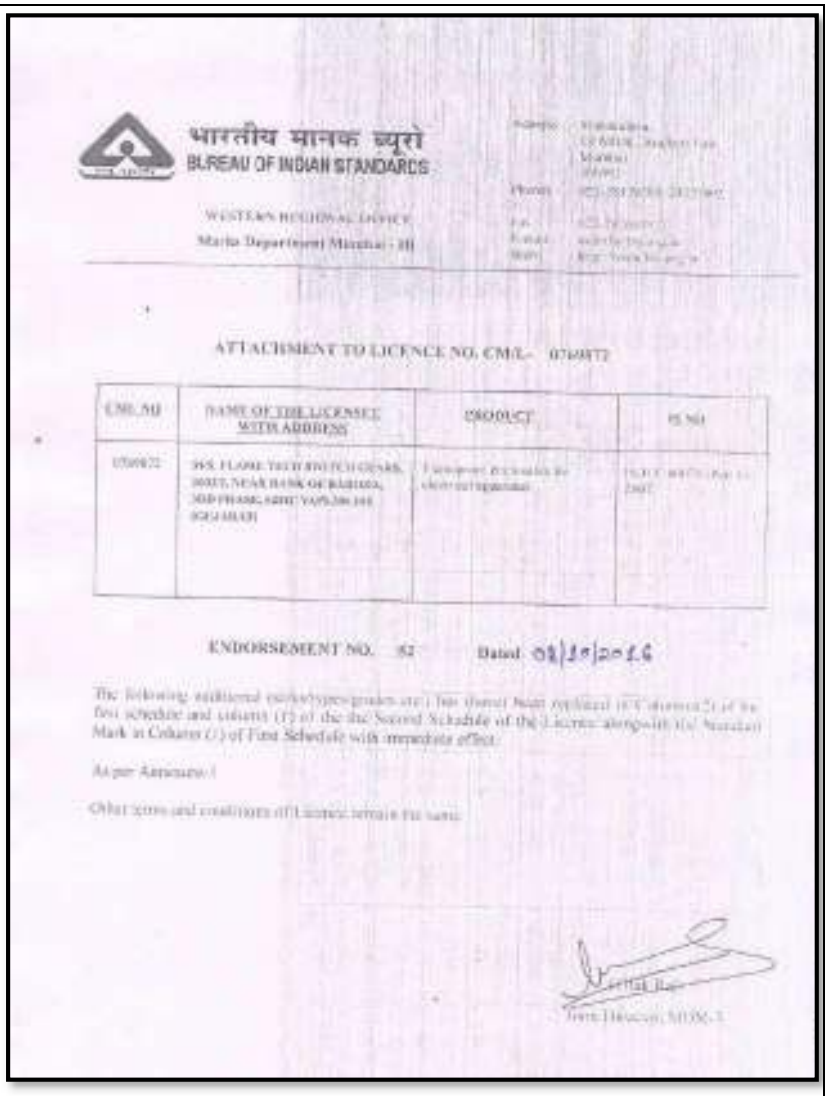
• Handling of products through closed systems – use of piping and loading arms for transfer/handling of products Flange joints in the piping network are of full faced gasket joint and valves (stem) equipped with graphite fitting etc.

• Material transfer pumps are of centrifugal type and are provided with double mechanical seals.</td>
</tr>
</table>

		• Close drain system (OWS/PWS) – independent of domestic waste and storm water drainage is provided across the Terminal area including gantry operation facility. All gantry complete flooring is of RCC type with slope that facilitate diversion of accidental spillage, if any to collection pit from where it is further diverted to ETP through OWS/PWS channel (i.e. closed loop) for further treatment and disposal.  **COMPLIED.**
52	Fire detection & alarm system shall be installed in Terminal with sufficient nos. of smoke/ heat detectors & manual call points installed at all location inside Terminal.	Fire detection & alarm system comprising of Manual Call Point, Smoke Detector, LEL Detector, Heat Detector, and Hydrogen Detector etc. are provided across the Terminal and Jetty and the indication are integrated on panel located at Control Room and Fire Station. The list of LEL detectors, smoke detector, heat detector etc. is attached as **Annexure 48** in the main report. Total 177 Manual Call Points are located across the Terminal including Jetty. The audio – visual detection of fire and gas detection system is integrated at main control room as well as fire station. The system is operated in auto and contribute to early detection of leakage of products, if any taking place and subsequent initiating corrective actions. Standard Maintenance Practices (SMP) is in place for conducting functional performance testing of fire and gas detection system. Copy of one such SMP and duly completed report of FPT is attached as **Annexure 49** and **50** respectively in the main report.

		    **COMPLIED.**
53	Automatic actuated foam flooding system shall be provided for tanks having diameter larger than 60 meter.	There is no tank having diameter larger than 60 meter. However, making provision of an automatic actuated foam flooding system (Rim seal system confirming to OISD norms) for external floating roof type storage tank storing class 'A' flammable material had been considered and as on date it was completed for 5 such storage tanks. This arrangement is in addition to provision of foam pourer system. 

		COMPLIED.
54	Necessary flameproof fittings shall be provided in storage facility.	Provision of flameproof electrical fittings across the Terminal and Jetty area in particular where hazardous chemicals are being stored and/or handled is in accordance with the hazardous area classification contour and confirming to relevant IS as well as PESO (Petroleum Explosives and Safety Organization, Nagpur) approval.    **COMPLIED.**
55	All lighting / electrical equipment & instrumentation inside installation shall be conforming to IS:2206 (part1) & IS:2148 STD.	The lighting / electrical equipment and instrumentation provided across the Terminal and Jetty area is confirming to relevant IS and having PESO (Petroleum Explosives and Safety Organization, Nagpur) approval. Lighting fixtures installed at Jetty area are of make M/s. Flame Tech Switch Gears, Gujarat.

		 भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS WESTERN REGIONAL OFFICE Marks Department Mumbai - 93 ATTACHMENT TO LICENCE NO. CM/L- 8760872 LIC. NO / NAME OF THE LICENSEE WITH ADDRESS / PRODUCT / IS NO ENDORSEMENT NO. 02 Dated 02/10/2016 As per Annexure-I **COMPLIED.**
56	Growth of vegetation in the tank farm shall be removed on regular basis, whenever found.	Majority of the area where hazardous chemicals are stored/handled including product transfer piping network is covered by RCC/ PCC.  

		Removal of vegetation, if any in the tank farm area is identified as a part of field round and will be communicated to concerned person / department for initiating corrective actions. **COMPLIED.**
57	All fire extinguishers shall be placed on enclosure wall, instead near to the tanks.	As a standard practice placement of fire extinguishers is done at a height and readily accessible and convenient locations.  **COMPLIED.**
58	Mechanical seal of pumps, glands and expansion joints of pipeline shall be regularly monitored to prevent leakage.	Standard Maintenance Practices (SMP) in in place for conducting Preventive Maintenance (PM) of pumps, which includes conducting checking of mechanical seals also. PM requirement is integrated in SAP. Copy of SMP and duly completed report of inspection of pumps is attached as **Annexure 51** and **52** respectively in the main report. **COMPLIED.**
59	Periodic inspection & maintenance of all valves, fittings & mounting on pipeline carrying products shall be carried out regularly.	Standard Maintenance Practices (SMP) is in place for conducting visual inspection/examination including calibration of PSVs/TSVs installed in pipelines through an external competent agency duly authorized by PESO. **COMPLIED.**
60	Visual inspection of pipeline shall be done regularly to locate leaks. Inspection of pipes for internal and external corrosion shall be carried out with special attention.	Visual inspection of pipeline including thickness measurement is carried out to locate leaks and corrosion monitoring aspects. Copy of SMP and duly completed report of thickness measurement of pipelines is attached as **Annexure 53 and 54** respectively in the main report. **COMPLIED.**
61	Fire protection facilities and fighting equipment shall be maintained in	Fire protection facilities and firefighting equipment are maintained/provided in accordance with the requirements detailed in the OISD 117.

	Terminal as per OISD-117.	Fire Protection System comprising of – • Fire Water Reservoir • Fire Water Piping Network with provision of Hydrant, Monitors across the premises including Jetty • Fire Water Pumps – Auto Operation • Fixed Water Spray System for tankages • Automatic Deluge Valve System for Spheres • Foam System • Portable Fire Extinguishers etc.     **COMPLIED.**
62	Emergency responsible vehicle (gully sucker) and foam/Water tender shall be provided in Terminal to handle spillage / leakage of products & fire accidents immediately & effectively.	Emergency response vehicle such as Foam/Water tender are stationed at Terminal to handle spillage / leakage of products & fire accidents immediately & effectively and contact has been established for making gully sucker available in case of an emergency. Total 03 fire tenders are currently available and their details are appended as below – 1. First Turnout – 3000 L capacity for Foam and Water each 2. Second Turnout – 6000 L capacity for Foam and 4000 L capacity for Water 3. DCP Turnout – 2000 kg, under fabrication.

		 **COMPLIED.**
63	A dedicated fire department at plant level with fire tenders, specialized firefighting equipment & experienced man power shall be established & kept operational.	Dedicated and experienced fire team on 24 x 7 basis is available at Terminal. The team is equipped with specialized firefighting equipment as detailed in OISD 117 and are maintained in ready to operate condition. The total fire service team comprising of – Head – HSEF 1 HSE Manger 1 Shift In Charge 4 Fire Operator 8 Supervisor 1 Driver 7 Pump Operator 3 Firemen 22 **COMPLIED.**
64	Firefighting facility shall comprise of adequate no of diesel operated & electricity operated jockey pumps with auto changeover to diesel engine driven pumps & a jockey pumps to ensure that circuit pressure is adequately maintained.	The following firefighting facilities have been provided - • 02 Jockey pumps of cap. 70 kl/hr (each) • Three electrical driven fire water pumps of cap. 710 kl/hr (each) • Three diesel operated fire water pumps of cap. 710 kl/hr (each) Fire Water pressure in the system is maintained in auto start mode @ 7 kg/cm2. 

		COMPLIED.
65	All the hydrant points shall be easily accessible. It shall be assured that pressure is maintained at minimum 7 kg/cm2 at the farthest point (from the hydrant pump house) in the hydrant line.	All the hydrants points located in fire water network system are easily accessible. Pressure, in the system, is maintained at minimum 7 Kg/cm2 at the farthest point.  **COMPLIED.**
66	Periodic preventive maintenance of all firefighting equipment & all other rotating equipment, transformers, D.G. sets etc. shall be carried out.	Established practices of conducting preventive maintenance of all firefighting equipment & all other rotating equipment, transformers, D.G. sets etc. are in place The fire protection facilities and firefighting equipment are inspected/tested and maintained in accordance with the requirements of OISD 117. Copy of schedule detailing inspection, service and/or functional performance testing/checking is attached as **Annexure 55** in the main report**.** And typical inspection report for hydrant and sprinkler system is attached as **Annexure 49** and **50** in the main report**.** Standard Maintenance Practices (SMP) is in place for conducting visual inspection/monitoring functional performance of DG Set, transformer etc. Copy of duly completed template of report for transformer and DG set logbook is attached as **Annexure 56 and 57** respectively in the main report. **COMPLIED.**
67	A well designed mutual aid agreement amongst neighbouring industries shall be done & renewed time to time to combat the fire emergency. Necessary tie up with the nearby fire stations and other emergency services	Mutual Aid agreement with neighbouring industries and membership with Dahej Industrial Association – Disaster Management Cell is in place to summon help in case of Level II and higher category actual emergency/mock drill situation. Copy of mutual aid agreement is attached as **Annexure 58** in the main report**.**

	shall be made to ensure that the required aids reach with in the shortest possible time in case of any adverse conditions.	 **MUTUAL AID SCHEME** We, the members of Mutual Aid Scheme of Dahej industrial area hereby agree to abide by the terms & conditions. The terms and conditions of Agreement are as under: President RIL, DMD; President/COO HIL; Managing Director GCPTCL; Sr.VP. (Plant Head) PLL; G.M. (Plant Head) GACL Plant Manager (ONGC Dahej Plant); Chief Operating Officer ONGC Petro additions Limited (OPaL) Dahej; Executive Director (O & M) Torrent Power Ltd. Dahej- SEZ Page 1 of 8 **COMPLIED.**
68	It shall be assured that the siren to declare emergency are different in nearby installation to avoid confusion.	Emergency siren code is different than that of other industries located nearby. **COMPLIED.**
69	All alternative of modern effective communication system shall be installed inside the Terminal for obvious & faster communication, in case of exigencies like fire & accidents, thereby minimizing loss of human lives & property.	Following different types of effective and faster communication is in place in case of exigencies like fire & accidents. • Walkie Talkie (VHF) sets • Intercom – base station • Manual Call Points (MCP)/Smoke detector /Hydrogen detector - indication of operation/activation of MCP is integrated on panel located at main control room as well as fire station. • Siren • Mobile **COMPLIED.**
70	As per factories act, first aid training shall be given to all Terminal personnel regularly. Training shall also be given to the Terminal personnel on safety & health aspects.	Trained First Aider are available at Terminal as well as Jetty. List of trained First Aider is attached as **Annexure 59** in the main report. Raising awareness on health and safety aspects, amongst the company employees and contractor workers, is one of the ongoing efforts at GCPTCL. **COMPLIED.**
71	Local people shall be informed about risks & its consequences. They shall be taught methods & action plan in case of any emergency with formation of local committees.	Community awareness program under title “Jan Jagruti Abhiyan” is conducted at least once in a year or on need basis for the people/community staying in close vicinity to the organization with special attention to HSE risks and its consequences in case disaster including industrial disaster. A pocket booklet in local language on basic safety requirements/expectations for the villagers is distributed amongst them during the awareness program. Copy of the booklet is attached as **Annexure 60** in the main report.

		Typical photographs of such program carried out at Lakhigam and Navinagari Machibarin are appended as below for ready reference.      **COMPLIED.**
72	Transportation of hazardous chemical shall be as per Motor Vehicle Act & Rules.	It is ensured that transportation of hazardous chemical is being done in accordance with the Central Motor Vehicle Act and Rules. For the purpose, following practice are in place – Visual inspection of the vehicle engaged for transporting hazardous chemicals is being conducted, followed by verifying the availability of documents like TREM card, license for transporting particular hazardous material issued by Petroleum Explosive and Safety Organization, driver's certified training for transporting hazardous materials etc. Copy of duly completed vehicle inspection checklist, TREM card and drivers training certificate is attached as **Annexure 61, 62 and 63** respectively in the main report. **COMPLIED**
73	All transportation routes within factory premises shall have paved roads.	All transportation routes including tanker parking area within the terminal area are paved. Sample photographs are appended below for ready reference.  

<table>
<tr><td></td><td></td><td>COMPLIED.</td></tr>
<tr><td>74</td><td>Fire extinguishers, foams, sand, first aid box & required antidotes for materials in Terminal shall be made readily available in adequate quantity at all times.</td><td>Sufficient number of fire extinguishers & required quantities of foam, sand buckets and first aid boxes are readily made available across the Terminal and Jetty.

Total 11 First Aid boxes provided.

Antidote is available for snakebite.

COMPLIED.</td></tr>
<tr><td>75</td><td>Personal protective equipment shall be provided to workers and its usage shall be ensured and supervised.</td><td>PPE like ear plugs, masks, safety goggles, helmet etc. are provided and its usage is ensured through training, display signage and supervised.

COMPLIED.</td></tr>
<tr><td>76</td><td>Occupational health surveillance (OHS) of the workers shall be carried out on a regular basis and records shall be maintained as per the factories act & rules. Pre-employment & periodical medical examination for all workers shall be undertaken as per statutory requirement.</td><td>Occupational Health Surveillance of the workers (both contractors as well as company employees) is one of the on-going activities at GCPTCL and is carried out at a frequency prescribed in the Factories Act and Gujarat Factory Rules and the records are being maintained in OHC.

Occupational Health Surveillance is carried out –
→ At the time of joining formality (i.e. Pre-Employment Fitness Examination)
→ At every six months for all workers engaged in hazardous process (i.e. Periodic Fitness Examination)

Details of checks conducted at the time of Fitness Examination is appended as below for ready reference-

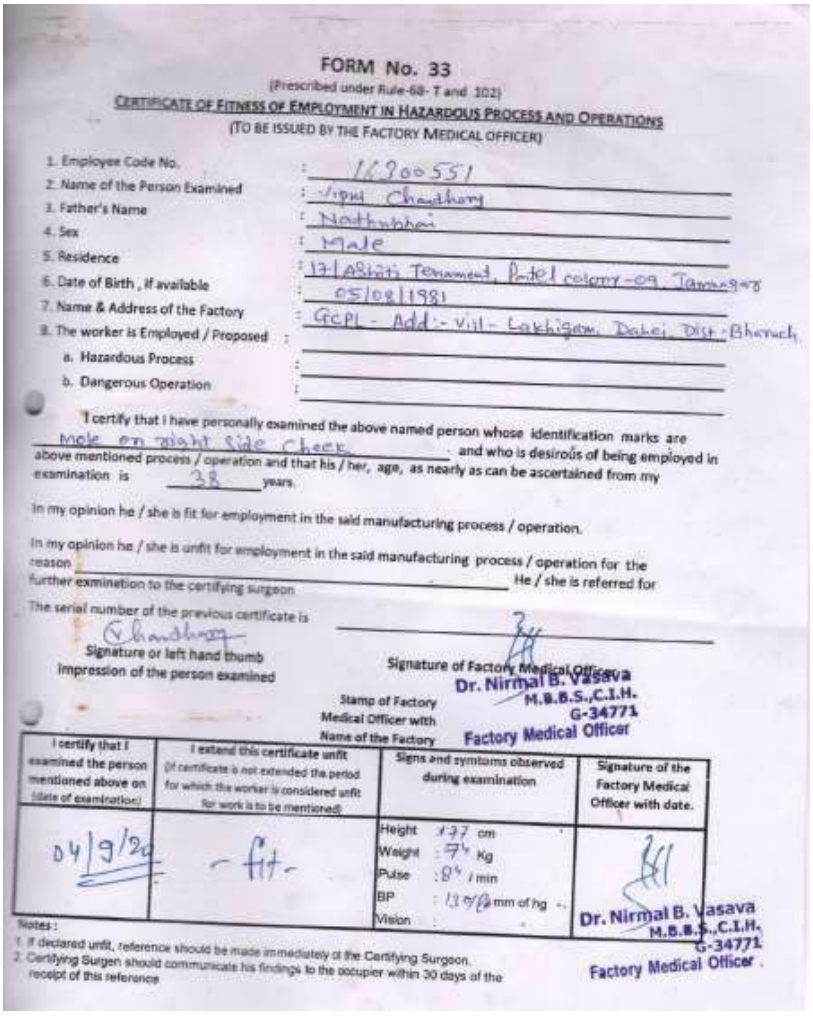
<table>
<tr><td>Fitness Examination Parameter</td><td>Pre-Employment Fitness Examination</td><td>Periodic Fitness Examination</td></tr>
<tr><td>Physician Check-up</td><td>√</td><td>√</td></tr>
<tr><td>Eye – Check-up</td><td>√</td><td>√</td></tr>
<tr><td>ENT- Check-up</td><td>√</td><td>√</td></tr>
<tr><td>X-ray</td><td>√</td><td>√</td></tr>
<tr><td>ECG</td><td>√</td><td>√</td></tr>
<tr><td>Urine Routine</td><td>√</td><td>√</td></tr>
</table>
</td></tr>
</table>

CBC+ESR	√	√
Blood Group	√	√
Random Blood Sugar	√	√

Typical sample lab analysis reports of Pre-Employment as well as Periodical Fitness Examination for company employee and contractors are attached as **Annexure 70 and 71A and 71 B** respectively in the main report.

Records of such fitness examination are maintained in a standard template as prescribed in the Factories Act and the Gujarat Factories Rules i.e. in Form No 33 (Pre-Employment) Form No 32 (Periodical).

Typical example of one such record is appended as below for ready reference."



FORM No. 33

(Prescribed under Rule-68- T and 102)

CERTIFICATE OF FITNESS OF EMPLOYMENT IN HAZARDOUS PROCESS AND OPERATIONS

(TO BE ISSUED BY THE FACTORY MEDICAL OFFICER)

1. Employee Code No. : 16900551
2. Name of the Person Examined : Vipul Chauhan
3. Father's Name : Nathabhai
4. Sex : Male
5. Residence : 17 Ashish Tenament, Patel colony-09, Jambusar
6. Date of Birth , if available : 05/08/1981
7. Name & Address of the Factory : GCPL - Add:- Vill- Lakhigam, Dahej, Dist:-Bharuch
8. The worker is Employed / Proposed :
   a. Hazardous Process :
   b. Dangerous Operation :

I certify that I have personally examined the above named person whose identification marks are mole on right side cheek and who is desirous of being employed in above mentioned process / operation and that his / her, age, as nearly as can be ascertained from my examination is 38 years.

In my opinion he / she is fit for employment in the said manufacturing process / operation.

In my opinion he / she is unfit for employment in the said manufacturing process / operation for the reason _____ He / she is referred for further examination to the certifying surgeon

The serial number of the previous certificate is _____

Signature or left hand thumb impression of the person examined

Signature of Factory Medical Officer

Dr. Nirmal B. Vasava M.B.B.S.,C.I.H. G-34771 Factory Medical Officer

Stamp of Factory Medical Officer with Name of the Factory

I certify that I examined the person mentioned above on (date of examination)	I extend this certificate unfit (If certificate is not extended the period for which the worker is considered unfit for work is to be mentioned)	Signs and symtoms observed during examination	Signature of the Factory Medical Officer with date.
04/9/20	- fit -	Height 177 cm Weight 74 Kg Pulse 84 / min BP 130/80 mm of hg Vision	Dr. Nirmal B. Vasava M.B.B.S.,C.I.H. G-34771 Factory Medical Officer

Notes :
1. If declared unfit, reference should be made immediately to the Certifying Surgeon.
2. Certifying Surgen should communicate his findings to the occupier within 30 days of the receipt of this reference

COMPLIED.

<table>
<tr><td>77</td><td>The project management shall prepare a detailed disaster management plan for project as per guidelines from directorate of industrial safety & health & furnish detailed disaster management plan to concerned offices including district authorities & department of F & ED, SEAC & GPCB.</td><td>Disaster Management Plan (DMP) / On-Site Emergency Action Plan is in place.

Bharuch district DMP is prepared by the district administration. Copy of relevant pages are attached as Annexure 64 in the main report.

Site level On-Site Emergency Action Plan is prepared and was last reviewed in January 2020. Copy of plan – Index Page is attached as Annexure 65 in the main report.

Copy of the plan had been submitted to the office of Directorate of Industrial Health and Safety (DISH) vide our letter dated 13th Aug.2020.

COMPLIED.</td></tr>
<tr><td>78</td><td>The safety audit report shall be complied after undertaking a safety audit of Terminal & same shall be submitted to statutory authorities.</td><td>Safety audit of Terminal is carried out at a frequency defined in the Factories Act and the Gujarat Factories Rules, 1963 and amended thereof.

Last Safety audit was carried out in 2018 by external competent agency (i.e. M/s Eco Safe Consultant) and report of its recommendations is regularly submitted to DISH.

COMPLIED.</td></tr>
<tr><td>79</td><td>The unit shall effectively implement all the recommendation of HAZOP study, risk analysis & disaster management plan.</td><td>HAZOP of MEG storage tank and associated facilities had been carried out M/s. AKER Power Gas Pvt. Ltd.

Total eight recommendations were suggested and all were closed prior to commissioning of the facility.

M/s AKER Power Gas Pvt. Ltd. had verified effective closure of the HAZOP recommendations.

Status of key HAZOP recommendations are provided as below –

<table>
<tr><th>SN</th><th>Recommendation</th><th>Compliance</th></tr>
<tr><td>1</td><td>Ensure that the venting through PVRV 00501 is designed for maximum expected flow rate.</td><td>COMPLIED.</td></tr>
<tr><td>2</td><td>Provide high pressure alarm on PT 00112.</td><td>COMPLIED..</td></tr>
<tr><td>3</td><td>Compound gauge with readability from grade to be provided.</td><td>COMPLIED.</td></tr>
<tr><td>4</td><td>Interlock to be provided to stop MEG transfer by pumps MP-TSS652-P-002 A, B and C from the tank at Low Low Pressure to avoid tank going into vacuum.</td><td>COMPLIED.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td></td><td></td><td>
<table>
<tr><td>5</td><td>Value of deviation alarm to be decided during operations.</td><td>COMPLIED.</td></tr>
<tr><td>6</td><td>Ensure that dyke volume is 110% of the maximum capacity of a single tank.</td><td>COMPLIED.</td></tr>
<tr><td>7</td><td>Control Philosophy and Cause-And-effect diagram to clearly indicate the mode of operation.</td><td>COMPLIED.</td></tr>
<tr><td>8</td><td>Suitable fall protection mechanism to be provided.</td><td>COMPLIED.</td></tr>
<tr><td>9</td><td>Provide TSV on common header downstream of XV 00801.</td><td>COMPLIED.</td></tr>
<tr><td>10</td><td>SOPs to control filling operation.</td><td>COMPLIED.</td></tr>
</table>

Close Out report of HAZOP recommendations is attached as Annexure 67 in the main report.

COMPLIED.
</td></tr>
<tr><td>C-5</td><td>NOISE</td><td></td></tr>
<tr><td>80</td><td colspan="2">To minimize the noise pollution the following noise control measures shall be implemented:</td></tr>
<tr><td>1</td><td>Selection of any new plant equipment shall be made with specification of low noise level.</td><td>Noted and being complied.</td></tr>
<tr><td>2</td><td>Regular maintenance of machinery and vehicles shall be undertaken to reduce the noise impact.</td><td>Standard Maintenance Practices (SMP) is in place for conducting Preventive Maintenance (PM) of machinery like pumps, compressors, blowers etc. includes lubrication/alignment/abnormal noise etc. PM requirement is integrated in SAP.

Copy of one such SMP (for centrifugal pumps) and duly completed report of inspection of pumps is attached as Annexure 51 and 52 respectively in the main report.

COMPLIED</td></tr>
<tr><td>3</td><td>Noise suppression of measures such as enclosures, buffers and / or protective measures shall be provided.</td><td>Noise suppression measures implemented wherever applicable like pumps are provided with muffler on exhaust, provision of an enclosure etc.</td></tr>
</table>

		  **COMPLIED**
4	Employees shall be provided with ear protection measures like ear plug or ear muffs.	Ear defenders, plugs, muffs are provided to company employees/workers engaged in carrying out activity in high noise area. **COMPLIED**
5	Proper oiling, lubrication and preventive maintenance shall be carried out of the machineries and equipment's to reduce noise generation.	Standard Maintenance Practices (SMP) is in place for conducting Preventive Maintenance (PM) of machinery like pumps, compressors, blowers etc. includes lubrication/alignment/abnormal noise etc. PM requirement is integrated in SAP. Copy of one such SMP (for centrifugal pumps) and duly completed report of inspection of pumps is attached as **Annexure 51** and **52** respectively in the main report. **COMPLIED**
6	Construction equipment generating minimum noise and vibration shall be chosen.	Construction equipment generating minimum noise and vibration were opted/chosen during the construction phase. **COMPLIED**
7	Ear plug and muffs shall be made compulsory for the construction workers working near the noise generating	Ear plug & ear muffs are provided to the construction workers. Its use in high noise areas was compulsory and checked through field rounds.

<table>
<tr><td></td><td>activities/ machine/ equipment.</td><td>COMPLIED</td></tr>
<tr><td>8</td><td>Vehicle and construction equipment with internal combustion engines without proper silencer shall not be allowed to operate.</td><td>Vehicle and construction equipment with internal combustion engines without proper silencer were not allowed to operate in GCPTCL premises.

COMPLIED</td></tr>
<tr><td>9</td><td>Construction equipment meeting the norms specified by EP Act, 1986 shall be used.</td><td>Construction equipment meeting the norms specified by EP Act, 1986 were used during the construction phase.

The DG Set used during project execution were of enclosed type confirming to the EPA rules for air and noise emission standards.

COMPLIED</td></tr>
<tr><td>10</td><td>Noise control equipment and baffling shall be employed on generators especially when they are operated near the residential and sensitive areas.</td><td>Low noise generating equipment and machineries are preferred

The terminal is located in notified industrial area

COMPLIED</td></tr>
<tr><td>11</td><td>Noise level shall be reduced by the use of adequate mufflers on all motorised equipment.</td><td>Please refer our reply in point no 80 (3).”

COMPLIED</td></tr>
<tr><td>81</td><td>The overall noise level in and around the plant area shall be kept well within the prescribed standards by providing noise control measures including acoustic insulation ,hoods, silencers, enclosures, vibration dampers etc. on all source of noise generation. The ambient noise level shall confirm to the standards prescribed under the Environment (Protection) Act and Rules. Workplace noise level for workers shall be as per the Factories Act and Rules.</td><td>The major activity is storage and handling of chemicals and as such no manufacturing activities are carried out, there is less likelihood of high noise generating machinery/equipment. However, noise suppression devices where applicable like -

Pumps are provided with suitable noise suppression measures e.g. enclosure, muffler on exhaust etc.

Practice is in place for monitoring of Noise level, at periodic level, within the complex at workplace as well as at the extreme perimeter through MoEF&CC and NABL recognized third party as well as by internal resource and records are maintained.

Summary of Ambient and Workplace noise level monitoring from (April 2020 to September 2020)is presented as below for ready reference.

<table>
<tr><th>Area/Location</th><th>Average</th><th>Minimum</th><th>Maximum</th></tr>
<tr><td colspan="4">Ambient Air Noise Monitoring – DAY/NIGHT in dB(A)</td></tr>
<tr><td>Nearby Store</td><td>56/52</td><td>47/46</td><td>66/60</td></tr>
<tr><td>Main Gate</td><td>61/55</td><td>54/52</td><td>70/62</td></tr>
<tr><td>Material Gate</td><td>60/55</td><td>56/51</td><td>68/64</td></tr>
<tr><td>Landfall Point</td><td>57/55</td><td>51/50</td><td>61/58</td></tr>
<tr><td colspan="4">At Workplace Noise Monitoring – in dB(A)</td></tr>
<tr><td>Jetty Service Platform</td><td>58/52</td><td>54/48</td><td>66/59</td></tr>
<tr><td>BOG Compressor House</td><td>64/55</td><td>55/49</td><td>70/68</td></tr>
<tr><td>Mechanical Workshop</td><td>57/52</td><td>51/50</td><td>62/58</td></tr>
<tr><td>Gantry Area</td><td>60/50</td><td>57/42</td><td>63/60</td></tr>
</table>
</td></tr>
</table>

		From the above details, it is confirmed that the overall noise level is within the limit prescribed in EPA, 1986. **COMPLIED.**
C-6	**ENERGY CONSERVATION**	
82	The project proponent shall install energy efficient devices & appliances conforming to bureau of energy efficiency norms.	Energy efficient devices like VFDs, LEDs etc. are provided at GCPTCL. Provided VFD in Propane - Butane heater system and LPG blower. **COMPLIED.**
83	Variable frequency drives shall be installed.	You may please refer our reply in point no 82. **COMPLIED.**
84	Energy conservation measures shall include use of electronic lighting system, use of CFL tubes to minimize energy use, use of programmable timers for pumping system & lighting, Water level controllers for Water pumps, centralized cooling etc.	Following specific initiatives are taken in connection with achieving best possible energy conservation through provision of energy efficient devices – **<u>At Terminal</u> –** • 36W Tube light were replaced with 20W LED at Terminal control room, main gate, material gate, site office, fire station and sub-stations. • 150W street light were replaced with 125W and 90W LED. **<u>At Jetty</u> –** • 400W flood light were replaced with 200W LED. With implementation of the above detailed energy management program, we could be able to achieve reduction in KWH consumption per month @ 52% i.e. from 9661 KWH/Month to 4578 KWH/Month. Window AC are being replaced with energy efficient split AC.  **COMPLIED.**

<table>
<tr>
<td>85</td>
<td>Energy saving practices as follows shall be practiced.</td>
<td>
Latest Energy Conservation Audit was carried out by M/s Saket Projects Limited in March 2018 and part of the report in particular describing recommendation part is attached as Annexure 72 in the main report.

There is no critical recommendation.

Summary of the recommendation and our Action Plan, in brief, is appended as below for ready reference.
<table>
<tr><th>SN</th><th>Recommendation</th><th>Action Plan/ Status</th></tr>
<tr><td>1</td><td>Looking to the present loading on motors, there is no energy saving scheme has been suggested.</td><td>No action suggested.</td></tr>
<tr><td>2</td><td>The present loading on main TR- 21 is 28% & the present efficiency is 99.64% and the present loading on all distribution transformers vary from 6.75% to 38.80% & the efficiency varies from 97.87% to 99.30%. Based on above observation it is recommended that transformer efficiency is ok.</td><td>COMPLIED</td></tr>
<tr><td>3</td><td>It is also suggested to switch off lights at all switchgear room and switchyard and if there is any work in the switchgear room only then the plant operators make it on.

All lighting fixtures are replaced by LED in phase wise, so there is no energy saving scheme has been suggested.</td><td>All concerned employees and workers are been educated/ communicated to switch off lights at all switchgear room and switchyard when not in use.

COMPLIED</td></tr>
<tr><td>4</td><td>Compressed Air System: Looking to the age old installation and present norms, we recommended to replacement of reciprocating comp to new screw comp and improve the specific power consumption norms –</td><td>The old age installations is being phased out to improve the power consumption norms.</td></tr>
<tr><td>5</td><td>Based on the actual lux level measurements during night time, we recommend to installed additional lighting fixtures at BOG compressor, Cooling Tower, PO Chiller, Old LPG Gantry, Atmospheric Gantry, MEG Gantry.</td><td>Additional LED type lighting fixtures has been installed in the required area.

COMPLIED</td></tr>
</table>
COMPLIED
</td>
</tr>
</table>

1	Constant monitoring of energy consumption and defining targets for energy conservation.	Energy consumption of critical equipment's is being monitored on daily basis. One such monitoring report for the month of November 2020 is attached as **Annexure 68** in the main report. Actual monthly demand in KVA is being monitored against contracted demand @ 2900 KVA and for the calendar year 2020 it was achieved @ 85%. For further details refer **Annexure 69** in the main report. **COMPLIED**
2	Adjusting the setting and illumination levels to ensure minimum energy used for desired comfort level.	Illumination level at workplace are maintained as per the requirement stipulated in Indian Standard. **COMPLIED**
3	Use solar cells for lighting	Solar panel lights have been installed on the street leading to Lakhigam.  **COMPLIED**
4	Use solar Water heater for canteen & washing area.	Solar Water heater are installed at the hostel building.  **COMPLIED**
5	Proper load factor shall be maintained by the unit.	Adequate load factor is being monitored and maintained. **COMPLIED**

6	Provision of day light roof to utilise maximum natural light in the plant instead of electrical lighting	Day light roof is provided in LPG gantry and will be complied at new facilities.  **COMPLIED**
7	Use of electronic ballast to save energy.	LED light are installed at Terminal and Jetty. **COMPLIED**
8	Automatic switching system for lighting and Water tank pumping shall be used.	Timer installed in street lights for automatic on /off operations. **COMPLIED**
9	To the maximum extent possible and technically feasible, energy efficient equipment like motor, pumps, air conditioning system shall be selected.	Energy efficient pumps, compressors, motors are provided at the site. **COMPLIED**
10	Gravity flow shall be preferred wherever possible to save pumping energy.	GCPTCL preferred gravity flow wherever possible in the context of conservation of energy. **COMPLIED**
11	Promoting awareness on energy conservation.	Discussion carried out in daily rack up and safety meeting. Awareness being provided to all employees. **COMPLIED**
12	Training to the staff on methods of energy conservation and to be vigilant for this.	Awareness sessions carried out for employees on energy conservation. **COMPLIED**
C-7	**WASTE MINIMIZATION**	
86	The unit shall undertake following waste minimization measures:	Implemented automated and close filling operation including venting, if any through vapour recovery system for operations like loading of chemicals into tanker at pressurized gantry.

	• Use of automated & close filling to minimize spillages. • Venting equipment through vapour recovery system.	At the gantry, installed set stop valve for product transfer operation. The valve automatically closed once the controller read the limit feed by the operator to avoid overfill of product from the tanker. **COMPLIED.**
C-8	**GREENBELT**	
87	Unit shall develop and maintain greenbelt area within premises as per CPCB guidelines, preferably with local species. Drip irrigation system shall be used for green belt development.	The terminal has developed and maintained green belt as mentioned below; • Greenbelt width of 100 meters in the periphery of the company having density of ~ 1000 trees/Acre • Total green belt area : 35 Hectors • Total no. of trees : 87500 Green belt has been developed using native plant species (Azadiractaindica, Peltophorumindica, Kejurina, Bahomiapurpuria, ficusreligiosa , Ficusbenghalensis, TerminaliaArjuna etc.) of plants and is being maintained. Water sprinkling and drip irrigation system are being used for the green belt development / horticulture purpose.     Approximately 35 Ha. Green belt/Green cover has been developed within the premises. All the topsoil approx. 455 tractors had already been utilized in green belt/ landscape development • In Addition to this, saplings continue along the roadside boundary/open space available outside the company premises as well as in the neighboring villages in consultation with GIDC, Dahej during 2018-19, 2019-20 and 2020-21. **COMPLIED.**

88	In addition to that, the unit shall take up adequate plantation on road side and suitable open area in the Dahej Industrial area, nearby school, gram panchayat area and any other open in consultation with the local bodies / GPCB and submit an action plan of plantation for next three years to the GPCB.	Plantation activities along the road sides and in village through discussion with gram panchayat and GIDC are practiced.  **COMPLIED.**
D	**OTHER CONDITIONS**	
89	The project management shall ensure that Terminal complies with all the environment protection measures, risk mitigation measures and safeguards recommended in the EIA, EMP, and DMP report of project.	All the environment protection measures, risk mitigation measures and safeguards recommended in the EIA, EMP, and DMP report of project are implemented. Implementation status of some of major suggestions are appended as below for ready reference. **Terrestrial EIA** – • Transportation of products between jetty and terminal is through pipelines. • Carrying out regular monitoring of Ambient Air Quality and Workplace. • Inert Gas blanketing for storage of sensitive chemicals. • Pumps are equipped with double mechanical seal • Provision of separate storm water drainage and effluent drainage (OWS/PWS) • Floating roof tanks with rim seal protection… **Marine EIA** – • Traffic movement is continuously monitored by VTMS (Vessel Traffic Management System) engaged by GoG (Government of Gujarat) and GMB (Gujarat Maritime Board) to avoid any eventuality. • Implemented and adhered to “SHIP SHORE Safety Checklist Protocol” for every Ship. • GCPTCL had awarded work order to competent agency M/s. Sea Care Marine Services who is responsible for providing Tier 1 oil spill response (OSR) … For further details you may please refer **Annexure 17** in the main report. **COMPLIED.**
90	A separate budget shall be earmarked for the	Budgeting for Environment protection measures and CSR including socio-economic constitutes a part of overall budget plan and sufficient

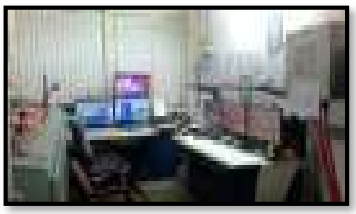
<table>
<tr><td></td><td>environmental management and socio-economics activities including the greenbelt/mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GoI. The details with respect to expenditure from this budget head shall also be furnished along with compliance report.</td><td>funds are earmarked every year for environmental management program including monitoring and analysis.

Environment Budget: 2020 – 21
SN Item INR - Lakh
1 Environment monitoring & Hazardous waste management 13.45
2 Oil spill response 54.69
3 Green belt/horticulture 19.00
4 Housekeeping 19
5 Drain cleaning 1.0
Total - Lakhs 107.14

Note: Budget Under the Activities Listed as above may subject to change based on inputs / discussion/ issues shortlisted/ identified/ presented during the Public Hearing.

COMPLIED.</td></tr>
<tr><td>91</td><td>The company shall strictly follow the guidelines and provisions of Vessel Transport Management System devised for Gulf of Cambay.</td><td>GCPTCL strictly follow the guidelines and provision of Vessel Tracking & Port Management System (VTPMS) controlled by GMB and GoG engaged BOOT (Built Own Operate and Transfer) operator M/s. AATASH NORCONTROL LTD. who is expert in Vessel Tracking & Port Management System (VTPMS) and Tracking & Warning System (TWS).

One of the vital features of the VTPMS is to improve safety and efficiency of vessel traffic and to protect the environment. The other key important features of VTPMS are –
• Information Service [INS] - processes and disseminates information about conditions and events important to shipping and safety at sea.
• Traffic Organisation Service [TOS] - manage space in the waterway in particular allocate arrival or departure times, assign anchorage space, manage traffic in one way zones.
• Navigational Assistance Service [NAS] - positioning or navigation assistance on request.

 
Repeater of VTPMS system, through GPS server, is installed at GCPTCL Jetty Control Room and is being monitored by competent person.

COMPLIED.</td></tr>
<tr><td>92</td><td>The project proponent shall adopt best industry standards for environment, occupational health and safety.</td><td>GCPTCL is certified for Integrated Management Systems (IMS) i.e. Environmental Management Systems (ISO 14001), OSHAS 18001 and Quality Management Systems (ISO 9001) and demonstrate adoption of best industry practices as a part of demonstrating continual improvement on HSE and Fire Protection Measures.</td></tr>
</table>

		 Bureau Veritas Certification **GUJARAT CHEMICAL PORT LIMITED** P.O. LAKHIGAM, VIA: DAHEJ, TAL: VAGRA, DIST: BHARUCH – 392 130, GUJARAT, INDIA. *Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System standards detailed below.* *Standards* **ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007** *Scope of certification* **MARINE & TERMINAL OPERATIONS FOR RECEIPT, STORAGE AND TRANSFER OF CRYOGENIC PRODUCTS, PETROLEUM PRODUCTS AND LIQUID PRODUCTS INCLUDING CHEMICALS & OILS** Original cycle start date: 12 May 2008 Expiry date of previous cycle: 11 May 2020 Recertification Audit date: 11 May 2020 Recertification cycle start date: 22 May 2020 Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: 11 November 2020 For ISO 9001 & ISO 14001: 11 May 2023 For BS OHSAS: 30 September 2021 Certificate No. IND.20.1859/U Version : 2 Revision date: 11 November 2020 UKAS **COMPLIED.**
93	The unit shall undertake eco - developmental measures including community welfare program most useful in the project area for the overall improvement of the environment.	You may please refer our reply in point no 13. **COMPLIED.**
94	The management shall ensure that unit complies with all the environment protection measures and risk mitigation measures / safeguards proposed by them.	The environment protection measures, risk mitigation measures and safeguards recommended in the EIA, EMP, and DMP report of project are implemented. Implementation status of some of major suggestions are appended as below for ready reference. **<u>Terrestrial EIA</u>** – • Transportation of products between jetty and terminal is through pipelines. • Carrying out regular monitoring of Ambient Air Quality and Workplace.

		• Inert Gas blanketing for storage of sensitive chemicals. • Pumps are equipped with double mechanical seal • Provision of separate storm water drainage and effluent drainage (OWS/PWS) • Floating roof tanks with rim seal protection… **<u>Marine EIA</u>** – • Traffic movement is continuously monitored by VTMS (Vessel Traffic Management System) engaged by GoG (Government of Gujarat) and GMB (Gujarat Maritime Board) to avoid any eventuality. • Implemented and adhered to "SHIP SHORE Safety Checklist Protocol" for every Ship. • GCPTCL had awarded work order to competent agency M/s. Sea Care Marine Services who is responsible for providing Tier 1 oil spill response (OSR) … For further details, you may please refer **Annexure 17** in the main report. **COMPLIED.**
95	A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	A separate environment management cell headed by Head – HSEF and supported by an Environment Manager / HSE Manager having. M. Tech. (Environmental Science and Engineering) qualification. Detailed organogram of HSEF department as on date is appended as below for ready reference. **GUJARAT CHEMICAL PORT TERMINAL COMPANY LIMITED** **ORGANIZATIONAL CHART - HSEF Department** **MANAGING DIRECTOR** ↓ **Executive Director** ↓ **Head of Operation** ↓ **Head HSEF (1)** ↓ **Manager HSEF (1)** ↓ **Assistant Mgr HSEF (4)** ↓ **Supervisor (1)** ↓ **Firemen 22+8** | **DCO 7** | **Fire Pump Operator (3)** | **ETP Operator - working with Team Operation**

<table>
<tr><td></td><td></td><td>Existing lab of promoter company M/s RIL (Dahej Manufacturing Division) is being utilized as Environmental Laboratory to monitor/analyse basic parameters of the Water Quality.

Apart from this, environmental monitoring is being carried out at regular interval through MoEF&CC recognised and NABL accredited laboratory.

COMPLIED.</td></tr>
<tr><td>96</td><td>The project shall be implemented in such a manner that there shall be no any hindrance to movement of fishing vessels or fishermen.</td><td>Fishing vessels are not permitted in the notified port area of Dahej. The Jetty operates within notified port limits of Dahej under jurisdiction of GMB.

Not applicable.</td></tr>
<tr><td>97</td><td>All issues raised during the public hearing shall be addressed comprehensively.</td><td>GCPTCL had suitably addressed / taken care of points raised in the public hearing like –
<table>
<tr><th>SN</th><th>Point Represented and/or written submission</th><th>Compliance</th></tr>
<tr><td>1</td><td>How do you provide water to the village?</td><td>COMPLIED
Company has extended drinking water supply line up to Main Gate and Material Gate of the company to facilitate supplying drinking water to Navinagari and Lakhigam approx. @ 30 KLD. Also in case of social functions in the village, additional water taker is being provided on demand.</td></tr>
<tr><td>2</td><td>Company is started since 15 years, but job is not given to land loser.</td><td>COMPLIED
+80% employment in Non-Supervisory level is from nearby community/population. This is a kind of an ongoing enablement.</td></tr>
<tr><td>3</td><td>Company gives stipend of Rs 2400 to trainee working for 6 months, which is much less than government norms.</td><td>COMPLIED
Company is paying stipend as per govt. norms @ 9100/- per month.</td></tr>
<tr><td>4</td><td>Company do not give uniforms and safety shoes to land loser trainees.</td><td>COMPLIED
Company provides PPEs to all person working in plant.</td></tr>
<tr><td>5</td><td>Company gives smaller/bigger contracts to outside</td><td>COMPLIED
Company provides contracts to locals based on the skill set.</td></tr>
</table></td></tr>
</table>

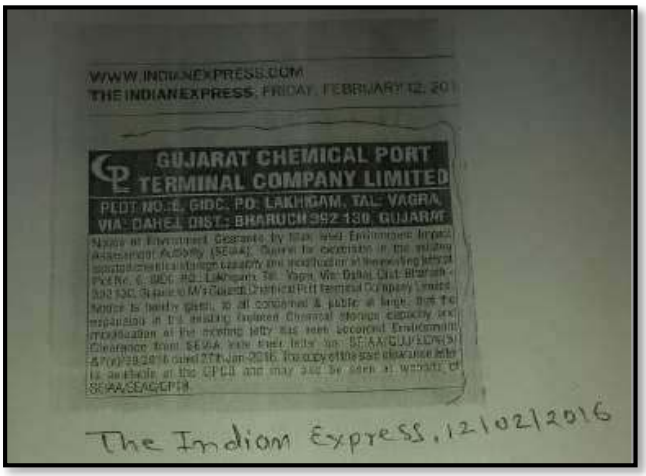
				people e.g. Grass cutting contract given to a party from Baroda. Also contracts are given to parties from Bharuch. Instead it should be given to locals.	
			6	Company is established since last 15 years. Company has given DG sets, Lights, RO plant, etc. which are nominal. Other benefits should also be given.	**COMPLIED** Following additional facilities/ infrastructure has been installed/ provided based on need of the local people- • Community Hall • Toilet Facilities- 39 Nos. • Water Coolers • Science laboratory in Higher Secondary School • Construction of 03 classrooms at primary school • Solar street lights • Distribution of sewing machine to widows • Offering employment etc. Total expenditure incurred as a part of CSR and/or socioeconomic activities from April 2018 to September 2020 was @ INR 10.34 crore.
			7	Traffic problem is observed due to truck parking along the road till Rahiyad Village which is approximately 15 Kms. Therefore, there are chances of accidents. Hence, proper parking arrangements should be availed for proposed expansion.	**COMPLIED** Company represented the truck parking issue to GIDC and they have made adequate provision for parking. Trucks are not being parked opposite to company premises in open area as well at Material gate parking lot.
			8	This is a chemical storage facility and hence there are chances of leakage. Hence, Wind sock and other signboard should be provided also, guidance should be given in the schools.	**COMPLIED** One number of wind sock has been provided on Primary School, Lakhigam which is in the close vicinity of the company. Safety signboard in particular Do's and Don'ts in case of disaster has been displayed at prominent locations in the village.
		COMPLIED.			

98	The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of the environmental protection and management.	**Noted and will be complied.**
99	No further expansion or modifications in the plant shall be carried out without obtaining prior Environment Clearance from the concerned authority.	**Noted and will be complied.**
100	The above conditions will be enforced, inter - alia under the provisions of the Water (Prevention & Control of Pollution) Act 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans boundary Movement) Rule 2008, Manufacture Storage and Import of Hazardous chemicals Rules 1989 and Public Liability Insurance Act, 1991 along with their amendments and rules.	The site has valid Common Consent Authorization granted by GPCB and its all conditions are being complied. You may please refer **Annexure 35** in the main report**.** **COMPLIED**
101	The project proponent shall comply with all the conditions mentioned in "The Companies (Corporate Social Responsibility Policy) Rules, 2014" and is amendments from time to time in a letter and spirit.	Conditions of CSR Policy Rules, 2014 are being complied. For details You may please refer details in point no 13. **COMPLIED.**
102	The project management shall ensure that unit complies with all the environment protection	The environment protection measures, and risk mitigation measures and safeguards proposed in the EMP have been included in the design phase of the project, viz.

<table>
<tr><td></td><td>measures, risk mitigation measures and safeguards recommended in the EMP report and risk assessment study report as well as proposed by project proponent.</td><td>1. Loading arms installed are with Alarms, ESD and interlocking system for safe Operation.
2. New Ethane unloading system is also equipped with Gas sensors, Fire sensors, Cameras and Flame proof fitting to ensure utmost safety
3. Installation of MEG Tanks are confirming to API - 650 code and equipped with Dyke, Nitrogen blanketing, pressure controls, Interlocks and alarms etc…

COMPLIED.</td></tr>
<tr><td>103</td><td>The project authorities shall embark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.</td><td>Budgeting for Environment protection measures and CSR including socio-economic constitutes a part of overall budget plan and sufficient funds are earmarked every year for environmental management including monitoring and analysis.

Environment Budget: 2020 – 21
<table><tr><td>SN</td><td>Item</td><td>INR - Lakh</td></tr><tr><td>1</td><td>Environment monitoring & Hazardous waste management</td><td>13.45</td></tr><tr><td>2</td><td>Oil spill response</td><td>54.69</td></tr><tr><td>3</td><td>Green belt/horticulture</td><td>19.00</td></tr><tr><td>4</td><td>Housekeeping</td><td>19</td></tr><tr><td>5</td><td>Drain cleaning</td><td>1.0</td></tr><tr><td></td><td>Total - Lakhs</td><td>107.14</td></tr></table>
COMPLIED.</td></tr>
<tr><td>104</td><td>The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the website of SEIAA/SEAC/GPCB. This shall be advertised within seven days from the date of clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.</td><td>The Environment Clearance accorded by SEIAA was published in two newspapers i.e. Indian Express (English) and Gujarat Mitra (Gujarati) on 12.02.2016. Copy of Advertisement was submitted to Regional office – GPCB, Bharuch, SEIAA.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		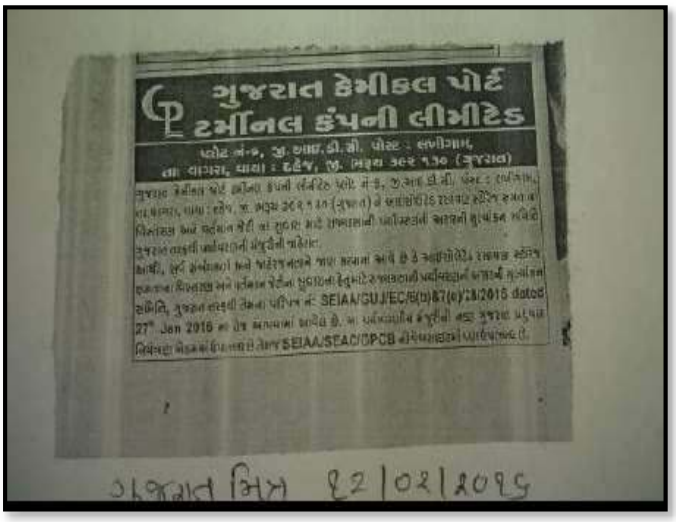 **COMPLIED.**
105	The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of the environmental protection and management.	No additional conditions are prescribed by SEAC or SEIAA. Conditions imposed, if any by other authorities will be complied with. **Noted.**
106	It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.	Half yearly compliance status report of Environment Clearance is regularly submitted to MoEFCC, Bhopal. **COMPLIED.**
107	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of	**Noted.**

	Environment (Protection) Act, 1986.	
108	The project authorities shall also adhere to stipulations made by the Gujarat Pollution Control Board.	**Noted and being complied.**
109	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	**Noted.**
110	The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.	**Noted.**
111	The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Project has been implemented in phased manner. As on date we have completed and commissioned following – 1. Modification of existing Jetty– in March 17. 2. Installation of two MEG tanks – in March 17. GPCB was informed about the start of the project during CC & A application. **COMPLIED**
112	This environmental clearance is valid for five years from the date of issue.	**Noted.**
113	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	**Noted.**