

Submission of Six monthly Environment & CRZ clearance Compliance Report October 2020 to March 2021; Adani Hazira Port Limited; EOM

Nandan Kumar <nandan.kumar@adani.com>

Fri 5/28/2021 10:16 AM

To: rowz.bpl-mef@nic.in <rowz.bpl-mef@nic.in>; ecompliance-guj@gov.in <ecompliance-guj@gov.in>
Cc: mefcc.ia3@gmail.com <mefcc.ia3@gmail.com>; monitoring-ec@nic.in <monitoring-ec@nic.in>; chairman-gpcb@gujarat.gov.in <chairman-gpcb@gujarat.gov.in>; westzonecpcb@yahoo.com <westzonecpcb@yahoo.com>; brnaidu.cpcb@nic.in <brnaidu.cpcb@nic.in>; ro-gpcb-sura@gujarat.gov.in <ro-gpcb-sura@gujarat.gov.in>; Shalin Shah <Shalinm.Shah@adani.com>; Rupesh Jambudi <Rupesh.Jambudi@adani.com>; Harsh Yadav <Harsh.Yadav@adani.com>; Devendra Banthia <Devendra.Banthia@adani.com>; Dilip Kumar Moolchandani <Dilip.Moolchandani@adani.com>; Snehal Jariwala <Snehal.Jariwala@adani.com>; Jatin Bhadresa <Jatin.Bhadresa@adani.com>

1 attachments (15 MB)

AHPL_EC_Compliance October 2020- March 2021.pdf;

Dear Sir,

This has reference to submission of **Six Monthly Environment & CRZ Clearances Compliance Report** for Adani Hazira Port Limited (Earlier Known as Adani Hazira Port Pvt Ltd). Please find attached herewith point wise compliance status report of conditions stipulated in the following referred letters for the period of **October 2020 to March 2021**:

Reference:

- 1). Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: 11-150/2010-IA.III dated 03rd May, 2013.
- 2). CRZ Recommendations issued by Forests & Environment Department, Govt. of Gujarat to MoEF & CC, New Delhi vide letter No.: ENV-10-2012-30-E dated 11th May, 2012.

This is for kind information and record please.

With regards,

Nandan Kumar

Dy.Manager – HSE (Environment) | Adani Hazira Port Ltd

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adani

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Goodness

Our Values: Courage | Trust | Commitment

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AHPL/MoEF&CC/2021-22/02

Date: 27.05.2021

To
Deputy Director General (Central),
Ministry of Environment, Forest and Climate Change,
Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan,
Arera Colony, Link Road-3, Ravishankar Nagar,
Bhopal - 462016 (Madhya Pradesh)
Tel. No.: 0755- 2465054, 2465496, 2466525
Email: rowz.bpl-mef@nic.in, eccompliance-guj@gov.in

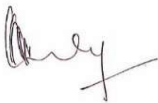
Dear Sir,

Sub.: Six Monthly Compliance Report of conditions stipulated in Environment and CRZ Clearance for the development of Multi Cargo Port with Supporting Utilities and Infrastructure Facilities at Hazira, Surat, Gujarat for the period: **October 2020 to March 2021.**

Ref.: 1). Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: 11-150/2010-IA.III dated 03rd May, 2013.
2). CRZ Recommendations issued by Forests & Environment Department, Govt. of Gujarat to MoEF & CC, New Delhi vide letter No.: ENV-10-2012-30-E dated 11th May, 2012.

Please find enclosed herewith point wise compliance report of conditions stipulated in the above referred letters regarding Environment Clearance and Coastal Regulation Zone Clearance for the period of **October 2020 to March 2021.**

For, **M/s Adani Hazira Port Limited**, (Earlier Known as Adani Hazira Port Pvt. Ltd)



(Pranav Choudhary)
Authorized Signatory

Encl.: As above

Cc to:

1. The Director (Monitoring - IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110 003.
2. The Director, Forests & Environment Department, Block - 14, 8th Floor, Sachivalaya, Gandhinagar, Gujarat - 382 010.
3. The Zonal Officer, Central Pollution Control Board, Zonal Office Vadodara, Parivesh Bhawan, Opp. VMC Ward Office No.:10, Subhanpura, Vadodra-390 023.
4. The Chairman, Gujarat Pollution Control Board, Parvayaran Bhawan, Sector - 10A, Gandhinagar-382 010 (Gujarat).
5. The Regional Officer, Gujarat Pollution Control Board, Belgium Square, Ring Road, Surat-395003, (Gujarat).

Adani Hazira Port Ltd.
At & Po Hazira
Choryashi
Surat 394 270
Gujarat, India
CIN: U4509GJ2009PTC058789

Registered office: Adani Corporate House, Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad-382421, Gujarat, India

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SIX MONTHLY COMPLIANCE REPORT

OF

ENVIRONMENT AND CRZ CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: 11-150/2010-IA.III, DATED 03RD MAY, 2013

FOR

**THE DEVELOPMENT OF MULTI CARGO PORT WITH SUPPORTING UTILITIES AND
INFRASTRUCTURE FACILITIES AT HAZIRA, SURAT, GUJARAT**

COMPLIANCE PERIOD- OCTOBER 2020- MARCH 2021

SUBMITTED BY

M/s. ADANI HAZIRA PORT. LTD.

HAZIRA, TAL-CHORYASI, DIST-SURAT

GUJARAT

LIST OF APPENDIXES

APPENDIX	DETAILS
1.	Compliance To The Conditions Stipulated In CRZ Recommendations Issued By Forests & Environment Department, Government Of Gujarat To MOEF & CC, New Delhi Vide Letter No.: ENV-10-2012-30-E, Dated 11th May, 2012.

	Adani Hazira Port Limited	From: October 2020 to March 2021
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LIST OF ANNEXURES

ANNEXURE NO.	DETAILS
1	Action Plan And Compliance Status On The Issues Raised During The Public Hearing.
2.	Details Of The CSR Activities Along With Budgetary Provisions And Expenditures For The Financial Year: 2020-21
3	Compliance Status Of Environmental Management Plan As Per Integrated EIA Report - September, 2012.
4.	Environmental Monitoring / Analysis Results For The Period From October 2020 to March 2021
5.	Updated ERP & DMP
6	Photographs of Air Pollution Control Measures
7	Organogram Of AHPPL - Environment Management Cell.
8	Details of Environment Management Budget For The Financial Year: 2020-21
9	Letter obtained from MoEF&CC regarding name change as Adani Hazira Port Limited
10	Copy of renewed Public Liability Insurance (PLI)
11	Copy of renewed PESO Licence
12.	Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved Third Party During period October 2020 to March 2021

- A.** Six Monthly Compliance Report for Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: **11-150/2010-IA.III dated 03rd May, 2013** for the development of Multi Cargo Port with supporting utilities and infrastructure facilities at Hazira, Surat, Gujarat by M/s. Adani Hazira Port Ltd (Earlier Known as Adani Hazira Port Pvt Ltd).: -

S. No.	Stipulated Conditions	Compliance Status																		
6.	Specific Conditions																			
i.	<p>"Consent for Establishment" shall be obtained from State Pollution Control Board under Air & Water Act and a copy shall be submitted to the Ministry before start of any construction work at site.</p>	<p>Complied,</p> <p>AHPL has obtained Consent to Establish (NOC) from Gujarat Pollution Control Board on 05.10.2012 and same was submitted on 16.05.2012 prior to obtaining the Environment and CRZ clearances. Subsequently there were amendments in the Consent to Establish which were also submitted to the MoEF&CC before start of respective construction as per the details given below: -</p> <table border="1"> <thead> <tr> <th>Consent No.</th><th>Issued On</th><th>Submitted To MoEF & CC On</th></tr> </thead> <tbody> <tr> <td>CTE_49766</td><td>05.10.2012</td><td>Along with Six Monthly Compliance Report dated 19.11.2014 & 19.05.2017.</td></tr> <tr> <td>CTE-64900</td><td>26.09.2014</td><td>Along with Six Monthly Compliance Report dated 12.05.2015 & 19.05.2017.</td></tr> <tr> <td>CTE-74330</td><td>13.01.2016</td><td>Along with Six Monthly Compliance Report dated 23.05.2016 & 19.05.2017.</td></tr> <tr> <td>CTE-77767</td><td>16.04.2016</td><td>Along with the Six Monthly Compliance Report dated 21.11.2016 & 19.05.2017.</td></tr> <tr> <td>CTE-101590</td><td>20.05.2019</td><td>Along with the Six Monthly Compliance Report dated 27.11.2019</td></tr> </tbody> </table>	Consent No.	Issued On	Submitted To MoEF & CC On	CTE_49766	05.10.2012	Along with Six Monthly Compliance Report dated 19.11.2014 & 19.05.2017.	CTE-64900	26.09.2014	Along with Six Monthly Compliance Report dated 12.05.2015 & 19.05.2017.	CTE-74330	13.01.2016	Along with Six Monthly Compliance Report dated 23.05.2016 & 19.05.2017.	CTE-77767	16.04.2016	Along with the Six Monthly Compliance Report dated 21.11.2016 & 19.05.2017.	CTE-101590	20.05.2019	Along with the Six Monthly Compliance Report dated 27.11.2019
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ii.	<p>The action plan on the issues raised during public hearing shall be submitted to the Pollution Control Board. The action plan shall be implemented without fail. Report on compliance shall be submitted to the Regional Office, MOEF along with the six monthly reports.</p>	<p>Complied</p> <p>Public hearing (PH) was conducted on 14.08.2012. All the issues have been addressed adequately and to the satisfaction of the stakeholders. The key points raised during PH were: -</p> <ol style="list-style-type: none"> 1) Preference to be given to the local people for employment and transport & other contracts. M/s. AHPL is giving preference to the locals for contracts, such as M/s. Hazira Vikas Samiti has been engaged for providing transport facilities for employees. M/s. AHPL also giving preference for skilled local candidates for employment as per suitable requirements. As on 31st March 2021 total 195 out of 227 on roll employees are from Gujarat. 2) Villagers were anxious about their displacement due to port development. 																		

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Stipulated Conditions	Compliance Status
		<p>M/s. AHPL has been developed the port in uninhabited land by area reclamation and there is no acquisition of private property.</p> <p>The details action status of all other issues raised during the public hearing is enclosed as <u>Annexure-1</u></p>
iii.	All the recommendations of SCZMA shall be complied with.	<p>Being Complied</p> <p>All the recommendations of the Gujarat Coastal Zone Management Authority (GCZMA) are being complied. Compliance status of the conditions stipulated in GCZMA recommendations vide letter dated 11/05/2012 bearing No.: ENV-10-2012-30-E is enclosed as <u>Appendix-1</u>.</p>
iv.	Periodical study on shore line changes shall be conducted and mitigation carried out if necessary. The details shall be submitted along with six monthly monitoring reports.	<p>Complied.</p> <p>Shoreline change study was conducted by NIO, Vizag during the period from November, 2014 to December, 2015. Report of the shoreline change study was submitted along with compliance report dated 21.11.2016. Study confirms that there is no significant change in the nearby shoreline except for the approved layout of the AHPL. The report did not warrant any mitigation measures.</p> <p>There are no marine construction activities on shore after Dec, 2016.</p>
v.	Oil spills if any shall be properly collected and disposed as per Rules. Proper Oil Contingency Management Plan shall be put in the place.	<p>Complied.</p> <ul style="list-style-type: none"> • Till date no oil spill has occurred. • Oil Spill Contingency Plan has been prepared and the same was approved by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014). • The same has been implemented at site to properly collect and dispose oil spills (if any). • The last Mock drill on scenario of Oil Spill was jointly organized with Shell LNG Terminal-Hazira, Reliance Industries Limited-Petrochemicals-Hazira, Sun Petro and CIL-Hazira on 27th January 2021.
vi.	The detailed plan with budgetary provisions for the CSR shall be submitted to the ministry.	<p>Complied.</p> <ul style="list-style-type: none"> • CSR activities are carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. • Detail of the CSR activities along with budgetary provisions and progress are regularly submitted to MoEF & CC as part of six monthly compliance reports. • The status of the CSR activities carried out during this FY 2020-21 is enclosed as <u>Annexure-2</u>.
vii.	All the recommendation of the EMP and DMP shall be complied within letter and spirit.	<p>Complied.</p> <ul style="list-style-type: none"> • Recommendation given in EMP is being complied in letter and spirit. Status of the same is enclosed as <u>Annexure-3</u> • AHPL is an ISO 14001: 2015, ISO 9001:2015, ISO 48001: 2018 and ISO 50001: 2018 certified company. Copy of Certificates was

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		<p>submitted to the authorities with the Six Monthly Compliance Report (Oct 2019-March 2020) on 25.05.2020</p> <ul style="list-style-type: none">AHPL has developed and implemented DMP. Regular mock drill to ensure the compliance and preparedness is being done.<ul style="list-style-type: none">Last Mock Drill (On Site) was conducted on: 22.03.2021Last Update of ERP & DMP: 03.02.2021.Copy of the Schematic of ERP & DMP communication flow is submitted along with the six monthly compliance report dated 19.05.2017. <p>The Copy of updated ERP & DMP is attached herewith as Annexure 5</p>																																																																														
viii.	Periodical monitoring of the sea water quality at the outlet shall be carried out to check the discharge is meeting the standard and not causing any impact to marine life.	<p>Complied.</p> <ul style="list-style-type: none">AHPL is not discharging any effluent into the sea.The sea surface and bottom water quality is being monitored periodically. The trends with respect to baseline is being observed to ensure that quality of sea water is not changing significantly.Marine water quality is being monitored through M/s. Pollucon Laboratories, Surat (a MoEF&CC recognized and NABL accredited laboratory).Monitoring of sea water quality at three locations is being done on monthly basis. Copy of the Sea Water Quality Monitoring /Analysis Reports for the period October 2020 to March 2021 is enclosed as Annexure-4D. <p>The Summary of Sea Surface and bottom water quality for key physico chemical parameters are as under-</p> <table><tr><th>SR.NO</th><th>TEST PARAMETERS</th><th>UNIT</th><th>Min</th><th>Max</th><th>Avg</th></tr><tr><td>1</td><td>pH</td><td>--</td><td>8.13</td><td>8.29</td><td>8.206</td></tr><tr><td>2</td><td>Temperature</td><td>°C</td><td>29</td><td>30.7</td><td>30.09</td></tr><tr><td>3</td><td>Total Suspended Solids</td><td>mg/L</td><td>180</td><td>256</td><td>222.4</td></tr><tr><td>4</td><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>ND</td><td>4.2</td><td>3.71</td></tr><tr><td>5</td><td>Dissolved Oxygen</td><td>mg/L</td><td>5.6</td><td>5.9</td><td>5.75</td></tr><tr><td>6</td><td>Salinity</td><td>ppt</td><td>30.5</td><td>32.2</td><td>31.18</td></tr><tr><td>7</td><td>Oil & Grease</td><td>mg/L</td><td>ND</td><td>ND</td><td>ND</td></tr><tr><td>8</td><td>Nitrate as NO₃</td><td>µmol/L</td><td>3.14</td><td>4.69</td><td>3.82</td></tr><tr><td>9</td><td>Nitrite as NO₂</td><td>µmol/L</td><td>0.25</td><td>0.87</td><td>0.56</td></tr><tr><td>10</td><td>Ammonical Nitrogen as NH₃</td><td>µmol/L</td><td>1.9</td><td>3.41</td><td>2.81</td></tr><tr><td>11</td><td>Phosphates as PO₄</td><td>µmol/L</td><td>1.29</td><td>2.57</td><td>2.16</td></tr><tr><td>12</td><td>Total Nitrogen</td><td>µmol/L</td><td>5.36</td><td>10.93</td><td>7.27</td></tr></table>	SR.NO	TEST PARAMETERS	UNIT	Min	Max	Avg	1	pH	--	8.13	8.29	8.206	2	Temperature	°C	29	30.7	30.09	3	Total Suspended Solids	mg/L	180	256	222.4	4	BOD (3 Days @ 27 °C)	mg/L	ND	4.2	3.71	5	Dissolved Oxygen	mg/L	5.6	5.9	5.75	6	Salinity	ppt	30.5	32.2	31.18	7	Oil & Grease	mg/L	ND	ND	ND	8	Nitrate as NO ₃	µmol/L	3.14	4.69	3.82	9	Nitrite as NO ₂	µmol/L	0.25	0.87	0.56	10	Ammonical Nitrogen as NH ₃	µmol/L	1.9	3.41	2.81	11	Phosphates as PO ₄	µmol/L	1.29	2.57	2.16	12	Total Nitrogen	µmol/L	5.36	10.93	7.27
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		13	Petroleum Hydrocarbon	µg/L	ND	19	13.9
		14	Total Dissolved Solids	mg/L	32118	33804	32890
		15	COD	mg/L	16	29	22.38
		<ul style="list-style-type: none"> From the monitoring report it is evident that there is no significant change in the sea water quality which could have impact on the marine life. 					
ix.	Transport of cargo shall in closed system and dust control viz. water sprinkler, along conveyor and transfer points shall be provided.	Complied. Following control measures are in place and effectively working at port to control fugitive dust: - <ol style="list-style-type: none"> 1. Transportation of coal from jetty to coal storage yard through 1.7 Km. long conveyor belt with hood. 2. Water sprinklers in the coal yard, 3. Dust arresting sprinklers are installed on Coal Discharge Chute 4. Dust Suppression System / Spray Nozzles in Conveyor System and Discharge Chute, 5. Water spray through Water Browsers, 6. Water Mist Canon / Fog System, 7. Wind Brake Shield of 14 meters high and 1900 meters long, 8. Transportation of cargo from port to hinterland is being done through dumpers / trucks covered with tarpaulin, 9. Regular cleaning the roads through Road Sweeping Machines, and 10. Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.09 ha within the port premises. The photographs of Covered Conveyor belts, Mist Canyon and water sprinkling system, Green Belt area, Wind break shield, Road sweeping machines are attached herewith as <u>Annexure 6.</u>					
x.	Construction activity shall be carried out strictly as per the provisions of CRZ notification 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone.	Complied. <ul style="list-style-type: none"> No construction work other than those permitted in CRZ Notification has been done. Development of the port and other ancillary facility is being done as per the approval received under CRZ Notification, 2011 and EIA Notification, 2006. 					
xi.	The project shall be executed in such a manner that there shall not be any disturbance to the fishing activity.	Complied. <ul style="list-style-type: none"> Project execution is being done without any disturbance to fishing activities. Majority of fishing activities are in the river TAPI estuary region which is approx. 3-4 KM away from the project site. 					

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Stipulated Conditions	Compliance Status
		<ul style="list-style-type: none"> There are few "PAGADIA" fishermen doing fishing near the project area. They are continuing with their activities without any disturbance.
xii.	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	<p>Complied.</p> <ul style="list-style-type: none"> There is no displacement of people, houses or fishermen as the port is being developed on reclamation land and land allotted by Government also there is no acquisition of private land. Majority of fishing activities are in the river TAPI estuary region which is approx. 3-4 KM away from the project site. There are few "PAGADIA" fishermen doing fishing near the project area. They are continuing with their activities without any disturbance AHPL is regularly working with fishermen to understand their needs and provide required support as part of CSR activities. AHPL is carrying out various CSR activities in the vicinity of port through Adani Foundation(AF), in the field of Education, Community Health, Sustainable livelihood development and Community Infrastructure development and also particular for fishermen community since 2012, the support was extended for providing gears to fishermen, house repairing and construction of house for Halpati community, education to kids from Halpati community and health camps. An amount of <i>1.88 Cr is spent since last 5 years</i> (2015-16 to 2019-20) on various activities specifically for fishermen community in and around the port area.
xiii.	The project proponent shall set up separate Environment Management Cell for effective implementation of the stipulated environmental safe guards under the supervision of a Senior Executive.	<p>Complied.</p> <ul style="list-style-type: none"> Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safe guards. In addition to the site Environment Management Cell a well-established corporate environment cell also ensures effective implementation of the environmental safeguards. Environment Management Cell Organogram is enclosed as <u>Annexure-7</u>
xiv.	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	<p>Complied.</p> <ul style="list-style-type: none"> Separate budget has been allocated to the HSE Department. Allocated budget for the FY: 2020-21 is INR 479.63 Lakhs but total expenditure is INR 418.11 Lakhs regarding environment management Detail of the environment budget and expenditure for the FY: 2020-21 is enclosed as <u>Annexure-8</u>. Environment budget is not being diverted to any other purpose.
7.	General Conditions	
i.	Appropriate measures must be taken while undertaking digging activities to avoid any degradation of water quality.	<p>Complied.</p> <ul style="list-style-type: none"> Digging activities are involved in the piling, construction of building and other ancillary facilities. Proper care is being given to ensure that no excavated material is mixed with the water. Entire excavated material is being used in leveling and grading of project area.

S. No.	Stipulated Conditions	Compliance Status																																																																																																																		
		<ul style="list-style-type: none">Marine, Surface and Ground Water quality is being monitored through M/s. Pollucon Laboratories Pvt. Ltd., Surat (a MoEF & CC and NABL accredited laboratory).Reports show that there are no impacts on the water quality. Copy of the water monitoring reports for the period, October 2020 to March 2021 is enclosed as Annexure-4B, 4C, 4D for ground, surface and marine water quality, respectively. <p>Summary of Ground Water Quality (Anx 4B) for Key parameters are as under</p> <table><tr><th>Sr. No.</th><th>TEST PARAMETER</th><th>UNIT</th><th>Min</th><th>Max</th><th>Avg</th></tr><tr><td>1</td><td>Odour</td><td>--</td><td>Agreeable</td><td>Agreeable</td><td>Agreeable</td></tr><tr><td>2</td><td>Colour</td><td>Hazen</td><td>2</td><td>3</td><td>2.71</td></tr><tr><td>3</td><td>Taste</td><td>--</td><td>Agreeable</td><td>Agreeable</td><td>Agreeable</td></tr><tr><td>4</td><td>pH Value</td><td>--</td><td>7.63</td><td>8.13</td><td>7.83</td></tr><tr><td>5</td><td>Turbidity</td><td>NTU</td><td>0.04</td><td>0.14</td><td>0.11</td></tr><tr><td>6</td><td>Total Dissolved Solids</td><td>mg/L</td><td>1098</td><td>1987</td><td>1455</td></tr><tr><td>7</td><td>Total Hardness as CaCO₃</td><td>mg/L</td><td>290</td><td>400</td><td>344</td></tr><tr><td>8</td><td>Chloride as Cl</td><td>mg/L</td><td>110</td><td>158</td><td>143</td></tr><tr><td>9</td><td>Fluoride as F</td><td>mg/L</td><td>ND</td><td>0.65</td><td>0.35</td></tr><tr><td>10</td><td>Iron as Fe</td><td>mg/L</td><td>ND</td><td>0.28</td><td>0.14</td></tr><tr><td>11</td><td>Coliform</td><td>/100 ml</td><td>Absent</td><td>Absent</td><td>Absent</td></tr><tr><td>12</td><td>E-Coli</td><td>/100 ml</td><td>Absent</td><td>Absent</td><td>Absent</td></tr></table> <p>Summary of Surface Water Quality (Anx C) is as under-</p> <table><tr><th>Sr. No.</th><th>TEST PARAMETER</th><th>UNIT</th><th>Min</th><th>Max</th><th>Avg</th></tr><tr><td>1</td><td>Odour</td><td>--</td><td>Agreeable</td><td>Agreeable</td><td>Agreeable</td></tr><tr><td>2</td><td>Colour</td><td>Hazen</td><td>4</td><td>30</td><td>13.2</td></tr><tr><td>3</td><td>Taste</td><td>--</td><td>Agreeable</td><td>Agreeable</td><td>Agreeable</td></tr><tr><td>4</td><td>pH Value</td><td>--</td><td>7.63</td><td>8.13</td><td>7.83</td></tr><tr><td>5</td><td>Turbidity</td><td>NTU</td><td>0.12</td><td>0.21</td><td>0.16</td></tr></table>	Sr. No.	TEST PARAMETER	UNIT	Min	Max	Avg	1	Odour	--	Agreeable	Agreeable	Agreeable	2	Colour	Hazen	2	3	2.71	3	Taste	--	Agreeable	Agreeable	Agreeable	4	pH Value	--	7.63	8.13	7.83	5	Turbidity	NTU	0.04	0.14	0.11	6	Total Dissolved Solids	mg/L	1098	1987	1455	7	Total Hardness as CaCO ₃	mg/L	290	400	344	8	Chloride as Cl	mg/L	110	158	143	9	Fluoride as F	mg/L	ND	0.65	0.35	10	Iron as Fe	mg/L	ND	0.28	0.14	11	Coliform	/100 ml	Absent	Absent	Absent	12	E-Coli	/100 ml	Absent	Absent	Absent	Sr. No.	TEST PARAMETER	UNIT	Min	Max	Avg	1	Odour	--	Agreeable	Agreeable	Agreeable	2	Colour	Hazen	4	30	13.2	3	Taste	--	Agreeable	Agreeable	Agreeable	4	pH Value	--	7.63	8.13	7.83	5	Turbidity	NTU	0.12	0.21	0.16
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S. No.	Stipulated Conditions	Compliance Status					
		6	Total Dissolved Solids	mg/L	650	816	735
		7	Total Hardness as CaCO ₃	mg/L	128	318	260
		8	Chloride as Cl	mg/L	116	159	136
		9	Fluoride as F	mg/L	0.21	0.44	0.29
		10	Iron as Fe	mg/L	ND	0.06	0.01
		11	Coliform	/100 ml	Present	Present	Present
		12	E-Coli	/100 ml	Absent	Absent	Absent
		Summary marine water quality (Anx 4 D) is mentioned on page no 6					
ii.	Full support shall be extended to the officers of this Ministry /Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigation measures and other environmental protection activities.	Being Complied <ul style="list-style-type: none"> AHPL is regularly submitting six monthly compliance reports which comprise compliance to the conditions stipulated in Environment and CRZ clearance, action taken report of Environment Management Plan, environment monitoring reports etc. Last report was submitted through e mail on 25.11.2020 and received acknowledgement on 26.11.2020 Whenever any authorities such as MoEF&CC, GPCB and GMB etc. visit the port, full support is extended and AHPL provides all additional information seek by them during the inspection. Last visit by representative of MoEF & CC - RO, Bhopal was on 24th Oct, 2018 . <p>GPCB officials have visited the Port twice during the compliance period-</p> <ol style="list-style-type: none"> Dr. (Mrs) J D Oza (Sr. Scientific Officer) and Mr. N M Kavar, from Regional Office, Surat-Gujarat Pollution Control Board (GPCB) was visited AHPL today regarding our application on 2nd December 2020. GPCB officials from GPCB RO, Surat Mr Bhavesh Gosai (AEE) and Mr Chetan Hadiya (SSA) was visited the port 08th February 2021 and collected the samples from STP. The result of the sample was within limit as per the report uploaded by GPCB on the XGN portal. 					
iii.	A six-monthly monitoring report shall need to be submitted by the project proponents to the	Being Complied <p>Six monthly monitoring reports are regularly submitted to the RO - MoEF & CC, Bhopal and other authorities along with Six Monthly</p>					

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Stipulated Conditions	Compliance Status
	Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.	Compliance Report of Environment & CRZ Clearance. Please refer the <u>Annexure-4</u> for the monitoring report from October 2020 to March 2021.
iv.	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary subsequently, if deemed necessary for environmental protection, which shall be complied with.	Noted and agreed to comply with additional conditions stipulated or modification in the existing ones by MoEF & CC, if any.
v.	The Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Noted and agreed to comply with the directions of the MoEF & CC, if any.
vi.	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to Ministry of Environment and Forests.	As the Name of the port is changed from Adani Hazira Port Private Limited to Adani Hazira Port Limited and after completing name change procedure in EC , a letter received from MoEF&CC in which revised name is mentioned attached herewith as <u>Annexure 9</u>
vii.	The project proponents shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of Land Development Work.	Closed. Financial Closure date was 29 th September, 2011. Approval from GMB to commence work was obtained on 09 th April, 2010 vide letter No.: GMB/N/PVT/923(10)/42/458. Copy of the same has been submitted to the MoEF & CC and other concerned authorities along with the six monthly compliance report dated 19.05.2017.
viii.	A copy of the clearance letter shall be marked to concerned Panchayat/ Local NGO, if any from whom any suggestions/ representations has been received while processing the proposal.	Closed. Copy of the clearance letter was sent to the concerned Panchayat and local NGO. Copy of the RPAD receipt were submitted to MoEF&CC along with six monthly compliance report dated 27.11.2013 and again along with the six monthly compliance report dated 19.05.2017.
ix.	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office,	This condition does not belong to M/s. AHPL.

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Stipulated Conditions	Compliance Status
	District Industries Center and Collector's Office/Tehsildar's Office for 30 days.	
8.	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, the Public Liability (Insurance) Act 1991 and EIA notification 1994, including the amendments and rules thereafter.	<p>Noted and Complying with the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, the Public Liability (Insurance) Act 1991 and EIA notification 2006, including the amendments.</p> <p>AHPL has obtained: -</p> <ul style="list-style-type: none"> • Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: 11-150/2010-IA.III dated 03rd May, 2013. • Consolidated Consent and Authorization under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981 vide Consent Order No.: AWH-87176 valid till 14.04.2022. Public Liability Insurance (PLI) vide Policy No.: 41059889 valid up to 31st March, 2022. Copy of Renewed PLI is enclosed as Annexure 10
9.	All other statutory clearance such as the approvals for storage of diesel from Chief Controller of Explosive, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponent from the respective competent authorities.	<p>Complied.</p> <p>All applicable clearances from respective authorities have been obtained i.e.: -</p> <ol style="list-style-type: none"> 1. PESO License from Chief Controller of Explosive, Nagpur vides Order No.: P/HQ/GJ/15/5294 (P270337), Renewed and valid till 31/12/2025. Copy of the PESO License is attached herewith as Annexure 11 2. License to work a Factory Adani Hazira Port Pvt. Ltd. (Liquid Terminal) from Director of Industrial Safety and Health, Govt. of Gujarat their vide Registration No.: 3502 / 51410 / 2013 and License No.: 18757, Renewed on 03-11-2018, valid till 23rd December, 2023. Copy of the license to work a factory is submitted with last Six monthly EC compliance Report AHPL/MoEFF&CC 2019-20/001 dated 27.11.2019 3. Fire NOC for Liquid Terminal- Obtained NOC from Fire Officer, Surat, (Latest on 7th March 2019) and NOC from commissioner of Police (Dated-12th May 2019) 4. Civil Aviation: Not Applicable, 5. Wildlife Conservation: Not Applicable.
10.	The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environment and CRZ clearance and copies of clearance	<p>Closed.</p> <ul style="list-style-type: none"> • Advertisements were published in Gujarat News Paper "Gujarat Mitra" and English News Paper "The Times of India" on 13/05/2013 (within 10 days of receipt of EC & CRZ clearance). • Copy of the advertisement is submitted to MoEF & CC along with the six monthly compliance report dated 27th November, 2013.

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Stipulated Conditions	Compliance Status
	<p>letters are available with the State Pollution Control Board and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfor.nic.in.</p> <p>The advertisement should be made within 10 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bhopal.</p>	
11.	This clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.: 460 of 2004 as may be applicable to this project.	Noted.
12.	Status of Compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	Complied. Compliance report of conditions stipulated in Environment and CRZ Clearance is available on the company website i.e.: http://www.adaniports.com/ports-downloads
13.	Any appeal against this 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.
14.	A copy of the clearance letter shall be sent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any from whom suggestions/ representations if any, were received while processing the proposal. The Clearance letter shall also be put on the website	Closed, <ul style="list-style-type: none"> • Copy of the clearance letter was sent to the concerned Panchayat and local NGO from whom the suggestions/ representations received. • Copy of the RPAD receipt is submitted to MoEF & CC along with Six Monthly Compliance Report dated 27.11.2013 and again along with the six monthly compliance report dated 19.05.2017. • Clearance letter is available on website at http://www.adaniports.com/ports-downloads

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Stipulated Conditions	Compliance Status
	of the company by the proponent.	
15.	The Proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.	<p>Complied.</p> <p>The six monthly compliance report comprising of the status of compliance of the stipulated EC conditions, including results of monitored data is being uploaded on the company website at http://www.adaniports.com/ports-downloads and submitted to:</p> <ol style="list-style-type: none"> 1. RO - MoEF & CC, Bhopal, 2. MoEF & CC, New Delhi, 3. DoEF, Gandhinagar, 4. Zonal Office - CPCB, Vadodara, 5. HO - GPCB, Gandhinagar, and 6. RO - GPCB, Surat. <p>Last report was submitted through e mail on 25.11.2020 and received acknowledgement on 26.11.2020</p>
16.	The Environmental Statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules 1986, as amended subsequently, shall also be put on the website of the company along with status of compliance of EC Conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	<p>Complied.</p> <p>The Environment Statement in Form-V for the Financial Year: 2019-20 is attached was submitted with the Six Monthly EC compliance report on 25.11.2021 & also uploaded on company website at http://www.adaniports.com/ports-downloads.</p>

	Adani Hazira Port Limited	From: October 2020 to March 2021
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APPENDIX-1:

COMPLIANCE TO THE CONDITIONS STIPULATED IN CRZ RECOMMENDATIONS

ISSUED BY FORESTS & ENVIRONMENT DEPARTMENT,

GOVERNMENT OF GUJARAT TO MOEF & CC, NEW DELHI

VIDE LETTER NO.: ENV-10-2012-30-E, DATED 11TH MAY, 2012

FOR MODIFICATION / EXPANSION OF MULTI - CARGO PORT FACILITY AT HAZIRA, DIST. -

SURAT BY M/S. ADANI HAZIRA PORT PVT. LIMITED

Appendix -1: Compliance to the conditions stipulated in CRZ recommendation issued by Forests & Environment Department, Government of Gujarat to MoEF & CC, New Delhi vide letter No.: ENV-10-2012-30-E dated 11th May, 2012 for modification / expansion of Multi-Cargo Port Facility at Hazira, Dist. - Surat by M/s. Adani Hazira Port Pvt. Limited: -

S. No.	Conditions	Compliance Status
A.	Specific Condition	
1.	The provision of CRZ Notification 2011 shall be strictly adhered by M/s. AHPL. No activity in contradiction to the provision of CRZ Notification shall be carried out by M/s. AHPL.	Complied. <ul style="list-style-type: none"> Construction activities are carried out as per the provisions of CRZ Notification, 2011. No construction work other than those permitted in CRZ Notification has been done. Development of the port and other ancillary facility is being done as per the approval received under CRZ Notification, 2011 and EIA Notification, 2006 and subsequent amendments.
2.1	M/s. AHPL shall not construct any storage facilities for material / chemicals in the CRZ area except for those permissible as per Annexure - II of CRZ Notification 2011.	Noted. Only permissible activities being carried out in CRZ area.
2.2	Also for other hazardous chemicals, outside CRZ Areas, the AHPL shall consult SDMA for Disaster Management Plan.	Complied. Disaster Management Plan has been prepared prior to the commissioning of multi cargo port. <ul style="list-style-type: none"> DMP has been submitted to GSDMA vide letter dated 20.10.2012. Comments were received from authority vide letter no. GSDMA /SM / Ind.safety/ 770560 dated 03.12.2012. Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014. Regular mock drill to ensure the compliance and preparedness is being done. Last Mock Drill (On Site) was on: 22.03.2021 Last Update of ERP & DMP : 03.02.2021 Last submission to Directorate Industrial Safety & Health (DISH) on 10.03.2021
3.	All necessary permissions from different Government Departments / agencies shall be obtained by M/s. AHPL before commencing the activities.	Complied. All the statutory permissions from the concerned statutory authorities are obtained i.e.: - Environment and CRZ Clearance from MoEF & CC, GOI vide order No.: F.No.:11-150/2010-IA-III

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Conditions	Compliance Status
		dated 03.05.2013, CTE & CTO from Gujarat Pollution Board PESO License from Chief Controller of Explosive, Nagpur License to work a Factory Adani Hazira Port Pvt. Ltd. (Liquid Terminal) from Director of Industrial Safety and Health, Govt. of Gujarat. The details are mentioned above on page no-12.
4.	The AHPL shall ensure that there shall be no damage to the existing mangrove patches near the site and also ensure the free flow of water to avoid damage to the mangrove.	Noted and complied with. There are no adverse impacts on mangrove as well as flow of water with respect to development activities.
5.	No dredging, reclamation or any other project related activities shall be carried out in CRZ area categorized as CRZ-I (A) and it shall have to be ensured that the mangrove habitats and other ecologically important and significant areas, if any in the region are not affected due to any of the project activities.	Complied. All activities are being carried out as per Environment and CRZ clearance accorded.
6.	The dredging material shall be disposed of at the location already approved by the Ministry of Environment and Forests, Government of India.	Complied. As per communication from MoEF&CC dated 12 th November, 2003 bearing letter No.: J-16011/ 11/2003-IA-III conditions states "dumping of dredged spoils should be dumped at the sites A & C as per the following coordinates: - (A) 21°03' to 21°05' N & 72°28' to 72°30' E (C) 21°03' to 21°05' N & 72°30' to 72°32' E The maintenance dredging is being carried out through Water Injection dredger in which no Dredging material is generated. Some part of dredging is being carried out through Cutter Section Dredger and in this process Dredging material is being generated. No disposal has been done till date. All the dredging material is being utilized for level rising, reclamation and apart from the above activity, if any excess material generated will be disposed of at the location already approved by the MoEF&CC.

S. No.	Conditions	Compliance Status
7.	All the recommendations and suggestions given by M/s. NIO and Chola mandalam MS Risk Services Ltd, Chennai in their EIA reports for conservation / protection and betterment of environment shall be implemented strictly by M/s. AHPL.	Complied. All the recommendations and suggestions for conservation/protection and betterment of environment are being implemented strictly. Recommendation given in EMP is being complied in letter and spirit. Status of the same is enclosed as <u>Annexure-3</u> .
8.	The construction and operational activities shall be carried out in such a way that there is no negative impact on mangroves, if any and other important coastal / marine / habitats. The construction activities shall be carried out only under the guidance / supervision of reputed institute / organization.	Complied. There are no mangroves and other important coastal / marine / habitats presents within the port development area. The Port development work is supervised by Gujarat Maritime Board (GMB).
9.	M/s. AHPL shall strictly ensure that no creeks or rivers are blocked due to any activity at Shipyard.	Complied. All the activities are carried out as per EC & CRZ clearance and no creeks are blocked due to development activities. Shipyard is not envisaged in our proposal.
10.	The construction debris and / or any other type of waste shall not be disposed of into the sea, creek or in CRZ areas. The debris shall be removed from construction site immediately after the construction is over.	Complied Construction debris removed from construction site immediately after completion of the construction work.
11.	The construction camps shall be located outside the CRZ area and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by construction labours.	Complied. No labour camps have been placed in Coastal Regulation Zone area. Labours have been managed through contractors and they are from surrounding villages so they stay in their own residential facilities in the surrounding villages.
12.	M/s. AHPL shall prepare and regularly update their Local Oil Spill Contingency and Disaster Management Plan in consonance with National Oil Spill and Disaster Contingency Plan and shall submit the	Complied. <ul style="list-style-type: none"> Oil Spill Contingency Plan has been prepared and the same was approved by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014). Disaster Management Plan has been prepared prior to the commissioning of multi cargo port.

S. No.	Conditions	Compliance Status
	same to this department after having it vetted through Indian Coast Guard.	<ul style="list-style-type: none"> DMP has been submitted to GSDMA vide letter dated 20.10.2012. Comments were received from authority vide letter no. GSDMA /SM / Ind.safety/ 770560 dated 03.12.2012. Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014. Regular mock drill to ensure the compliance and preparedness is being done. <p>Last Mock Drill (On Site) was on :22.03.2021 Last Update of ERP & DMP : 03.02.2021 Last submission to Directorate Industrial Safety & Health (DISH) on 10.03.2021</p>
13.	M/s. AHPL shall bear the cost of external agency that may be appointed by this department for supervision / monitoring of proposed activities and the environment impact of the proposed activities.	Noted and agreeing to bear the cost of external agency, if any that may be appointed by this department.
14.	The jetty and most of the approach would be supported on piles allowing adequate flow of water without significant obstruction.	Complied. Jetty approach is supported by piles allowing adequate flow of water.
15.	The ground water shall not be tapped within the CRZ areas by the AHPL to meet with the water requirements in any case.	Being Complied Ground water is not being used for any purpose in the Port. The industrial water requirement is being met through 2000KL of treated waste water from M/s. KRIBHCO, which is being used for industrial purposes and domestic water requirement is met through tanker Water.
16.	M/s. AHPL shall take up massive greenbelt development activities in consultation with Forest Dept. / GEER Foundation / Gujarat Ecology Commission. A comprehensive plan for this purpose has to be submitted to the Forests and Environment Department.	Being Complied Through CSR team of AHPL, plantation have been carried out in surrounding villages with consultation of Gram Panchayats and Schools.
17.	Mangrove plantation in 200 Ha. shall be carried out in consultation with Gujarat Ecology Commission / Forest Dept. by M/s. AHPL with in a period of two years from the issuance of CRZ clearance by MoEF, GoI and an action plan in this regard shall be submitted to this Department along with satellite	Complied Company has carried out mangrove afforestation in an area of 200 hectares i.e.: 20 hectares in Kantiyajal and 180 hectares in Village Nada-Devla of District - Bharuch and same is completed. Consolidated report on mangrove plantation on an area of 200 hectares at Village: Kantiyajal,

	Adani Hazira Port Limited	From: October 2020 to March 2021
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S. No.	Conditions	Compliance Status
	images and GPS readings with Latitudes and Longitudes.	Taluka: Hansot and Village: Nada-Devla, Taluka: Jambusar, District: Bharuch (Gujarat) developed by M/s. Saline Area Vitalization Enterprise (SAVE) Limited, Ahmedabad. Supporting documents of the same submitted to MoEF & CC and other authorities along with the six monthly compliance report dated 20.11.2017.
18.	The AHPL shall have to take up bio-shielding development programme as part of CSR in consultation with Forest Department / PCCF and action plan in this regard shall have to be submitted to the MoEF - Gol and this Department.	Being Complied <ul style="list-style-type: none"> AHPL has developed Bio-Shield Pilot Project at Village - Tankari Bandar, Taluka - Jambusar, District - Bharuch (Gujarat) on an area of 18 hectares with the help of a local NGO named SAVE.
19.	M/s. AHPL shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with Forest and Environment Dept. and the District Collector / District Development Officer.	Being Complied <p>CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development.</p> <p>Appropriate financial contribution is being made. Schemes promoted by District Authorities and Forest & Environment Department, GoG are also included. Please refer the <u>Annexure-2</u> for the status of the CSR activities planned and carried out during the Financial Year: 2020-21.</p>
20.	A separate budget shall be earmarked for environment management and socio-economic activities including green belt development / mangrove plantation and details thereof shall be furnished to this Department as well as the MoEF, Gol. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	Being Complied <ul style="list-style-type: none"> Environmental Management Plan is in place and the funds earmarked are being utilized for effective implementation of environmental safeguards and environment monitoring. Key components are Environment monitoring, Mangrove plantation, environmental studies etc. Please refer the <u>Annexure-6</u> for details of budget and Expenditure for Environment Management for the FY: 2020-21. CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. Please refer the <u>Annexure-2</u> for the status of the CSR activities planned and carried out during the Financial Year: 2020-21.
21.	A separate Environment Management Cell with qualified personnel shall be created for environmental monitoring	Complied. <ul style="list-style-type: none"> Environment Management Cell has been set up with qualified staff to ensure the

S. No.	Conditions	Compliance Status
	and management during construction and operational phases of the project.	<p>effective implementation of environmental safe guards.</p> <ul style="list-style-type: none"> In addition to the site Environment Management Cell a well-established corporate environment cell also ensures effective implementation of the environmental safeguards. Please refer the Annexure-7 for Environment Management Cell Organogram.
22.	Environment Audit Report including the changes, if any, with respect to baseline environmental quality in the coastal and marine environment shall be submitted every year by M/s. AHPL to this Department as well as MoEF, Gol.	<p>Complied.</p> <ul style="list-style-type: none"> Regular Environmental Monitoring are being carried out through a GPCB approved environment auditor M/s. Pollucon Laboratories, Surat (a MoEF&CC and NABL accredited laboratory) and others concerned authorities along with Six Monthly Compliance Report. No significant changes observed with respect to past monitoring results.
23.	A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by M/s. AHPL on a regular basis to this Department as well as MoEF, Gol.	<p>Noted and complied with.</p> <ul style="list-style-type: none"> Six monthly compliance reports are being submitted to all the concerned authorities on regular basis. Last report was submitted through e mail on 25.11.2020
24.	Any other condition that may be stipulated by this Department / MoEF, Gol from time to time for environment protection / management purpose shall have to be complied with by M/s. AHPL.	Noted and comply with the additional conditions stipulated by the MoEF & CC, if any.

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ANNEXURE-1:

**ACTION PLAN AND COMPLIANCE STATUS ON THE ISSUES RAISED DURING THE PUBLIC
HEARING**

Annexure-1: Action plan and compliance status on the issues raised during the public hearing:

S. No	Name	Details of Representation	Response during PH	Status as on 31 st March 2021
1	Rohitbhai Jayantibhai Patel, Sarpanch, Hazira	<p>On behalf of Hazira village, I welcome the expansion project of M/s. Adani Hazira Port Pvt. Ltd. at Hazira. Priority will be given to thousands of people of Hazira and surrounding villages for transport, business and employment opportunities. Company has provided training to the people of Hazira and surrounding villages for crane operation at Mundra and given employment as crane operator at Hazira Port.</p> <p>I believe that company will install latest technology for pollution control. Proposed project will surely care for human life. Due to proposed port Hazira people will surely get water, health and education facilities. I request that company would take required precautions for accident prevention and safety. Adani Foundation has provided required support as and when needed by Hazira village. I request that fishermen's concerns be taken care.</p> <p>I welcome this port as we are getting transport related business opportunities and we hope that same would be continued in future.</p> <p>Please clarify how much priority will be given to people from Hazira and surrounding areas for employment.</p> <p>Forest land is also requested for development of port at Hazira. So kindly clarify for compensation/afforestation.</p> <p>Please clarify what arrangements have been made</p>	<p>Rohitbhai, we are happy to note that on behalf of Hazira gram panchayat you have given warm welcome for this project. We whole heartedly thank you for this gesture. We assure you that our Conduct and Approach in managing activities would be in reciprocation to your welcome.</p> <ul style="list-style-type: none"> National Highway –6 is being widened. On completion the constriction and congestion that we see today will be behind us. As mentioned in the EIA in the first 5 years of the multi cargo port maximum number of 1200 trucks is expected to ply in the national highway connecting the port. After the railway line is developed and the trains start plying 60% of the transportation load will be conveyed through rail transport only 40% will come on 	<ul style="list-style-type: none"> Closed. Point is about welcoming the project and does not warrant any further action. Widening of the National Highway – 6 is completed. Currently there is no traffic congestion on National Highway – 6. Railway line for transport of cargo is yet to be developed.

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		by company if calamities like Tsunami, Earthquake or Flood arise after implementation of the proposed project.	the national highway. That is a moderate load.	
2.	Dharmendra bhai Bhikhubhai Patel, Ex-deputy Sarpanch, Hazira	<p>We welcome this public hearing. It is good that you are giving preference to local affected people and hearing them during public hearing. We don't have any objection against the development of Adani Group along with other industrial development in Hazira leading to development of Gujarat and the Nation. Adani company is complying with the environmental laws promulgated by the State and Union Government. In fact, it is duty of Adani Port to do so. Under their CSR activities Adani Group should provide support for development of Hazira village and employment to unemployed people. All transport businesses should be given to small & big local transporters of Hazira only. Youth from families of affected fishermen should be provided required training and employment. New transport route should be proposed as the present route to take containers is very narrow.</p> <p>We thank Adani Group for giving support for the construction of classrooms for standard 11 & 12 in Navchetan school.</p> <p>I thank you for making me successful in providing compensation to the affected fishermen.</p> <p>I request for employment to locals people and transport contract to local transporters only. We support the development of Adani Port in our area. We don't have any</p>	<p>• This port will have focus on container cargo. Container cargo comes in boxes and is clean by nature. So the question of fugitive dust emission on the road is not expected to be severe for this port.</p> <p>• The coal handling will be done taking care that all the trucks are properly covered so that there is no dust emitted on the road. As you know practically all our transporters are from this area. It is</p>	<p>• Closed.</p> <p>Major cargo handled at the port is container and liquid which do not increase the fugitive dust. AHPL is monitoring ambient air quality at five locations in and around project through a NABL accredited and MoEF recognized laboratory M/s Pollucon laboratories, Surat. Report confirms that ambient air quality is well within the NAAQS. Copy of the reports are enclosed as Annexure – 4A</p> <p>• Complying with.</p> <p>All the trucks carrying coal and other dusty cargo are being covered through</p>

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		objection to the project in this public hearing.	their responsibility to take care of overloading. If transporters do not overload, there would not be any spillage on the roads. It is not only responsibility of GPCB or the company but we all have to collectively work together for spillage free coal transportation.	tarpaulin. AHPL also ensures that no truck goes out of the port with overload.
3	Bhagubhai Maniram Patel, Sarpanch, Junagam	<p>As this is biggest port in the South Gujarat and as there is no government land left, we wish that there will not be resettlement of the Junagam village due to this proposed expansion project of Adani Port.</p> <p>There is a fear in the people of the village that they will have to vacate the village in future. So we request collector to give us guarantee in writing that we will be able to live with peace where we are today.</p> <p>Berths will be developed through dredging up to -15 meters. We are getting ground water from the depth of 20 to 65 ft in some of the areas, which we are using for drinking purpose. What will be the impact on the ground water due to dredging upto -15 meters?</p> <p>After construction of liquid berth No.3 which will handle & store 1.95 Million Tones by 2017-18, what emergency steps would be required to save the human life incase just like Bhopal if there will be gas leakage due to Tsunami, Earthquake or terrorist activities.</p> <p>We welcome Adani Port & they require land for the container and coal storage. However, all industries located in the Hazira area have acquired government land and another 2000 acre land is allotted to tourism department. Sir therefore, I request you to declare remaining land of Junagam, Suvali, Damka & Bhatlai as residential area or agricultural zone. This is to ensure that in future we will not be displaced. As the port is to be constructed</p>	<p>• Junagam sarpanchshri expressed apprehension that we will take away government land and lands belonging to farmers in Junagam village. We want to assure you that we do not intend to take any private land of farmers or any house site land. If you carefully see the development plan we have just presented, the map will alleviate your uncalled fears. There would not be any question of rehabilitation of any village. Moreover, we will take care that your property. Your assets and convenience are not jeopardized by our action.</p>	<p>• Closed.</p> <p>There is no displacement of people, houses or fishermen as the port is being developed on reclaimed land and land allotted by Government as there is no acquisition of private land.</p>

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		<p>at the coast line, there are chances of spillage of liquid into sea and impact of solid hazardous waste. In this condition explain plan to mitigate impact on fisher man community.</p> <p>Secondly there is a question of unemployment of the youth of the Hazira area. As told by the company 700 people will be employed, youth from local families presently engaged in farming, animal husbandry and fisheries should be trained. Due to development of the port people from different states of India will come and therefore, there are chances of crime such as gang rape, hooliganism and terrorist attack. Is there any plan to control these potential evils? Training to unemployed women and employment is being planned. In future we and Adani Port would like to work together with full cooperation. On behalf of Jungam village and villagers, I welcome the expansion of the terminal.</p>	<ul style="list-style-type: none"> • You talked about vultures; I would like to point out that there is no sanctuary or national park near by the port. In the EIA, we have studied the entire area and we will take due care to preserve the environment. • We re-emphasize that we will comply with all the laws and in doing so we would be guided by GPCB and other concerned authorities. • Some of you have expressed concern about terrorist activity creating great risk to our chemical terminals with attendant adverse consequences in our neighbourhood. We are going to be ISPS compliant; as a result of this discipline, only authorized persons and material can enter into the port. More over district administration and police also take precautionary measures to intercept terrorist 	<ul style="list-style-type: none"> • Closed. <p>There is no sanctuary or national park near by the port. In the EIA, we have studied the entire area and we will take due care to preserve the environment.</p> <ul style="list-style-type: none"> • Complied. AHPL is operating the port in compliance with all rules and regulations. • Complied. <p>AHPL security system is in compliance with ISPS. ISPS Statement Number is: MMD/KDL/SO C/014 and the verification audit for renewal of certificate is successfully completed and issuance of certificate is Under Process.</p> <p>AHPL has access control system in place to avoid</p>
4	Alpeshkumar Thakor – Fisherman, Hazira.	<p>Plantation of the mangroves has been carried out between well numbers 4 to 7. This plantation has been destroyed by dredging and area is filled up.</p> <p>In this area fisherman used to catch prawns, crabs and sustain their livelihood. Through dredging company has destroyed Mangroves. There are approximately 2500 fishermen, belonging to Halpathi and Koli Patel communities living in the village. These people will be unemployed as fishing activity will be stopped due to dredging up to 20 meter by the company. Is it development or destruction?</p> <p>If fishermen get sand from the river by the boat in the Magdalla</p>	<p>Some of you have expressed concern about terrorist activity creating great risk to our chemical terminals with attendant adverse consequences in our neighbourhood. We are going to be ISPS compliant; as a result of this discipline, only authorized persons and material can enter into the port. More over district administration and police also take precautionary measures to intercept terrorist</p>	<p>AHPL security system is in compliance with ISPS. ISPS Statement Number is: MMD/KDL/SO C/014 and the verification audit for renewal of certificate is successfully completed and issuance of certificate is Under Process.</p> <p>AHPL has access control system in place to avoid</p>

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		area, they have to pay royalty for the same. But why companies are given permission for dredging without royalty? What about approximately 2500 fishermen?	activities. Coast guards contribute to this effort. In a sense the entire nation is collectively fighting against terrorism.	unauthorized entry of men and material.
5	Babubhai Aahir (Sarpanch, Suvali)	<p>As our friends have already given suggestion for safety and employment, it is not required to repeat the same. Foundation should provide employment opportunity to the land looser, fisherman, individual engaged in animal husbandry who are above 50 years and uneducated.</p> <p>Unemployed youth of this area should be provided training and given opportunity for the employment. Company should control the pollution arising due to transportation of chemical or coal. Earlier "Shell" company used to avoid overloading. So Adani Port should also not do the overloading to prevent the accidents. There is no medical facility available for treatment in case of emergency. As there is drought this year, company should consider providing drinking water in surrounding area.</p>	<p>• In the context of natural calamities, we have done modeling studies to understand the risk of oil spillage. We have also prepared Disaster Management Plan. This plan is being presented to the District Collector. After his approval it will go to State Disaster Management Authority at Gandhinagar for necessary approval and guidance. During natural calamities all local industrial units and government organizations work together to mitigate impacts of natural calamities. In that situation we would work under the guidance of District Collector and police authorities to do the needful. Disaster Management Plan is structured in such a way.</p>	<p>• Complied. Regional DMP for the Hazira Peninsula, covering all major industries and the port has been prepared in consultation with District Authorities and same is being implemented.</p> <p>Oil Spill Contingency Plan has been prepared and the same was approved/ vetted by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014).</p> <p>In addition, AHPL has developed and implemented ER & DMP. Regular mock drill to ensure the compliance and</p>
6	Divyeshbhai, Hazira	<p><i>(During the representation of the Shri. Divyeshbhai there was a aggressive representation of Shri. Jayesh Patel resident of village Dihen, that he wants to present his questions.</i></p> <p><i>Honourable Collector replied that resident or stakeholders from affected villages should represent first. During this time Shri. Jayesh Patel and other people created disturbance which was controlled by Panel and then representation from Mr. Divyeshbhai continued.)</i></p> <p>Why this public hearing is kept at Junagam even it is of Hazira</p>		

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		<p>Village? Now we will talk about the pollution. Lots of dust is observed in the houses of the hazira village during the night hours. As per information particles of dust have been found in the lungs of the woman. If this information proves to be true we will file a pition in the High Court. During the widening of the National Highway No. 6 land in the surroundings villages will be taken. As National Highway is not passing through Hazira, the villagers need to travel 8 Kilometres extra. Why it is not extended straight? Fishermen are being told that there is no fish in the sea but slags are cast in the corners of the sea due to which some fish die. Dolphin is also found at present in the Hazira area. We welcome the project if the port company is ready to give written assurance regarding employment.</p>	<ul style="list-style-type: none"> In regard to impact on fisherman, I want to point out the real situation that we are not in the river mouth, but just outside of it. The port development is only in a stretch of 4 km of coast line. We have not displaced any fisherman. The surrounding areas are open for fishing, nevertheless we have compensated fisherman who were identified by the Grampanchayat to be active in the areas where we are now operating. As Susmaben mentioned we will support fisherman by giving them tools, nets etc. and be helpful to them. <p>(At this stage Shri Sheikh and Shri Jayeshbhai started shouting & disturbing the clarification of the project proponent. The chairperson told them repeatedly not to disturb the proceedings)</p>	<p>preparedness is being done.</p> <p>Last Mock Drill (On Site) was on: 22.03.2021</p> <p>Last Update of ERP & DMP: 03.02.2021 Last submission to Directorate Industrial Safety & Health (DISH) on 10.03.2021</p>
7	<p>Jayeshbhai Patel, Resident of Dihen village and President, Gujarat State Farmers Samaj</p>	<p>I raise my objections against proposed expansion project of AHPL for which public hearing is organized and I request that my objections should be included.</p> <p>M/s. Shell India has got environmental clearance in 2003 in which clearance was given for development of three berths. These berths are constructed at places other than shown earlier. So I request collector to remove these three berths.</p> <p>Out of proposed 7 berths for container and 4 for bulk terminal, 3 have been already constructed and port is functional. In this situation, I request to include in this public hearing what actions have been taken by collector against Adani</p>	<p>(At this stage Shri Sheikh and Shri Jayeshbhai started shouting & disturbing the clarification of the project proponent. The chairperson told them repeatedly not to disturb the proceedings)</p>	<ul style="list-style-type: none"> Closed. <p>CSR activities carried out by</p>

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	<p>for functioning of port & disposal of coal in Hazira and what actions have been taken by GPCB against company for disposal of coal in open.</p> <p>This project is being developed on the mouth of river Tapi therefore it is my feeling and request that it should not be given Environmental Clearance.</p> <p>EIA study does not include the objections of the report of Sugnyaben Bhatt Commission which was set up by Gujarat Government in 2006 in the aftermath of Surat flood. So it is my request that this public hearing and Environmental Clearance should be cancelled.</p> <p>Hazira is located on the mouth of Mindhola & Tapi river. As per ICMAM report of Tapi river, erosion effect had spread up to Dumas because of filling of Tapi river due to Industrialization in this area. Erosion of shore is up to 2500 meter towards Dumas.</p> <p>ICMAM report is not studied. There is no clarity on what steps are required to control the erosion of shore near Dumas, so it is my request that it should not be given Environment Clearance.</p> <p>This area is declared reserved for vultures. As per survey there are about 150 vultures in the forest area. This report does not include what would happen to vultures, where they would go and what would be impact on Environment. So it is my request that it should not be given Environmental Clearance.</p> <p>There are approximately 2500-3000 fishermen families. There will be crisis for their livelihood.</p> <p>There is no clarity for rehabilitation and resettlement from Adani. So it is my feeling and request that it should not be given Environmental Clearance.</p>	<ul style="list-style-type: none"> • We would help sons and daughters of fisherman to educate them and trained. We would do everything practicable to achieve this end. • We are developing the port by reclamation. This cannot any way cause salinity ingress in the ground water. We are going to investigate the quality of ground water every year 	<p>Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development.</p> <p>Appropriate financial contribution is being made. Schemes promoted by District Authorities and Forest & Environment Department, GoG are also included.</p> <p>Please refer the Annexure-2 for the status of the CSR activities carried out during the Financial Year: 2020-21.</p> <ul style="list-style-type: none"> • Complied Proper care is being taken during construction activity to avoid salinity ingress and any degradation of water quality. M/s. AHPL is monitoring the Ground Water Quality at one location on monthly basis. Results show
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	<p>Routes to sea are almost closed specifically for "Pagadia fishermen", who do fishing on foot. There is a big problem of their livelihood. Due to loss of fishing activities now they will not get thousands of crores of rupees which they were supposed to get due to fishing activities. Rs. 15 lacs is not sufficient compensation for that.</p> <p>This area comes under CRZ-IA. Specific fish called "Levta" grows in the mudflat and fishermen catch that fish in this mud and earn their livelihood. Due to excavation and reclamation there will be damage to biological mud and destruction of marine ecology. EIA report does not have clarity on what actions are required. So it is my feeling and request that it should be clarified in EIA report or not be given Environmental Clearance.</p> <p>Before Adani came there was mangrove forest in the area of 40 ha. As per survey today mangroves survive in the area of 15 ha only. Due to destruction of mangrove there will be damage to environment and coastal erosion. This study is not covered in EIA so it is my feeling and request that it should not be given Environmental Clearance.</p> <p>Five ports from 15 different companies and two big ports within 5 Km are coming in this area. The cumulative impact on road & rail transport due to operation of both ports Adani & Essar is not studied while preparing the impacts on land environment. Six-lane-road is also not going to be sufficient for this. So I request that Environment clearance should be given only after doing cumulative study.</p>	<p>no significant change in the quality. Ground water quality is being monitored through M/s. Pollucon Laboratories, Surat (a MoEF&CC recognized and NABL accredited laboratory).</p> <p>Please refer the <u>Annexure-4B</u> for the Environmental Monitoring / Analysis Reports for the period October 2020 to March 2021</p> <ul style="list-style-type: none"> • Our EIA has been done by M/s. Cholamandlam MS Risk Service Limited and M/s. National Institute of Oceanography. These are well respected and neutral expert organizations a head quartered outside Gujarat. Their studies have been accepted by Gujarat Coastal Zone Management Authority. Thus we want to work with you and be helpful to you. <p><i>(At this stage some of the individuals asked clarification for employment in the company. Collector Shri</i></p>	<p>• Complied.</p> <p>CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. Please refer the <u>Annexure-2</u> for the status of the CSR activities carried out during the Financial Year: 2020-21.</p>
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		<p>As reported, level of Suspended Solids & Petroleum Hydrocarbon is high as compared to desired levels in water. Level of pollution in the areas of water, air and land is already high as compared to other locations in the country. EIA report does not have clarity on what steps will be taken to bring down the pollution. So it is my feeling and request that it should not be given Environmental Clearance.</p> <p><i>(It is to be noted that Mr. Jayeshbhai Patel belongs to "Diheh village" which is approximately 18 Km away from the port site)</i></p>	<p><i>directed the company representative to answer it, and advised audience to listen to the representative peacefully.)</i></p> <ul style="list-style-type: none"> The port has opportunities for both technical and non-technical employment. Moreover indirect employment in transport and other services will also be there. All these opportunities may be taken by local residents. To facilitate them to take this opportunity we will provide necessary training to enhance their competence, so that they may not only get employment in Adani port but else were also. <p><i>(At this stage Jayeshbhai and other peoples repeatedly disturbed the hearing and stopped the company representative to elaborate further. Collector repeatedly asked all concerned to maintain calm mul listen to the company representative. All</i></p>	<ul style="list-style-type: none"> Closed Complied. <p>Point does not warrant any further action.</p> <p>AHPL has always given employment priority to local qualified persons and in future the same will be continued. As on 31st March 2021 total 195 out of 227 On roll employees are from Gujarat.</p>
8	Dhansukhbhai Patel, President Hazira Coastal Area	<p>Employment is given to 30-35 people in the form of contract but we insist that it should be permanent in nature.</p> <p>For this liquid cargo transport, it will be storage of chemicals or processing of chemicals? If it is chemical processing then hazard will increase, so I request to provide information on what measures Adani will take for health and safety?</p> <p>Please provide information if this project has got any clearance from Central Government like what they have got from State Government.</p> <p>Adani has declared only 4-5 villages as affected. Will there not be any impact on Mora, Kawas or Interior of Ichhapur while trucks pass through them?</p> <p>There are 10-12 big companies in this area and they have developed residential township with all facilities for their employees. Is it not possible that each company will take one village from 10-12 villages and also provide them same facilities?</p> <p>For this, MOU is necessary and</p>	<p><i>(At this stage Jayeshbhai and other peoples repeatedly disturbed the hearing and stopped the company representative to elaborate further. Collector repeatedly asked all concerned to maintain calm mul listen to the company representative. All</i></p>	

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		<p>matters related to self-employment & development of village should be mentioned. We will be benefited in future; only if there will be MOU.</p> <p><i>(It is to be noted that Mr. Dhansukhbhai Patel belongs to Kawas village which does not fall within 10 Km radius of the study area)</i></p>	<p>major points being over collector concluded the public hearing.)</p>	
9	Kamlaben Rohitbhai Patel, Choryasi Taluka Panchayat, Leader of opposition party	<p>I welcome the expansion project of Adani company. Due to proposed port priority would be given to Hazira and surrounding area for employment and business. I request that fishermen's concerned would be taken care by this project. Adani Foundation of Adani Company has given commitment for the various activities for the development of village. So I welcome the project and declare my support for the Port of Adani Company at Hazira.</p>		
10	<p>Mohanbhai Ambubhai Patel,</p> <p>Village: Vaswa</p>	<p><i>(Collector informed Mohanbhai to raise those issues only, which were not raised earlier)</i></p> <p>Adani Company has told that 700 people will be employed. Please clarify whether it will be permanent or contractual basis? Thousands of people are working on contractual basis in the surrounding companies but nobody gets permanent employment.</p> <p><i>(Then Regional Officer, GPCB again informed the concerned persons to raise other issues if any. The employment issue will be addressed by the company.)</i></p> <p>As per survey carried out by NIO out of 1600 km of Gujarat coast nearly 25% is already filled due to construction of ports at other places. As a consequence of this, there will be huge damage to agriculture in the surrounding area and there would also be ingress of sea</p>		

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		<p>water in the area.</p> <p>Adani Company has decided to pay compensation of Rs. 15 lacs to 40 fishermen but what arrangement company will make for the 4000 fishermen in the surrounding villages?</p> <p>Adani Company is developing their project on 31428 ha of land. Is this land private or government? If it is on private land then whole Junagam village would be vacated. Survey numbers are also not shown for this land.</p> <p><i>(It is to be noted that Mr. Mohanbhai Patel belongs to Vanswa village which does not fall within 10 Km radius of the study area)</i></p>		
11	Jayantibhai Khalasi President, Fish Progress Union, Hazira	<p>You all will go away after this public hearing but whom should we contact regarding pollution in our area?</p> <p><i>(Then Collector informed him that regarding pollution he may contact GPCB.</i></p> <p><i>Regional Officer, GPCB also informed him that regarding pollution he can submit in writing.)</i></p>		

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ANNEXURE-2:

DETAILS OF THE CSR ACTIVITIES CARRIED OUT AND BUDGET EXPENDITURE OF FY 2020-21

Details of Corporate Social Responsibility for Financial Year 2020-21 of Adani Hazira Port Limited

Adani Foundation is working as a CSR wing of Adani Group and the CSR activities are being conducted in the four major thrust areas.

Four Major Thrust Areas of our CSR Activities:



A. Education:

SDG Alignment

Sustainable Development Goal 4

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

Highlights:

Sr. No.	Name of Utthan School	School Strength		Students Catered			Remarks
		Total Students	Progressive Students	Total Students	Progressive Students	% of Catered Progressive	
1	Hazira Halpatis Primary School	20	6	15	5	83.33%	100% Halpatis students
2	Rajagari Primary School	52	14	39	13	92.86%	40% Migrated students

3	Vansva Primary School	60	20	54	18	90.00%	60% Halpati students
4	Junagam Primary School	110	22	63	19	86.36%	--
5	Mata Faliya Primary School	110	24	81	20	83.33%	90% migrated students
6	Suvali Primary School	92	26	67	23	88.46%	30% Halpati students
7	Bhatlai Primary School	110	27	67	23	85.19%	50% Migrated students
8	Damka Primary School	169	29	108	26	89.66%	--
9	Hazira Primary School	240	39	107	32	82.05%	65% migrated students
10	Mora Primary School	431	98	251	81	82.65%	70% migrated students
11	Non Utthan School students			89			
	Total :	1394	305	941	260	85.25%	

Background of Project Utthan:

The future of India depends upon the quality of education imparted to our children. We believe that it is the joint responsibility of the Government and citizens to improve school education. With an aim to enhance the quality of primary education in Surat District, Adani Foundation proposed to adopt 10 government schools of Hazira coastal area of 08 villages under the project '*Utthan*', and from December-2019 the project starts with form MoU signed between Adani Foundation representative and DPEO, Surat. By this intervention, Adani Foundation seeks to facilitate; Focus on progressive learners (PRIYA VIDYARTHI) and celebrate their progress, make learning joyful, provides adequate resources and facilities, strengthen the curricula to provide basic skills, especially in the areas of literacy, numeracy and skills for life and focus on Teachers' capacity building.

It's Reach:

Intervention by Utthan Sahayaks during Corona Pandemic:

To bring progressive students in main stream is main objective of Utthan project. While dealing with progressive students Utthan Sahayaks (US) realize that, they are the slow learners and seeking personal attention. Thus US teaches individually to the progressive students of Government Primary schools. In the COVID pandemic, those who haven't migrated and accessible at their houses, Utthan Sahayaks

regularly visit their Faliya/Maholla. They teach basic skills of Reading, Writing & Mathematics. The US have made customized worksheets and TLMs for the progressive students. They are visiting the houses of students thrice in a week with TLMs and prepared worksheets. US are giving various modules to the students explain and assign activities to the students. During the lockdown US have catered almost 80% of progressive students online or offline.

In project villages, approx. 30% students have migrated to their native state like Bihar, UP, MP etc. For those students, classes were and are arranged online. Two times in a week US connect with those students and conduct classes, assigned oral and written work.,

US have taught the students to make Mask using available clothes and demonstrated experiments to be healthy and maintaining hygiene. By using Camphor and Alum.

Day Celebration and Competitions of students:

Though students are not going to their respective schools but they have celebrated Independence Day, Gandhi Jayanti, Janmashtami, Uttarayan etc. in a unique way. Drawing competitions, Badge making, Greetings cards, Elocution, Poster making type activities on the theme of that special occasion were there. Utthan Sahayaks taught them to make kites by using newspapers. Almost 800+ students participated in various 5 competitions on 9 special day celebrations. To promote active involvement of primary students in science related activity and sensitize about natural resources like water. National Science Day & World Water Day were celebrated on 27/02/2021 & 22/03/2021 in all Utthan Schools. 45 students of class- VI to VIII have made various science related projects and models with support of US. The students have demonstrated their model and its scientific terminology to their classmates in their schools. On World Water Day, Drawing, Poster making & Elocution competitions were arranged to enlightened the students about different ways to prevent water wastage.

Mother's Meeting:

Parents are the first teachers of child and they have a key role in shaping up their character. A balance of education at home and school mould a student's actual learning. Especially mother is more responsible for child's activities. Thus once in every two week US meet mother of each progressive learner online or offline and discuss about activities and achievement and growth of their child. As majority of mother of progressive students are not well educated, Utthan Sahayaks tell them to motivate their child to be regular and take participation in academic activities carried out by teachers.

Support for NMMS & JNV Entrance Examinations:

National Means-Cum-Merit Scholarship (NMMS) is a sponsored scholarship scheme. It is implemented by the Department of School Education & Literacy under the Ministry of Human Resource Development with the objective to financially support the meritorious students of economically weaker sections of

the society. NMMS encourages students to continue their studies at the secondary level by offering a scholarship amount of INR 12,000 per annum. Adani foundation is supporting the economical weaker and higher scholar students to enrol at exam. AF has also provided study materials to 354 enrolled students in Choryasi, Olpad block and Surat Municipal Corporation school.

JNV offer admission in Class-VI on the merit basis of the exam conducted named as Naodaya Entrance Examination (JNV-EE) every year. To prepare for JNV-EE-2021 Adani foundation has helped students to enroll for JNV-EE-2021, 74 students from Hazira coastal are preparing. Adani Foundation has prepared training videos and worksheets, Notebooks, Pen & Question bank are given to the students. Weekly follow-up and Weekly mock-tests are conducted for customized designed chapters of the curriculum. AF has also supported 940 other JNV enrolled students of Valod, Dolwan, Songadh and Uchchhal blocks by providing software and study materials.



Hardware Support to Utthan Schools:

Adani Foundation has prepared 10 customized display boards under project Utthan. Dr. Deepakbhai Darji (DPEO, Surat) & Ms. Swati Patel (Dy. DPEO, Surat) have handed over the boards, One Library cupboard and 276 Library books to each 10 Utthan schools of Hazira coastal area. One Smart class consist of 55" Samsung Ultra HD LED TV, Computer with wireless keyboard and mouse with 3 years of content of curricular subject subscription is given to each Utthan School in March 2021. BaLA focused on developing an understanding on how the physical space around us can be developed as a learning resource. Approx. 750 sq. ft. BaLA paintings are also carried out in each school by Adani Foundation under Utthan Project.

Provided RO water filter plant:

The Adani foundation, Hazira have been done various activities with coordination of education Department in Surat district. We have done various soft skill activities as well as infrastructure support in govt. schools. The overall objective of the project is to facilitate students and schools those who are in need. Through over intervention after assessment and meeting with school management we have installed RO water filter plant in Govt. primary school, Haiderganj in sachin area. More than 800 students

studied in school in 2 shifts. Other basic amenities available in school but availability of potable drinking water is major problem in school. Due to this problem students and teachers forced to bring drinking water from home in schools. Students carry 1-2 ltr. Water from home is insufficient for school hours and school management also facing problem in mid-day meal preparation. They are forced to use available water in school for drinking & cooking. Through our support they are able to get potable drinking water for students and cooking purpose. Entire School thanks to adani foundation for this support.

Professional growth of US:

Capacity building programs for Utthan Sahayaks can improve the quality of the teachers. AF has conducted 4 Webinars, 3 in-house trainings and encourage the Utthan Sahayaks to enrich their selves in academic context to improve the quality of the teaching. During lockdown US are regularly attending webinars and enrolled them self for various online courses. Each US has completed minimum 09 certificate courses. 3 Days Capacity Building cum Training Program for US was arranged in January-2021 Pro. Deepak Taraiya was resource person.

Background of Navchetan Vidhyalay Junagam.

The school is Gujarati medium, GSEB affiliated primary school approved by DPEO, Gujarat. It is established in 2003 by local trust, Navchetan Vikas Mandal, Junagam, to provide quality education to children coming from surrounding rural areas from 2014, it is sponsored and managed (academically & administratively) by Adani foundation, the student's strength of the school rise from 193 students to 422 students from nearby 8 villages, in 2013-14 there were 112 boys and 81 girls were enrolled now in 2020- 21, 202 boys and 220 girls are studying. Students' dropout ratio falls from 6.13% to 1.50%.

School facilities:

The school is equipped with Smart Class, Science Laboratory and Computer Laboratory and Activity class, Library and big play ground. This year Adani Foundation has constructed alternative staircase at primary wing building of **Navchetan Vidyalaya**, Junagam, Keeping in view of fire safety guidelines of Gujarat state government for schools. The pedagogy includes activity based learning, each one teach one learning method, special remedial classes to slow learners, regular Unit tests in school. Adani foundation provides academic materials like Notebooks, Workbooks, and Textbooks. Students from class III to have got chance to learn off campus by exposure visit. "Education is a shared commitment between dedicated teachers, motivated students and enthusiastic parents". The progress of the students' academic achievement depends on the joint effort of parents and teachers. Thus Parents Teacher Meeting (PTM) was arranged to discuss the efforts did by teachers on 01 & 02 August 2020 (step by step as guideline declared by Govt.) average 88% parents remain present in that meeting.

School activities:

The activities were regular part of school activities but in COVID-19 scenario, students are not coming to school, but school has planned how to teach the students at their home. All the teachers of class-

LKG to VIII are preparing and sending the Self Learning Modules (SLM) for all curricular subjects. Teachers have created Google Classroom & Prepared SLM is circulated in the Google Classroom. 408 student of school joint google classroom for online study.

Celebrating events and festivals in schools have become an integral part of learning and building a strong cultural belief in a child, Students will remember an important day only if they are told what the occasion signify, making them aware of the world in a more fun way. Due to nCOVID-19, school is not open for students. So students are engaged in various curricular activities at their home in a virtual way. Students celebrated World Yoga Day (212 students), Independence Day, RAKSHBANDHAN(205 students), JANMASHTAMI(391 students), innovatively GANPATI idol making(295 students), Dish decoration on occasion of Gauri Vrat(275 students), Best out of Waste(206 students), Rangoli celebration(298 students), Decorate small clay pots(201 students), Essay writing(198 students), Rakhi making(161 students), card making(191 students) were celebrated during the year from their home.

Education department of Govt. Of Gujarat has announced to reopen primary school of Class VI to VIII. Therefore, offline classes of class VI to VIII started from 18/02/2021 with prior and proper parents' consent letter and proper precautions. Students celebrated World Science Day, Water Day and Drawing competition in school premises with proper SOP given by Gujarat Govt. Special awareness session for adolescence girl students of schools was arranged on topic of Menstrual Hygiene conducted by Dr. Kajal Mangukiya (Gynecologist). As a part of Woman's Day celebration, about 71 girl child have given a benefit of Sukanya Smruddhi Yojana. About 9 Students of Class V are preparing for JNV (Jawahar Navodaya Vidhyalaya) entrance examination which will be conducted in May-2021. Total 16 students of the school are studying under RTE Act. As well as 15 children are single parent children whose fee are paid by Adani Foundation.

Capacity building for Teachers':

Values are the most integral part of human overall development. Value Education forms the character. A special 3 days Capacity Building cum Training Program for teachers, was organized on 19 to 21/01/2021. Prof. Deepakbhai Teraiya and Uma Teraiya were resource persons. The main objective of this training was to cultivate qualities like teacher-student relations, confidence, observation, instinct, excellence, self-assessment, introspection, sensitivity, to see the good in the near and dear ones, keep positive approach, and keep relationship alive and to understand the power of values. Offline seminar was conducted on, Professional Etiquette for teachers by Ms. Hiral Pandya, Manager, ASDC. A webinar on, ignite your inner fuel was conducted for teachers.

Teachers of primary wing of Navchetan Vidyalaya, Junagam updating themselves by doing various online courses. From June-2020, 15 teachers of primary wing have completed 113 various online certificate courses, like Development of individual-social qualities and creation of safe as well as healthy school environment' 'Curriculum and inclusive classrooms', 'Health and wellbeing in school', 'Action Research', 'N.C.F. 2005 and Social Sciences (upper primary)', 'NEP-2020 Early Childhood Care and Education etc.

Sr No	Name of Village	Total HH	Total Population
1	Hazira	4443	16724
2	Mora	3802	13924
3	Suvali	975	4165
4	Junagam	698	2532
5	Bhatlai	1144	4066
6	Damka	1331	5604
7	Vansva	584	2498
8	Rajgari	318	1300

B. Sustainable Livelihood Development:

SDG Alignment: 2/1.1, 2.5

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

Demographic information of the core village

The Adani Foundation is the Corporate Social Responsibility arm of Adani Group with a vision to "Accomplish passionate commitment to the social obligations towards communities fostering sustainable development thus improving quality of life". It's an integrated infrastructure conglomerate that is committed to inclusive growth and sustainable development in not only the communities it operates in, but also in contributing towards nation building. The Adani Foundation – Hazira j has been running several activities and catering to the needs of the local community residing in 8 core and 15 peripheral villages. The mainly OBC dominated population in this area.

The year 2020-21 is challenging year for entire glob COVID-19 Pandemic impacted lakhs of people AF Hazira team also facing new challenges due to Covid 19 Pandemic. Adani Foundation team has started

helping local community during lockdown to keep commitment towards the community. Team helping needy immediate distribution of ration kit distribution of mask and sanitizing village and creating awareness about social distancing and motivated them for following lockdown guideline. After normalcy day people realize fearless atmosphere. Adani Foundation contributed largely towards the

surrounding communities of Hazira kantha area in respect to its varied domains. Each domain has its set of objectives. All the objectives are fulfilled keeping in mind the vision of AF towards framing a better society all around its catchment area. This Annual Report throws light on Adani Foundation's activities performed and initiatives taken.

Adani Foundation in collaboration with BAIF institute for Sustainable Development (BISLD) is implementing Cattle Breeding Centre since November 2017. 1st phase of the project is completed on 31st March 2020. After looking the positive impact of the project signed A new MoU for 2nd phase of the project for 3 years 2020 – 2023. Animal Husbandry Project (Kamdheni Project) in 23 villages Near by Adani Hazira Port limited. Objective of this project is improving local breed of cattle and increasing milk production for achieving that objective AF support to farmer for Artificial insemination, sex sorted semen, infertility camp, vaccination promoting quality fodder and training and exposure visit for beneficiaries to creating awareness for profitable business through dairy farming Program Objective: Create self-employment/ supplementary income through animal livestock

Implementation strategy of kamdhenu project.

Awareness through various meeting training and exposure visit we are creating awareness among cattle owners regarding best practice of livestock management. such intervention builds positive attitude towards dairy farming and they realizing importance of business learnt from others those who are earning good income through this activity.

Focus on cattle health: - Protection of animals against hazardous bacterial and viral diseases like Hemorrhagic Septicemia (HS), Black Quarter (BQ) and Foot & Mouth Disease (FMD) is far more important. These diseases create heavy economic losses in terms of reduced production level and farmer has to bear huge treatment cost as well as threat of animal loss in severely affected cases.

Allied services: -To provide platform for the dairy farmers to get together and share information about modern scientific practices in Dairy Cattle Management. To get feedback from the farmers to get enough relevant materials for policy and programme formulation. To promote interaction among dairy farmers. To increase awareness among farmers about scientific dairy management practices, training through technical experts is essential. This will be helpful to solve the queries and problems encountered while doing dairy farming also. Training programmes will be organized at individual village level.

Kamdhenu Project status as on 31st March 2021.

Sr No	Name of CBC	Cattel Population			AI			During the 2020-21			
		Cow	Buffalo	Total	Progress during the march			AI	PD	PD Confir m	Calving
					AI	PD	Calving				
1	Barbodhan	3542	6578	10120	64	53	18	806	511	280	345
2	Junagam	5149	4386	9535	79	56	30	745	451	273	397
	Total	8691	10964	19655	143	109	48	1551	962	553	742

Total 742 Calving since inception of the project at Barbodhan and Junagam centre.

Project Activity planning / Achievement

Sr No	Project Activity	Total Unit Plan	Achievement
1	Livestock training/meeting	05	05
2	Exposure visit	0	0
3	Calf rearing	0	0
4	Deworming	3000	3451
5	Infertility camp	10	10
6	Fodder plot	30	31
7	Sex sorted semen	80	92
8	Artificial insemination	1400	1551
9	Silage distribution	30	30
10	Vaccination	3000	3072
11	Mineral mixer	250	250



Infertility camp: -

Objective of the Infertility camp

- ✓ Reduce long inter-calving period by timely detection of causes of infertility.
- ✓ Unproductive cattle become productive.
- ✓ Providing better veterinary service at farmer's doorsteps.

During interaction with farmers we tried to find out efforts taken by them for their animals in which we found that they are following traditional management practices resulted to get stunted growth long age maturity, ultimately hampers on low milk production. Unawareness about scientific management practices. We also tried to solve their queries. During this infertility camp we tried to discuss and provided scientific information on below mentioned topics.

Due to negligence among farmers especially feed and fodder, feed supplements, preventive health care animals are suffering from gynaecological disorders like anoestrous and long inter-calving period. Apart from this farmer are not able get animal health care services in time from technical experts resulting heavy economic losses by rearing unproductive animals for long duration. If they will get health care services in time problems encounter in their animals will diagnosed and treated intime.



10 Infertility Camps and General Health Camps organized in Bhandut Tunda, Kukni, Segvachhama, khosadiya Dihen, Ambheta and Tena village. In these camps 351 animals were treated. Camps were held at common locations of each village. Animals were treated by Dr. Shinkar of BAIF Institute Sustainable Livelihood Developments and Dr. Amol Vagh Interactive sessions were also held with beneficiaries and following points were observed.

OVERALL OBSERVATIONS IN CAMPS

At present there is ad lib green grasses avail at field level so that farmers give two times the green grasses to animal which effects on digestive system of animal and causes diarrhoea. Due to poor post calved management it ultimately Mastitis happens in new calved buffaloes at Farmer's Door Step we demonstrated the Ethno Veterinary Medicine on Mastitis Animals Problem of abortion in advance pregnant animal is happens due to fight in herd during grazing so, advice to keep advance pregnant animal at backyard only for due care. Overall Health condition of animals presented for treatment was good. Heifers having avg. age of 6 to 8 years are having problem of undeveloped. uterine organs which is due to deficiency of Trace minerals. The buffaloes presented for camp has mostly problem of anestrus behind this there might be two factor first that not knowledge of effect of minerals in feeds and second is heat detection in buffaloes. Guidance given to farmers about silent heat and heat sign in particularly in buffaloes Due to unavailability of veterinary aids animals are not able to get proper treatment at initial stage of affection/disease condition.

Animal Treated through Infertility Camp Since inception of the Project.

Sr. No.	Year	No of Village	Total Animal	Repeat Breed Animal	An Utters Case	Total Animal	Animal Heat cycle Regular	AI	Examination Of Animal	Pregnant Animal	Calving		Abortion	Sold
											Male	Female		
1	2017-18	4	135	47	64	111	94	94	92	46	21	20	2	3
2	2018-19	6	207	78	129	207	179	179	179	89	43	37	7	2
3	2019-20	8	244	104	65	169	152	152	151	80	39	37	1	3
4	2020-21	10	348	83	89	172	120	120	60	28	0	0	0	0
		28	934	312	347	659	545	545	482	243	103	94	10	8

Total 934 animals from 12 villages were presented for treatment.

Total 659 animals were presented for gynecological disorders out of which 347 animals were treated for Anestrous and 312 animals were treated for problem of Repeat Breeding. Silent heat is the major problem in buffaloes due to which farmer is not able to inseminate their animals in time resulted long inter-calving period and farmer has to bear heavy economic losses for rearing non-productive animals for which mineral mixture is provided as well as awareness among them was created for regular use of minerals to all growing and lactating animals for better productivity. Total 659 animals were treated for various clinical disorders and almost all were recovered from disorders. Follow up of treated animals is going on for animals presented for gynecological disorders out of 659 animals 545 animals were inseminated after treatment and 482 animals were examined for conform pregnancy out of examined animals 243 are found conform pregnant.

197 cattle converted to unproductive to productive and improved health condition. The average annual milk production per cattle should from 0 to 1500 ltr. The total annual milk production has raised from 0 to 2.95 lakh ltr. Which is sold @40 Rs, average per ltr. Therefore, Total incremental income of Rs.1.18 Crore was generated since inception of the project. Thus AF able to support 197 Household in regenerating incremental income from nonproductive cattle to productive cattle through infertility camp.



Year wise Village wise details from 2017 to 2020.

Sr. No.	Year	Village	Total Animal	Repeat Breed	An Utters Case	Total Animal	Heat cycle Regular	A I	Examination Of Animal	Pregnant Animal	Calving		Abortion	Sold
											Male	Female		
1	2017-18	Malagama	26	11	15	26	17	17	17	9	4	4	1	0
2	2017-18	Segava Chhama	24	7	11	18	12	12	12	7	3	4	0	1
3	2017-18	Bhandut	50	21	23	44	30	30	30	15	7	8	0	2
4	2017-18	Kukani	35	8	15	23	18	18	18	9	3	4	1	1
5	2018-19	Segava chhama	33	14	19	33	24	24	24	14	6	6	1	0
6	2018-19	Bhandut	32	10	22	32	17	17	17	12	5	6	1	0
7	2018-19	Khosadiya	30	13	17	30	21	21	21	11	5	6	1	0
8	2018-19	Tena	39	11	28	39	24	24	24	12	5	4	2	1
9	2018-19	Tena Rang	30	11	19	30	19	19	19	10	5	4	1	0
10	2018-19	Junagam	43	19	24	43	32	32	32	18	9	8	1	0
11	2019-20	Khosadiya	25	14	2	16	12	12	12	8	0	0	0	1
12	2019-20	Kukani	32	9	4	13	11	11	11	5	0	0	0	0
13	2019-20	Segava	33	15	5	20	18	18	18	9	0	0	0	0
14	2019-20	Ambheta	24	9	8	17	13	13	13	7	0	0	0	1
15	2019-20	Bhanudt	30	12	14	26	18	18	18	9	0	0	0	0
16	2019-20	Tena	30	18	11	29	20	20	20	11	0	0	1	0
17	2019-20	Tena Rang	39	11	16	27	18	18	18	10	0	0	0	1
18	2019-20	Malgama	31	16	5	21	17	17	17	9	0	0	0	0
19	2020-21	Tena	57	17	29	46	32	32	30	14	0	0	0	0
20	2020-21	Tena rang	57	18	09	27	18	18	16	07	0	0	0	0
21	2020-21	Mota Khosadiya	37	03	01	04	03	03	03	01	0	0	0	0
22	2020-21	Bhandut	28	08	09	17	12	12	11	06	0	0	0	0
23	2020-21	Nana Khosadiya	37	11	08	19	13	13	0	0	0	0	0	0
24	2020-21	kukni	28	13	09	22	17	17	0	0	0	0	0	0
25	2020-21	Segwacha ma	34	07	03	10	07	07	0	0	0	0	0	0
26	2020-21	Ambheta	27	03	03	06	04	04	0	0	0	0	0	0
27	2020-21	Dihen	22	02	10	12	08	08	0	0	0	0	0	0
28	2020-21	Tunda	21	01	08	09	06	06	0	0	0	0	0	0
		Total	934	312	347	659	545	545	482	243	103	94	10	8

"Timely treatment to save production losses"

Livestock has special importance in areas having low agriculture income and poor resource endowment. It provides alternative and stable income to the farmers. Livestock and their products provide direct cash income and the animals are the living assets for many farmers. Monitoring animal health and prevention and control of disease is integrated part of dairy industry by considering this infertility camps are organized in project villages of Adani Foundation Hazira to gain an understanding of the general livestock health status; management practices and prevalent diseases/problems in the area so that livestock related interventions could be taken up systematically as CSR initiatives in succeeding years. Jigishaben from Ambheta village is engaged in dairy farming, her herd comprises of 8 buffaloes, 2 crossbred cows and 5 calves and average milk production is 45 to 50 liters per day. She is able to earn Rs. 60,000 to 70,000 per month by selling milk which has enabled to run his house smoothly. One of her buffalo was suffering from Mastitis. Initially that buffalo was producing 10lts of milk per day but due to painful swelling on udder affected buffalo didn't allow to milk so she immediately contacted local vet who treated buffalo. After treatment swelling was reduced but there was problem of letdown of milk in last hind quarter due to which milk production was reduced by 5 liters/day as well as she has to injections to let down of milk. She was very much worried about the problem faced by her buffalo. She came to know from leading person of her village that General health camp is organized in her village by Adani foundation in collaboration with BISLD-Gujarat. With positive hope she visited at camp site and briefed about the problem faced by her animal. By seeing the previous history Veterinary officer of BISLD treated the animal and advised to continue the treatment for next two days. Consecutive treatment for three days helped affected animal to overcome the problem and on 5th day buffalo started to give 9lits of milk per day without use of hormone injections.

- Jigisha ben is very much happy and proudly saying that due to proper treatment in infertility camp helps her to save approx. Rs. 20,000 in present lactation of affected animal.



Sr .	Nam e Of Centr e	No of Village	No of Bene ficiar y	Bree d	No Of Anim als	Averag e Market Rate	Total Value In Lakh
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						inR Lakh	
1	Barb odha n	10	38	Cows	15	0.40	6.00
				Buffa lo	25	0.60	15.00
				Total	40	--	21.00
2	Juna gam	5	29	Cows	29	0.40	11.60
				Buffa lo	19	0.60	11.40
				Total	48	--	23.00
3	Total	15	67	Cows	44	0.40	17.60
				Buffa lo	44	0.60	26.40
				Total	88	-	44.00

Overall impact of the Cattel breed centre Cattel Sold by Farmer		
Sr No	Particular	Total Income in Lakh
1	Total 94 female calf born in project villages after infertility camp	7.05
2	Total milk production increased after infertility camp	118.00
3	Total 08 Pregnant Cattel sold	4.80
4	0 to 6 month age female calf	1.00
5	6 to 12 month age female calf	2.34
6	12 to 18 month female calf	4.05
7	18 month above female Calf	3.80
8	Saving on Green fodder Total 761 Tone production	74.80
		215.84

Community Contribution Details Since Inception of the Projects.

Sr No	Year	Capacity Building	Sex Sorted Semen	Allied Activities	Total
1	2017-18	7400	0	64850	72250
2	2018-19	39000	2000	96925	137925
3	2019-20	19400	26400	105600	151400
4	2020-21	0	25200	114770	139970
		65800	53600	382145	501545

Community contribution reflects ownership and interest of the community in the intervention. It will make the program sustainable.

Training on Livestock management: -

Objective-

Creating awareness among Cattel owner on livestock management

Sharing experience of progressive women's from Banas dairy

Five training program and one webinar organized during the Year at Ariyana Khosadiya, Ambheta, Kukani and Dihen village. Topic of the training was fodder management, calf rearing timely vaccination. Expert from BAIF was Give presentation to Cattel owner Total 169 Participant participated in the training.

Major Topic Covered during the training

During this webinar discussed and provided scientific information on below mentioned topics.
Importance of Deworming and Mineral Mixture
Formulation of Balanced concentrate ration for milking animals.
Gynecological disorders and its complication.
Causes of low milk production
Causes of anestrus condition in buffloes

Problem of silent heat in buffaloes



Improved Green Fodder Cultivation

Name Of CBC	Year	No of Farmer	Name of Fodder	Total Area covered in Acer	Total Production (Tone)	Market Rate Rs. (Tone)	Total Value in Lakh.
Barbodhan	2019-20	17	BNH-10	11.5	1065.0	2200.0	23.43
	2020-21	31	BNH-10	17.6	0.0	2200.0	0.0
	Farmer adopting due to AF Intervention	25	Bullet / BNH-10	16.6	2335.0	2200.0	51.37
Total		73		45.76	3400.00	2200.0	74.80

- Total 73 farmers saved Rs.74.80 Lakh on Green fodder due to AF Intervention. Green fodder not only saved expenditure but improved cattle health and milk production. 45-acre land will produce green fodder for 7 years with minimal investment.



SELF HELP GROUP

Adani Foundation is working with SHGs groups in nearby peripheral villages (08 villages). Adani foundation is continuously working with SHGs to empower them and make them self-sustained. In past Adani Foundation has done income generation activity for their sustainable life and improving their living standard.

Self-Help Groups are informal/formal associations of people who choose to come together to find ways to improve their living conditions. They help to build Social Capital among the poor, especially women. The most important functions of a Self-Help Groups are (a) to encourage and motivate its members to save, (b) to persuade them to make a collective plan for generation of additional income, and (c) to act as a conduit for formal banking services to reach them. Self-Help Groups have emerged as the most effective mechanism for delivery of micro-finance services to the poor.

The Self Help Groups (SHGs) Guiding Principle stresses on organizing the rural poor into small groups through a process of social mobilization and capacity building through exposures and other trainings.

Women Empowerment:

In Hazira, women are depended on male members of family for their needs. Considering this situation, we have decided to work on women empowerment. Initially mobilizing women and sensitizing them for coming at one platform to discuss their issue. Hazira kantha area established 24 SHG group with 350 members in 5 villages. During this year 4 SHG group Started Income Generation Activity. Due to lack of financial support from other agency they are decided to start small entrepreneur at own resource.

Women Empowerment Projects Step towards socio-economic Development:

Sr. No	Name of group	Members	Work	Avg Income of group
1	Pragati Sakhi Mandal	13	Masala and seasonal Business	12,000
2	Roshni Sakhi Mandal	10	Snacks and Papad	15,000
3	Pardevi Ma Sakhi Mandal	10	Pickles and Masala	8,000
4	Nand Sakhi Mandal	10	Mask Making Activity	16,000
Total		43	Total Avg. Income of Group	51000



Remaining 20 SHG are regularly saving, internal money lending and agriculture and dairy farming. Now they are understanding importance of group and collectiveness. They have realized they are not getting better prize of vegetable in market. Now we are planning to form FPC and train them in some value addition activity.

Bhatlai Village organization: The VO is envisaged primarily to play the role of a financial intermediary along with providing other services to the SHGs in book keeping, auditing, bank linkages and other linkages with developmental programs, line departments, etc. The VO is also envisaged to take up social issues and other developmental issues like food security, health, education, marketing, etc. Thus the VOs will not only assist in but also lead to the overall socio-economic development of the members of the SHGs and village. During this year we have formed 1 Village organization at bhatlai village. Total 10 SHG and 100 women households have become members of village organization. From each SHG, 2 leaders are nominated as VO member. VO will be getting loan for income generation activity at house hold and group base.

Sr.No	Number of SHG	Members	Savings	Money Lending	Govt.CC loan
1	24	350	7,12,400	4,14,000	2,00,000

Celebration of International Women's Day:

Objective: To recognize the contributions made by women members in nation building and awarding individuals who stood outstanding in various field of development.

Guests:

1. Dr.Janak Sing Rathod (Head KVK Surat)
2. Mrs.Geeta Bhimani (Subject matter Specialist)
3. Falguni Desai (Taluka Livelihood Manager),
4. Chhotubhai (Sarpanch, Bhatlai Village),
5. Dr.Kajal Mangukiya (Gynecologist)

About the event celebration:

As the countries across the globe celebrate International women day, Adani Foundation, with the theme of "Choose to Challenge" create awareness among the area of intervention villages and its neighbouring village to be part of the event celebration and sent an invitation to these villages beforehand. In line with the objectives of the event, Adani foundation organized International National Women Day 2021 on the 8th March 2021 at Community Hall, Bhatlai Village. The event primarily focused on recognition and acknowledgement of women's participation and contribution towards nation building and awarding

those individual who excel in their various fields of livelihood promotion, social mobility, educations and social actions and mobilisers.

The event got inaugurated by lightning of Lamp and prayer by dignitaries present for the event which was followed by welcoming speech and honouring of Chief Guest and Guest of Honour by Adani Foundation promoted SHG's. Janak Sing Rathod Head and Senior scientist KVK Surat shared objective of the event and shared his experience of women empowerment he also advised SHG's members for formation of FPC and work as a group for betterment of society.

Ms. Falguni Desai, Taluka Livelihood Manager. She describes in details about the system and process adopted in Group formation, the savings and credit process, the rate of interest calculations and disseminate information about SHG newly adopted process. She mainly focuses on the importance of group bonding, importance of Leadership which is the key to sustain SHG. She took also announced various government scheme for Self Help Group as well as Government fund utilization in Income Generation Activity for such Groups. Shri. Chhotubhai, Bhatla Village Sarpanch during his speech acknowledged the role played by women folks in overall development of the village, block, state and nation at large. He also ensures that women have huge scope to play a vital role in nation building. He talked about the tremendous efforts put in by SHG and appreciated the various income generation activities taken up by women folks in the village. Mrs. Geeta Ben Bhimani Taluka Development Office, gave an inspirational Speech for women members and shared transformational story of SHGs. *She had shared detailed information about impact of food and vegetable on human health.* She appreciated the efforts put in by Adani Foundation in empowering rural folks especially women members and shared her gratitude for inviting her in such an important program. The program ended after awarding certificate and prize to those who participated in food competition. There were around 225 women present in the event.

Way Forward:

- To promote SHGs to Village Organization (VO)
- To establish Income Generation Resources with the help of Government
- To promote FPC and small business enterprise





Awareness on Natural Farming for Self Help Group:

Adani foundation organized meeting with SHG members in Rajgari village on organic farming. Mr. P.K. Gaveriya from OPEDA (Organic Produce Export Development Authority), Mrs. Falguni Desai (DRDA) and Lataben (progressive farmer of Mandroi village) were present in meeting. Mr. Gaveriya explained benefits of organic farming and how it is beneficial for farmers and community. He told about certification for organic farming and why it is necessary to get certificate from OPEDA. Mrs. Falguniben shared information with SHG members about recently launched mukhya mantri mahila utkarsh yojana and how SHG group process their application for loan. Mrs. Lataben shared her journey about organic farming with SHG members, Do's & Don'ts of organic farming and motivated them for subhash palekar's model of cow based farming. 48 members from sakhi mandal were participated in the meeting.



Atamnirbhar SHG

Under scheme of Gujarat Livelihood Promotion Company many Self Help Groups (SHGs) have been created in villages of hazira coastal area of Surat district. one of them is "NAND SAKHI MANDAL" in Junagam village. It was created in 2016, there are 10 registered members of the said SHG and all are resident of Junagam, The SHG was in passive mode till 2017. The Socio - economic status of the members are very low, the financial condition of all these members are very poor. Thus they were regularly searching for any opportunity to earn livelihood. The members of Nand Sakhi Mandal have taken training for sewing and stitching but they were using their skill for domestic purpose but unable to enhance their skills for commercial aspects.

Main source of income comes from daily wages and labour work in nearby industries.

Thus their socio economic status was very low. They are in constant search of something which will provide them income on regular basis to earn a decent lifestyle with self-respect. Nand Sakhi Mandal came in contact with adani foundation in 2017. Foundation met sakhi mandal and inquired about current status of group and started nurturing of group through interaction with members, book keeping training, leadership training, exposure visits, capacity building through various trainings. After these interventions AF was able to develop their self-confidence and skills to run SHG groups regularly. Among group members, Mrs. Nishaben Dineshbhai Patel, President of SHG group and women of ethics wants to do something with her life and wants to change fate of women associated with nand sakhi mandal. She is motivated and self-driven and able to take leadership when situation arises. In March 2020, there was an epidemic of corona and entire world got effected from this disaster. Industries and businesses irrespective of size, got affected in this situation. Govt. announced lockdown and people started migrating from working areas. It is difficult time for villagers in hazira Kantha villages. In this pandemic situation SHG group asked for help from adani foundation. Adani foundation wanted to help them but not at the cost of self-respect. After discussion with group, we planned to start production of washable cloth face masks. This way we were able to utilize their skills and they also felt sense of pride in their work. They were able to earn money through hardships and learnt an important lesson of life that nothing comes easy in life. Through collective efforts they were able to prepare 13,400 masks in one months and earned rs.4 per piece for preparing masks. Best part of this activity is that when entire world was exhausting their life savings for food and other essentials, at that time 10 women of SHG group in small village in coastal area earned money through their hardship and played a role of responsible citizen by producing masks for citizens and their loved ones. Responsibility reflects from their thoughts and action. They thank Adani foundation for support and guidance in this activity. Group members showed their strength and unity and became example for other groups.

Case Study – Best Agriculture Practices

Name of farmer: Uttambhai Jamubhai Patel Village: Suvali Block.Choryashi

Uttambhai Jamubhai Patel is a 62-year-old farmer of Suvali village. Livelihood of his family depends on this agriculture land of 3 bigha received from his forefather as a means of earning, he has completed his primary education up to 5th standard from school in Suvali village. There are total 12 members in his family, 3 sons with in laws and 4 grandsons. They depend on produce of this agricultural land, throughout his whole life he has done agriculture in traditional way. He was skeptical about experiments in agriculture. since last 3 years in our agriculture workshop and meetings, we have put emphasis on chemical free farming and cow based agricultural practices so that farmers are able to generate higher produce from low investment and pesticide free agri-produce. 6 months ago Uttambhai Patel attended meeting for agriculture and livestock in Suvali village organized by adani foundation. During meeting our expert explained about importance of jiwamrut, Bijamrut, Ghanjiwamrut and Nimastra pesticides made from cow dung, Cow urine and other small items present in every kitchen. Jamubhai and various other farmers have shown interest in jiwamrut and wanted to apply it on their farms. AF representative met Uttambhai and his family on his farm and again explained him importance and benefits of jiwamrut and told him to collect ingredients for preparing jiwamrut. Next day our representative prepared jiwamrut in front of all family members to demonstrate the process of jiwamrut making and told them to preserve it for next 8 - 10 days and after that start applying it on produce through spray pump or sprinklers.

He is producing papdi vegetable since long time and used to get 60 quintal produce from his 3 Bigha land. But this time after applying jiwamrut in crop, he saw improvement in both, quantity and quality. In current season he got 60 quintal production from his land and due to increase in size and shine of papdi after applying jiwamrut, he got higher rate per kg. Since the product was completely chemical free and organic, Uttambhai got attention of buyers in vegetable market. The customers wait in market to buy vegetables from Uttambhai and he is able to sell his produce in hour or two and return home early.

Earlier, his crop was not shiny and healthy and as a result he got bad price for his crop and got mere Rs 1000 for 20 kg. However, after applying jiwamrut quality of crop improved and he started getting better price i.e. Rs. 1500 for 20 kg. As of now, the crops are very healthy and fresh. He said that current rate of 20 kg crust is 2100 rupees. In last 7 months, Uttambhai has earned 3,20,000 rupees and after using jiwamrut he has earned around Rs.50000 additional incomes. Nowadays he is the brand ambassador of jiwamrut and organic farming in hazira Kantha Vistar villages of Choryasi taluka. He has earned his name among progressive farmers in his village. We tell others about his achievements in our training programs for motivation. Now he is also giving guidance and support to farmers who want to adopt natural farming.



Livelihood support for tribal (kotwalia) community

Kotwalias are one of the Primitive Tribal Groups in southern Gujarat. Only 6% of total Kotwalia families hold agricultural land from ancient times, Kotwalias have been considered as untouchables. They were given spaces outside the village areas to build their houses, and not allowed to Participate in the village discussions. Traditionally Kotwalias had expertise in bamboo craft and it was the major source of income for them. With every passing day it was realized by community that with old practices and limited exposure it would be difficult to continue with same occupation. So this forced them to shift from traditional work to contract labor in agricultural fields. In short they were confronting structured unemployment. Over a period of time Migration to sugar cane field became their major seasonal livelihood. Mostly Kotwalia families migrate during winter season for sugar cane cutting. In sugarcane cutting, Kotwalias work as a bonded labor for a contractor. So contract labour work became destiny for kotwalia families. In our intervention for livelihood support, we have provided milch animal to 7 marginalized households of kotwalia community of Jamapur village SHG. "Parivartan Mahila Bachat Dhiran Juth, Jamapur" created by women's of kotwalia community of jamapur village is running successfully since last 10 years. Due to this intervention they will earn regular income through dairy cooperative. Regular income will support their children in getting good education, improve health, and improve living standard of 7 poor households. They will get fodder for cattle from farm where they work as farm labour. Milk Cooperative is also present in village where they can sell their milk and get regular payment. Milk Cooperative also provide fodder for their animals. Collectively More than 1000 litre Milk deposited by 7 households in milk co-operative and earn more than 50 k in a month.

C. Community Health:

SDG Alignment

Goal 3. Ensure healthy lives and promote well-being for all at all ages

The Adani Foundation firmly believe that improving the health of citizens can directly result in economic growth of the nation. Healthy people can utilise growth opportunities made available to them in a better way. Adani Foundation have committed itself to raising the standards of and strengthening healthcare systems in and around our operational village in Hazira area to ensure healthy lives and promote well-being at all ages in alignment with Sustainable Development Goals of the UN.

De-addiction Programme: Taking the need into consideration, Adani Hazira Port Pvt. Ltd. supported a de-addiction drive, which was organized for the people of the surrounding villages of Hazira and Oplad. This programme started with general awareness campaigns about the life hazards of any kind of addictions. Posters with very strong appeal and messages were displayed village in community places. As a result of this campaign, a lot of people suffering from addictions came forward for their treatment and rehabilitation. Such cases were referred to the Parivartan trust surat for 21 day's residential treatment. This year 20 Individual get benefited through this program.

Health Camps: Adani Foundation regularly conducts various general camps for the benefit of local communities in and around its operational villages as per requirement. Health camps were organized in villages Suvali,Bhatlai,Damka Rajgari and Vansva where services of gynaecologists for women health issue at Mora,Hazira and Suvali Health centre in collaboration with local Primary health department. were provided to the community members at zero cost. 635 Around villagers from the nearby villages attended and get the treatment through these camps. Free of cost follow-up services were also made available for de-addiction.



Awareness Session with Health worker



Awareness Session with Health worker

COVID 19 related Activities.

A. Covid-19 Relief work: -

Sanitization of villages Hazira, Suvali, Junagam, Damka, Rajgiri and Bhatha

AHPPL Contributed Grocery, Edible Oil & Vegetables in Community Kitchen run by MLA Choryashi Smt. Zankhanaben Patel

distribution of 5000 rice kits to marginal family and Provided transportation facilities to Govt. Authorities for food packets supply and Dhanvantari Rath. Distribution of 400 grocery kits to marginalized household identified by local community leaders with the help of police department. (Rice-2kg, cooking oil-1 ltr Dal- 2 kg, Haldi, dhaniya, mirchi 100 gm, Salt 1 kg Potato and onion 1 kg Parle G-1 Paket) in Hazira, Rajgir & Junagam village of Hazira kantha area. We have received Support from Adani Willmar for edible oil and chemical for sanitization Created awareness among community about social distancing and explained Dos and don'ts and encouraged people to strictly follow state government and central government advisory on COVID-19 and also distributed mask to 700 needy individual at village Hazira.



Summary of initiatives: -

S.No	Activities	Beneficiaries
1.	Mask preparation/ distribution	700
2.	Distribution of Ration Kits	2000
3.	Community Kitchen	5000
4.	Food (Cooked) Pkt distribution	0
5.	Sanitization work	35325
6	20 Tin Edible oil (15 L each), 500 Kg Flour, 1000 KG, Potato 500 Kg, Onion 25 KG, ginger 25 Kg, Garlic and 25 Kg Green chili Financial support for 5000 Rice kit (Amount Rs.5 Lakh)	5000

B. Emergency Support for Oxygen supply to New Civil Hospital- Suart

Adani Foundation Hazira helped the New civil hospital -Surat in fighting COVID-19. Adani Foundation-Hazira donated three vaporizer systems of capacity 1000 m³ and two oxygen pressure reduction systems for availability of oxygen for COVID patients in New Civil Hospital, Surat. The donated equipment will ensure oxygen supply to 2200 more patients without pressure drop if continuous liquid oxygen supply is maintained.



Promotion of Rural Sports.

SDG Alignment

SDG 3: Good Health and Well Being Training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic Sports

Adani rural Cricket tournament 2020-21 was organized in village Junagam at Navchetan cricket ground where total number of 40 teams from 33 villages 600 players participated in the tournament. Rural youths from across these villages took active participation and played with game spirit to win the tournament. Rs.3.40 Lakh total community contribution received during this year. such sports events on cricket tournament helped AF in creating positive impact around area especially among youth and village communities. During the inauguration ceremony, community leaders and village Sarpanch were present. These leaders have acknowledged the efforts put in by Adam Foundation in building the nation and supporting rural communities through various means. All Leader motivated rural youths to give their best talents and to succeed in life. They also appreciate AF effort on encouraging Rural sports. AF provided t-shirts, trousers, sports materials, prize, logistic support and a ground maintenance for practice at Navchetan Cricket ground Junagam.



D. Community Infrastructure Development: -

Sr No	Name of Work
1	Pond deepening at Damka village
2	Support for Scholl Building at Junapura
3	Staircase Facility at Navchetan Vidhyalay Primary wing Junagam



Employee Voluntary Program: "Joy of giving"

As a socially responsible organization, Adani group intends to fulfil its commitment of giving back to society by extending their employees' time and skills to deepen their reach and enrich their engagement with all the stakeholders. It is not only for an organization to be a partner to non-profit organizations but we also believe our employees could actually be part of these programs and we could get their talent together and work towards a better tomorrow. All our volunteering programs are cause-based programs. "Through employee volunteering programs, our employees act as the ambassadors between the company and community. Such programs help in building relationships between employees and the community.

This year EVP activities are as follows:

1. Cloths distribution in halptiwas community of Hazira, Suvali, Damka and Vanswa villages.
2. Sweets distribution in halpatiwascommunity At hazira and suvali.



Beneficiaries Details of Hazira site for the Financial Year 2020 – 21: -

Sr No	Activity	Beneficiaries		Remarks
		Direct	Indirect	
A	Community Health			
1	Transportation support for dhanvantari Rath	1500	7500	
2	Health Camp	343	1715	
3	Gynec doctor visit	292	1460	
B	Sustainable livelihood development			
1	Kamdhenu Program	2978	14890	
2	Training on Mask preparation and Tailoring	35	175	
3	Rural Sports	600	0	
4	women day celebration	225	0	
5	SHG capacity building	350	1750	
6	world environment day celebration	50	0	
7	Celebration of forest week	25	0	
8	Livelihood support to tribal community	07	35	
9	Promotion of natural farming	18	90	
C	Education			
1	Utthan	1403	4209	
2	NPVW	443	1329	
3	JNV and NMMS	1367	0	
4	Drinking water facility through RO plant	800	0	
D	CID Work			
1	Water Conservation	69	5604	
2	School building Support for Junapura	750	2250	
E	Project Suposhan			
1	Suposhan program	3759	18795	
F	Employee volunteer program			
1	Joy of giving	160	800	
G	Covid-19 Relief work	48025	35000	
	Total beneficiaries'	63199	73102	

Details of CSR Expenditure of FY 2020-21

Sr No	Particulars	Budget 2020-21			Actual Expenditure end of March 31 st 2021
		Capex	Opex	Total	
1	Education- (Other than Utthan Project)	00	64.95	64.95	40.98
	Education- Utthan Project	00	87.87	87.87	40.41
2	Community Health	00	16.65	16.65	8.43
3	Sustainable Livelihood Development	00	45.98	45.98	43.76
4	Community Infrastructure Development	00	23.50	23.50	67.61
5	Other (Admin and Miscellaneous)	3.48	12.70	16.18	22.42
	Total	3.48	251.65	255.13	223.61

CSR Expenditure of last three Years:

Year	Budget	Expenditure
2018-19	307.53	253.50
2019-20	330.53	265.75
2020-21	255.13	223.61

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वर्कशीट, टी.एल.एम. अने जडरी
अभ्यास सामग्री आणि भाषाकोनी रस-
बुद्धिवाणी प्रवृत्तिने दारा लक्षावधाना
आवी रक्का छे.

भाषाके पत्र ज्यारे वांछा समघर्षी
साधनां जर शिक्षण मेळवीत शकनां नवी,
त्यांचे आ उपेक्ष भुजवात दारां योक्षेरे
साध-सत्कार आपीने लवी रक्का छे.
अदार्शी कौटुम्बिक दारा जथां सुषी
साधनां पुनःपुनः नति लीतं सुषी, आ
रीते विचारविमोहा घरनी मूलाकात लर
शिक्षणकार्यं यावु ज दानवानां आवशे
अने भाषाकोनी शिक्षण ने व्यापित थवा
देवानां नति आवे.

[illegible]

	Adani Hazira Port Limited	From: October 2020 to March 2021
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Annexure-3:

Compliance Status of EMP as mentioned in the Integrated EIA Report, Sep. 2012:

Compliance Status of EMP as mentioned in the Integrated EIA Report, Sep., 2012:

S. No.	EMP Conditions	Compliance Status as on 31.03.2021
I.	AS PER TERRESTRIAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT: -	
A	CONSTRUCTION PHASE:-	
1.	Dredged Soils Management Plan: AHPL has been permitted to dredge about 37 million cubic meter of soil, which shall be reused for backfilling in the project site. The dredged soil samples will be collected and analysed periodically for designated pollutants as per the recommendations of statutory authorities.	Complied. No disposal has been done till date. All the dredging material was utilized for level raising, reclamation. If any excess material generated will be disposed of at the location already approved by the MoEF&CC.
2.	Air Quality Management: Fugitive dust will be generated during construction phase of the project due to handling of wet dredged and excavated soils. Dust control program will be implemented to reduce the dust generation during construction at project site. Water sprinkling will be adopted on haulage roads and construction site.	Being Complied Water sprinkling is being done on haulage roads on regular basis.
3.	Noise Control Programs: 1. Onsite fabrication activities should be undertaken at a designated location, which should be located away from the office buildings and any other working areas. 2. In case noise emissions from the fabrication activities exceed a level of 85 dB (A) at the fence-line of the fabrication yard, temporary noise barrier can be installed. 3. Portable diesel engine generators and diesel engine driven compressors, if any, should be covered with noise enclosures.	Complied Fabrication activities have been done at a designated location away from the office buildings and working areas. Complied Noise level was below 85 dB(A) during the fabrication. Currently no fabrication activities are going on. Complied. In-built noise enclosures are available in portable diesel engine generators and diesel engine driven compressors to reduce the noise level.
4.	Sewage Management Program: Sewage generated from the construction site will be treated in modular STP and shall be used for green belt development / landscaping after achieving prescribed standards by GPCB.	Being Complied Sewage generated from the construction site is being treated in STP and treated water is being used for greenbelt development.
5.	Solid and Hazardous Waste Management Program: The solid waste generated should be segregated and categorized under various rules such as HWM 2008, SWM 2000, the Batteries Rules 2001 including processing of used oil by authorized recyclers should be carried out by the rules and procedures prescribed by CPCB and also meet the requirements of GPCB.	Being Complied All the wastes are being segregate at source and handled as per applicable rules/ guidelines and disposed off through GPCB approved agency.
6.	Construction Phase Storm Water Runoff: It has been recommended to adopt soil stabilization plans and storm water	Complied

	sedimentation basins to control the silt before discharging the storm water into sea.	Separate storm water channels have been developed to discharge the storm water.
7.	Sanitation: The facilities presently available with the nearby villages will continued to be used during construction activities and no major sanitation problem is expected during construction period. The workers at the project site will be provided with proper sanitation arrangement.	Complied Proper sanitation arrangements are available for workers at project site.
B.	OPERATION PHASE: -	
1.	Air Quality Management:	
i.	Cargo-Handling Equipment: 1. Retrofitting the old equipment to meet the vehicular emission standards. 2. All the vehicles and equipment will be certified with PUC norms shall be deployed.	Being Complied All the deployed vehicles and equipment are PUC certified.
ii.	Standby Diesel Generators: DG Sets will be operated on clean diesel fuel with sulphur content less than 0.5%. Minimum stack height of 30m will be provided to disperse the gases into the atmosphere as per the guidelines suggested by Central Pollution Control Board.	Being Complied DG Sets are being operated only in case of power failure, DG are operated on clean diesel fuel with sulphur content less than 0.5% and provided the adequate stack height are being provided as per CPCB/GPCB norms to disperse the gases into the atmosphere.
iii.	Fugitive Coal Dust Control Program: The management of AHPL has proposed to adopt the following fugitive coal dust control measures: - a. Dry Fog System - A new, proven and cost effective technique to control dust is "Dry Fog" system to suppress the dust from the air. The name fog is just what it implies small droplets of water injected into the air. Fogging works by releasing very small droplets of water into the air. Airborne dust particles adhere to the water droplet and agglomerate. If the fog is generated in the right way, by using pressurized water, the energy required can be very low between 2 to 3 kW for a system requiring hundreds of nozzles, e.g.: A large stockpile tripper conveyor - giving considerable operating cost savings when compared to other techniques, The sprinkler droplet sizes should be maintained less than 100 microns. b. Sprinklers: Once stockpiled, water can be sprayed on the stockpiles to keep them damped down. Swivelling sprinklers should be used along the lengths of the stockpile with caution, however, as the volume of water required can be significant, causing drainage and run-off treatment problems.	Complied. Following control measures are in place and effectively working at port to control fugitive dust: - 1. Transportation of coal from jetty to coal storage yard through 1.7 Km. long conveyor belt with hood. 2. Water sprinklers in the coal yard, 3. Dust Suppression System / Spray Nozzles in Conveyor System and Discharge Chute, 4. Water spray through Water Browsers, 5. Water Mist Canon / Fog System, 6. Wind Brake Shield of 14 meters high and 1900 meters long, 7. Transportation of cargo from port to hinterland is being done through dumpers / trucks covered with tarpaulin, 8. Regular cleaning of the roads through Road Sweeping Machines, and 9. Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.90 ha within the port premises.

2.	Noise Control Program: The following source noise control plans have been suggested: - <ul style="list-style-type: none"> ➤ Covering of sound intensive components with insulation. ➤ Using noise absorbing building materials if required for housing compressors and diesel generators etc. as per the guidelines suggested by Central Pollution Control Board. ➤ Adopting low noise driving (Eco-driving) ➤ Using silent exhaust pipes for major diesel engine vehicles and heavy trucks operated inside the port. ➤ Planting trees which act as barrier to arrest dispersion of noise levels. ➤ Using electricity powered equipment inside the port instead of diesel powered ones will be explored to the extent possible. 	Complied. <ul style="list-style-type: none"> • All the sound intensive components (DG Set and Compressor) are with acoustic enclosures. • Green belt development is in progress. • All RTGs and Quay Cranes are electricity operated.
3.	Waste Water Management: Port handling operations would generate wastewater from the following sources: - <ol style="list-style-type: none"> 1. Ship ballast water, 2. Ship deck wastewater including sewage, 3. Rejects from desalination plant, 4. Workshop and vehicle maintenance shop wastewater, 5. Leachate from coal stock yard, 6. Floor cleaning and tank cleaning wastewater from the liquid tank farm, 7. Sewage from port facilities. The proposed wastewater treatment and reuse program has been presented hereunder: - <p>A variety of vessels use the waters within the port, including bulk coal ships, tugs and line boats. Discharges from bulk ships are not expected to occur within the port because these large ships normally have on-board storage and sewage treatment plants, allowing discharge of treated effluent at sea as per the provision of MARPOL.</p> <ul style="list-style-type: none"> ➤ Except monsoon, leachate from coal stock yard is not envisaged. However small quantities, if any, will be treated in the effluent treatment plant. Wastewater from vehicle work-shops will also be treated in the proposed onsite effluent treatment plant. ➤ As far as possible all chemical spills at liquid handling facilities will be treated with dry spill absorbing material and water will not be used. Spillage if any occurs will 	Being Complied <ul style="list-style-type: none"> - AHPL is not accepting Ballast/ Sewage water from Ships. - Desalination plant not yet installed. - There is no effluent generation from workshop. Vehicle maintenance is not done in port premises. - There is no leachate from dump pond. - Tank cleaning wastewater is being treated into ETP. - Domestic waste water is being treated in the STP and then used for horticulture purpose within the port premises. Complied. Dedicated coal dump pond is provided to collect the runoff (if any) from coal yard and it is further reused for dust suppression purpose into coal yard. Complied with. No spill has occurred till date. If, spills occurred, spilled material/chemical will be treated into ETP and treated waste

	<p>be treated in a dedicated onsite wastewater treatment plant, which consists of an oil removal unit, primary chemical treatment unit and biological treatment units followed by activated carbon unit. Biologically treated wastewater will be further treated in the central sewage treatment plant. Treated wastewater will be used for dust suppression and horticulture applications at the facility. No treated wastewater will be discharged outside the port facilities.</p>	<p>water will be reused in greenbelt development / plantation purpose.</p>
4.	<p>Storm Water Management Plan:</p> <ul style="list-style-type: none"> ➤ Storm water from the coal stockpile area will be passed through a series of sediment traps to remove the majority of the coal sediment before discharging into the natural drains. It has been proposed to construct a garland drain for all bulk storage facilities to avoid silting into the marine eco-system. ➤ All liquid storage tanks will be provided with dykes to avoid any cross contamination of storm water from chemical spills. Storm water drains shall be designed in order to avoid any flooding of the coal stock yard and liquid chemical tank farm areas. 	<p>Complied</p> <p>Garland drain for all bulk storage facilities are provided to avoid silting into the marine eco-system. Storm water from the coal stockpile area is collected into dump ponds to remove the coal sediment.</p> <p>Complied.</p> <p>All liquid storage tanks are provided with dykes to avoid any cross contamination of storm water from chemical spills. Storm water drains and effluents drains are separate.</p>
5.	<p>Solid and Hazardous Waste Management:</p> <ul style="list-style-type: none"> ➤ Solid wastes generated from the port handling facilities consist of packaging waste such as wood, paper/carton, steel scrap etc. ➤ All the hazardous wastes and solid wastes such as Oil containing cargo residue, Chemical containing cargo residue and sludge, contaminated cotton waste, spent exchange resin and ETP Sludge, etc. shall be segregated at source and stored at the earmarked area. ➤ Recyclable wastes will be collected and disposed to waste recycling vendors through certified recyclers wherever applicable. ➤ Hazardous wastes include contaminated chemical spills, spent dry adsorbing spill 	<p>Complied.</p> <ul style="list-style-type: none"> - Solid wastes generated during port development i.e.: construction & demolition wastes are reused for level rising of low lying area within the port premises. Kitchen/ Food, Horticulture/Garden wastes are being sent to Organic Waste Converter (OWC) to convert it into compost and reused as manure in greenbelt/plantation. - Packaging materials generated from the cargo handling i.e.: Wood, Paper/Carton, Steel Scrap, Plastic/Tarpaulin etc. are collected and sold out to recyclers. <p>Complied.</p> <p>All the wastes are segregated at source and stored at a dedicated Hazardous Waste storage shed/yard.</p> <p>Complied.</p> <p>Recyclable waste is being collected and disposed of through CPCB/GPCB registered recyclers.</p> <p>Complied.</p>

	<p>absorbing material used for large marine and onshore chemical spills, used lubricating oils and greases. The chemicals spill inventories and spent dry absorbing material will be stored in a dedicated onsite tank and will be disposed to authorized hazardous waste incinerators.</p> <ul style="list-style-type: none"> ➤ Spent lube oils and greases will be disposed to authorized used oil recycling vendors. ➤ A dedicated and completely enclosed shed will be identified to store the hazardous wastes in order to avoid any cross contamination from storm water. ➤ All the waste should be segregated, collected, categorized as per the HWM Rules 2008, SWM Rules 2000 and Batteries Rules 2001 prescribed by CPCB under Environmental Protection Act, 1986. 	<p>No spill has occurred till date.</p> <p>Complied. Recyclable wastes is being collected and disposed off through CPCB/GPCB registered recyclers.</p> <p>Complied. All the wastes are stored at a dedicated hazardous waste storage shed/yard.</p> <p>Being Complied All the wastes are being segregate at source and handled as per applicable rules/ guidelines.</p>
6.	<p>Greenbelt and Plantation:</p> <ul style="list-style-type: none"> ➤ AHPL will develop thick green belt plantation in and around the proposed project facility covering 81.27 Ha. Efforts will be taken to increase the green cover in and around the project boundary using local species with a view to ameliorating project related disturbances and enhancing the ecological value of the area. Greenbelt would be developed as per the CPCB guidelines. ➤ A capital cost of Rs. 1.62 Crore and an annual recurring budget of Rs. 0.65 Crore will be earmarked for this purpose. 	<p>Complied Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 78.90 ha till 31st March 2021.</p> <p>Horticulture budget for FY 2020-21 was Rs. 143.12 Lakhs.</p>
7.	<p>Community Development Plan: AHPL has identified focused areas for community development and implement developmental program. The identified activities under CSR program are as follows: -</p> <ol style="list-style-type: none"> 1. Infrastructure development for educational facilities like building of schools, computer rooms, multipurpose activity halls 2. Supporting education through distribution of stationary, scholarships, science kits, bicycles to children, conducting education camps, competitions. 3. Strengthening the community health by arranging health camps, AID awareness camps, providing financial support to senior citizens and poor people, building dispensaries and mobile dispensaries. 4. Improvement of rural sanitation by conducting mass awareness campaign, helping villagers for constructing and maintaining household toilets, school toilets. 5. Improvement in animal husbandry and agriculture by arranging camps for farmers 	<p>Complied.</p> <ul style="list-style-type: none"> • CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. • Detail of the CSR activities along with budgetary provisions and progress are regularly submitted to MoEF & CC as part of six monthly compliance reports. • Please refer the <u>Annexure-2</u> for the status of the CSR activities during the Financial Year: 2020-21.

	<p>and cattle owners, conducting programs to use new irrigation technologies, organic farming, and free fodder supply.</p> <p>6. Organizing need based skill development program to women and youth for their empowerment.</p> <p>7. Rural infrastructure development by construction of rainwater harvesting ponds, check dams, roads, bus stops, drainage systems, fish landing shed, solar street lamps. AHPL has committed to spend about Rs. 8.21 Crore in the first five years of the operation towards various rural upliftment and community development programs and tentative budget has been presented in the below table - Budgeted Expenditure for CSR and Community Development Activities:-</p> <table border="1"> <thead> <tr> <th>S. No.</th><th>Descriptions</th><th>Budgeted Amount For 1st 5 year Period (Amount rupees in Crore)</th></tr> </thead> <tbody> <tr> <td>1</td><td>Education</td><td>2.29</td></tr> <tr> <td>2</td><td>Community Health</td><td>1.18</td></tr> <tr> <td>3</td><td>Sustainable Livelihood Activities</td><td>1.43</td></tr> <tr> <td>4</td><td>Rural Infrastructure Development</td><td>2.04</td></tr> <tr> <td>5</td><td>Entry Point Activities</td><td>1.27</td></tr> <tr> <td colspan="2">Total</td><td>8.21</td></tr> </tbody> </table>	S. No.	Descriptions	Budgeted Amount For 1 st 5 year Period (Amount rupees in Crore)	1	Education	2.29	2	Community Health	1.18	3	Sustainable Livelihood Activities	1.43	4	Rural Infrastructure Development	2.04	5	Entry Point Activities	1.27	Total		8.21	
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5	Entry Point Activities	1.27																					
Total		8.21																					
II.	MARINE ENVIRONMENT MANAGEMENT PLAN:																						
A.	<p>CONSTRUCTION PHASE: -</p> <ul style="list-style-type: none"> ➤ The dredge spoil generated during capital dredging will be used for land reclamation for the port development and associated utilities. ➤ Unused dredged material will be disposed off at approved dump sites to the north of port area including dredged soil generated through maintenance dredging. ➤ Appropriate dredging methodology shall be adopted to control the generation of high levels of suspended solids. If the suspended solids concentration increases, the dredging operation should be stopped till the normal conditions are achieved. ➤ General clean up along the corridor used for construction related activities, adjacent intertidal areas, creeks etc. should be undertaken and all the discarded materials must be removed from the site and aesthetic quality of the surroundings to be restored, once the construction activities are completed. 	<p>Complied. No disposal has been done till date. All the dredging material is being utilized for level raising, reclamation.</p> <p>Complied If any excess material generated will be disposed of at the location already approved by the MoEF&CC.</p> <p>Noted & Being Complied Monitoring of turbidity level in the sea water is being done and there is no abnormal increase observed.</p> <p>Being Complied. Clean up of the area is regularly being done.</p>																					
B.	<p>OPERATION PHASE: -</p> <p>The following mitigation measures are recommended during port operation: -</p>	Complied.																					

<ul style="list-style-type: none"> ➤ Sewage generated from the port operations will be treated in sewage treatment plant and treated water shall be used for horticulture and green belt development. ➤ All the solid waste generated from the port will be properly segregated, stored and disposed as per the applicable statutory requirement. ➤ All the structures shall be designed in such a way that it should not restrict the prevailing tidal ingress in the creek and mangrove habitats in the vicinity to ensure good health condition. ➤ Coastline between Suwali Point and Tapti Estuary mouth and around the port area will be periodically surveyed to assess erosion and accretion. Should the need arises the corrective action in terms of shore stabilization shall be undertaken. ➤ All the minor and major spillages of chemicals will be effectively controlled with appropriate tools and equipments. ➤ An oil/chemical spill management plan shall be evolved and be in place for tier-1 (100t) and tier-2 (700t) spills in consultation with Gujarat Maritime Board/Coast Guard. ➤ All the marine outfall shall meet the Gujarat Pollution Control Board Effluent Discharge Criteria for Seawater Disposal Standards. ➤ Monitoring of water area of the port and effluent disposal sited shall be studied for pH and Corg, Suspended Solids, DO, BOD in order to identify for deviations if any from the baseline environmental quality. ➤ The mitigation measures suggested for effluent release and maintaining of effluent disposal sites should also be adopted for effluent release by NIKO should be implemented. 	<p>Sewage generated from the port operations is being treated in STP and treated water is being used for horticulture and green belt development.</p> <p>Complied. All the solid waste generated from the port is properly segregated, stored and disposed as per the applicable rules.</p> <p>Being Complied Free flow to the mangrove is not restricted by any of our activity.</p> <p>Complied. Shoreline change study was conducted by NIO, Vizag during the period from November, 2014 to December, 2015. Study confirms that there is no significant change in the nearby shoreline except for the approved layout of the AHPL. The report did not warrant any mitigation measures.</p> <p>Noted and Being Complied. There is no oil spill till date.</p> <p>Complied. Oil Spill Contingency Plan has been prepared and the same was approved/vetted by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014).</p> <p>Noted and Being Complied No effluent is being discharged.</p> <p>Complied. Please refer the Annexure-4D for the Sea Water Quality Monitoring / Analysis Reports for the period October 2020 to March 2021.</p> <p>Noted, AHPL is not discharging any effluent outside the port premises.</p>
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Adani Hazira Port Limited

**From: October 2020
to March 2021**

ANNEXURE-4

**Environmental Monitoring / Analysis Results For The Period From October 2020 to March
2021**



4A. AMBIENT AIR QUALITY MONITORING (OCTOBER 2020 TO MARCH 2021): -

Table-1.1: Ambient Air Quality Monitoring Results At Near Port Gate No.: 2

Sr. No.	Date of Sampling	Location-1: Near Port Gate No.: 2 (N 21° 05.426'E 72° 37.739')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2020	81.37	44.52	0.70	ND*	2.54	10.11	0.66	ND*	33.48	16.20	33.29	20.80
2	05/10/2020	73.61	38.55	ND*	ND*	ND*	ND*	0.77	ND*	35.64	22.68	37.58	22.48
3	08/10/2020	88.33	45.24	0.75	ND*	2.22	10.47	0.98	ND*	31.52	13.87	26.33	19.38
4	12/10/2020	77.51	37.26	ND*	ND*	ND*	ND*	0.71	ND*	28.41	17.62	35.68	23.21
5	15/10/2020	85.65	43.62	ND*	ND*	ND*	ND*	0.86	ND*	36.26	24.25	42.68	25.35
6	19/10/2020	90.31	53.48	0.58	ND*	2.46	10.64	0.76	ND*	26.34	19.78	38.41	18.40
7	22/10/2020	84.53	46.28	ND*	ND*	ND*	ND*	0.69	ND*	24.29	21.35	32.58	21.55
8	26/10/2020	70.65	42.37	ND*	ND*	ND*	ND*	0.48	ND*	27.57	15.65	29.33	17.32
9	29/10/2020	86.27	47.55	ND*	ND*	ND*	ND*	0.68	ND*	30.33	23.42	40.22	27.33
10	02/11/2020	78.68	45.31	ND*	ND*	ND*	ND*	0.93	ND*	23.64	15.65	29.44	19.47
11	05/11/2020	68.53	33.46	ND*	ND*	ND*	ND*	0.54	ND*	27.63	21.20	34.36	27.61
12	09/11/2020	82.61	48.33	0.64	ND*	2.56	10.38	0.72	ND*	24.33	19.43	37.39	22.34
13	12/11/2020	74.59	34.50	ND*	ND*	ND*	ND*	0.85	ND*	34.27	23.46	40.54	18.94
14	16/11/2020	88.33	50.26	0.82	ND*	2.36	10.60	0.47	ND*	30.43	17.27	32.54	24.43
15	19/11/2020	72.35	43.50	ND*	ND*	ND*	ND*	0.64	ND*	38.49	25.33	35.36	15.93
16	23/11/2020	90.23	54.55	0.76	ND*	2.46	10.87	0.79	ND*	35.46	22.47	43.60	20.43
17	26/11/2020	76.53	40.87	ND*	ND*	ND*	ND*	0.92	ND*	39.58	12.46	36.33	23.60
18	30/11/2020	84.36	46.21	ND*	ND*	ND*	ND*	0.58	ND*	26.56	24.21	41.27	26.56
19	03/12/2020	88.67	46.57	ND*	ND*	ND*	ND*	0.32	ND*	28.43	17.70	36.53	24.27
20	07/12/2020	69.47	34.25	ND*	ND*	ND*	ND*	0.65	ND*	36.25	20.64	39.24	21.62
21	10/12/2020	90.35	47.90	0.85	ND*	2.32	10.27	0.87	ND*	39.42	23.43	43.50	27.63
22	14/12/2020	85.37	49.38	ND*	ND*	ND*	ND*	0.69	ND*	29.76	14.80	29.25	22.95
23	17/12/2020	94.28	51.28	0.65	ND*	2.46	10.60	0.96	ND*	40.24	22.21	40.24	20.67
24	21/12/2020	79.35	35.36	ND*	ND*	ND*	ND*	0.89	ND*	27.87	18.26	30.66	25.37
25	24/12/2020	86.39	52.32	0.72	ND*	2.18	10.31	0.50	ND*	33.52	24.26	35.26	19.43
26	28/12/2020	78.37	41.26	ND*	ND*	ND*	ND*	0.53	ND*	24.52	21.32	32.88	15.90
27	31/12/2020	81.35	45.55	ND*	ND*	ND*	ND*	0.71	ND*	34.23	19.90	26.48	23.86
28	04/01/2021	79.38	48.53	ND*	ND*	ND*	ND*	0.72	ND*	29.69	21.21	42.36	26.28
29	07/01/2021	92.65	53.44	0.80	ND*	2.42	10.23	0.37	ND*	38.68	25.70	38.66	20.87

Authorized Signatory



30	11/01/2021	78.54	46.22	ND*	ND*	ND*	ND*	0.47	ND*	25.62	18.73	31.29	25.37
31	14/01/2021	87.63	50.22	ND*	ND*	ND*	ND*	0.98	ND*	36.34	24.35	44.29	27.68
32	18/01/2021	93.32	54.25	0.71	ND*	2.26	10.38	0.74	ND*	33.63	20.66	37.52	22.90
33	21/01/2021	73.45	38.59	ND*	ND*	ND*	ND*	0.57	ND*	30.25	22.29	41.28	24.71
34	25/01/2021	85.34	51.28	0.58	ND*	2.78	10.11	0.84	ND*	23.75	19.31	39.29	21.59
35	28/01/2021	68.32	32.57	ND*	ND*	ND*	ND*	0.66	ND*	34.22	16.55	35.23	18.90
36	01/02/2021	73.61	43.66	ND*	ND*	ND*	ND*	0.56	ND*	15.67	25.46	44.27	12.62
37	04/02/2021	88.64	50.20	0.72	ND*	2.36	10.38	0.77	ND*	35.62	21.23	37.22	23.46
38	08/02/2021	72.66	45.67	ND*	ND*	ND*	ND*	0.66	ND*	38.47	17.52	42.43	26.33
39	11/02/2021	86.26	48.62	ND*	ND*	ND*	ND*	0.82	ND*	34.55	19.34	39.55	19.24
40	15/02/2021	92.37	52.45	0.66	ND*	2.76	10.60	0.65	ND*	18.97	16.39	41.24	17.63
41	18/02/2021	80.35	44.33	ND*	ND*	ND*	ND*	0.76	ND*	33.41	23.42	35.46	20.72
42	22/02/2021	71.61	41.26	ND*	ND*	ND*	ND*	0.71	ND*	27.25	15.64	31.53	22.44
43	25/02/2021	87.52	46.38	0.56	ND*	2.18	10.42	0.78	ND*	30.73	20.25	40.27	24.23
44	01/03/2021	77.65	40.26	ND*	ND*	ND*	ND*	0.90	ND*	28.43	26.80	39.25	25.66
45	04/03/2021	85.76	45.29	ND*	ND*	ND*	ND*	0.86	ND*	31.61	13.55	36.50	27.53
46	08/03/2021	90.21	51.26	0.80	ND*	2.56	ND*	0.72	ND*	26.46	19.49	30.53	16.55
47	11/03/2021	75.35	41.76	ND*	ND*	ND*	ND*	0.60	ND*	35.42	20.71	42.54	20.60
48	15/03/2021	89.33	46.25	0.55	ND*	2.42	ND*	0.93	ND*	30.41	17.80	35.60	23.66
49	18/03/2021	95.41	54.56	0.73	ND*	2.28	ND*	0.69	ND*	32.56	21.34	38.41	19.31
50	22/03/2021	78.64	48.65	ND*	ND*	ND*	ND*	0.61	ND*	29.57	23.45	41.35	28.24
51	25/03/2021	86.24	44.28	ND*	ND*	ND*	ND*	0.87	ND*	33.25	18.26	26.76	26.42
52	29/03/2021	80.21	47.54	ND*	ND*	ND*	ND*	0.58	ND*	27.22	16.53	29.25	21.62

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PCI-Idt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

ND*: - Not Detected - Lead as Pb ($\mu\text{g}/\text{m}^3$): 0.5
ND*: - Not Detected- Carbon Monoxide as CO (mg/m^3): 0.01
ND*: - Not Detected- Benzene as C_6H_6 ($\mu\text{g}/\text{m}^3$): 2
ND*: - Not Detected- Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5
ND*: - Not Detected- Arsenic as As (ng/m^3): 2
ND*: - Not Detected- Nickel as Ni (ng/m^3): 5

Authorized Signatory

● FSSAI Approved Lab

● Recognised by MoEF, New Delhi Under
Sec. 12 of Environmental (Protection) Act-1986

● GPCB approved
schedule II auditor

● ISO 14001

● ISO 45001

● ISO 9001

"Pollucon House", Plot No. 5 & 6, Opp. Balaji Industrial Society, Old Shantinath Silk Mill Lane, Near Gaytri Farsan Mart,
Navjivan Circle, Udhana Magdalla Road, Surat-395007, Gujarat, India.

Phone : 0261-2635750, 0261-2635751, 0261-2635775, 07016605174, WEB: www.polluconlab.com, E. mail: pollucon@gmail.com, info@polluconlab.com



Table-1.2: Ambient Air Quality Monitoring Results at HSE Building Terrace

Sr. No.	Date of Sampling	Location-2: HSE Building Terrace (N 21° 05.043' E 72° 38.491')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2020	72.36	37.54	ND*	ND*	ND*	ND*	0.53	ND*	21.35	12.54	21.25	13.67
2	05/10/2020	68.58	24.32	ND*	ND*	ND*	ND*	0.85	ND*	25.48	14.25	29.49	11.29
3	08/10/2020	57.61	34.52	ND*	ND*	ND*	ND*	0.41	ND*	22.33	8.20	15.70	14.68
4	12/10/2020	62.36	29.48	ND*	ND*	ND*	ND*	0.32	ND*	19.57	11.84	26.54	19.30
5	15/10/2020	73.57	35.22	ND*	ND*	ND*	ND*	0.70	ND*	23.72	15.38	30.28	17.66
6	19/10/2020	80.25	43.46	ND*	ND*	ND*	ND*	0.44	ND*	20.44	10.66	23.77	10.70
7	22/10/2020	71.36	40.26	ND*	ND*	ND*	ND*	0.65	ND*	12.52	13.29	20.31	15.61
8	26/10/2020	53.53	26.66	ND*	ND*	ND*	ND*	0.29	ND*	16.29	17.45	24.54	22.37
9	29/10/2020	74.55	36.52	ND*	ND*	ND*	ND*	0.33	ND*	11.59	19.64	27.59	16.56
10	02/11/2020	54.59	38.62	ND*	ND*	ND*	ND*	0.81	ND*	18.53	13.25	26.27	15.42
11	05/11/2020	63.44	27.68	ND*	ND*	ND*	ND*	0.32	ND*	21.56	16.49	19.53	12.40
12	09/11/2020	77.53	37.54	ND*	ND*	ND*	ND*	0.57	ND*	15.71	14.71	24.27	19.57
13	12/11/2020	68.44	17.62	ND*	ND*	ND*	ND*	0.74	ND*	20.23	19.34	35.49	13.53
14	16/11/2020	72.68	40.20	ND*	ND*	ND*	ND*	0.38	ND*	13.58	10.63	29.30	20.62
15	19/11/2020	66.75	35.39	ND*	ND*	ND*	ND*	0.65	ND*	25.44	17.58	24.32	17.92
16	23/11/2020	85.25	42.70	ND*	ND*	ND*	ND*	0.53	ND*	28.39	12.52	36.47	11.71
17	26/11/2020	64.33	32.42	ND*	ND*	ND*	ND*	0.73	ND*	24.29	6.90	16.27	16.55
18	30/11/2020	76.22	29.40	ND*	ND*	ND*	ND*	0.40	ND*	23.46	20.35	38.59	18.32
19	03/12/2020	66.58	33.57	ND*	ND*	ND*	ND*	0.11	ND*	16.59	14.59	22.32	16.75
20	07/12/2020	58.68	28.67	ND*	ND*	ND*	ND*	0.40	ND*	33.75	7.62	28.30	14.59
21	10/12/2020	83.53	40.36	ND*	ND*	ND*	ND*	0.62	ND*	26.34	17.92	25.42	20.31
22	14/12/2020	72.85	35.41	ND*	ND*	ND*	ND*	0.26	ND*	13.58	8.53	19.53	12.72
23	17/12/2020	84.33	44.39	ND*	ND*	ND*	ND*	0.64	ND*	37.58	11.66	31.30	15.75
24	21/12/2020	71.53	32.41	ND*	ND*	ND*	ND*	0.33	ND*	24.35	15.67	27.53	22.30
25	24/12/2020	80.67	48.22	ND*	ND*	ND*	ND*	0.18	ND*	30.59	19.39	26.56	17.83
26	28/12/2020	68.28	24.53	ND*	ND*	ND*	ND*	0.15	ND*	21.31	16.62	29.55	13.70
27	31/12/2020	73.54	31.20	ND*	ND*	ND*	ND*	0.54	ND*	22.37	12.29	23.71	10.58
28	04/01/2021	55.33	32.45	ND*	ND*	ND*	ND*	0.41	ND*	14.42	16.28	28.61	11.29
29	07/01/2021	82.63	39.44	ND*	ND*	ND*	ND*	0.23	ND*	23.66	19.20	31.68	13.86
30	11/01/2021	73.69	42.56	ND*	ND*	ND*	ND*	0.38	ND*	12.53	13.20	16.30	15.36
31	14/01/2021	67.67	37.61	ND*	ND*	ND*	ND*	0.65	ND*	21.67	14.85	32.47	20.42

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32	18/01/2021	71.21	43.56	ND*	ND*	ND*	ND*	0.24	ND*	24.56	7.67	19.55	12.60
33	21/01/2021	63.54	34.24	ND*	ND*	ND*	ND*	0.46	ND*	16.38	12.44	30.27	10.34
34	25/01/2021	58.29	25.67	ND*	ND*	ND*	ND*	0.71	ND*	10.52	17.41	23.55	14.63
35	28/01/2021	62.29	28.45	ND*	ND*	ND*	ND*	0.30	ND*	18.67	11.68	20.40	22.30
36	01/02/2021	52.45	22.63	ND*	ND*	ND*	ND*	0.29	ND*	11.27	17.68	37.65	10.53
37	04/02/2021	61.51	35.61	ND*	ND*	ND*	ND*	0.14	ND*	28.33	15.43	29.42	12.72
38	08/02/2021	57.22	31.58	ND*	ND*	ND*	ND*	0.50	ND*	31.66	9.62	19.50	19.31
39	11/02/2021	79.25	34.61	ND*	ND*	ND*	ND*	0.45	ND*	23.74	11.22	24.66	14.37
40	15/02/2021	81.57	46.39	ND*	ND*	ND*	ND*	0.31	ND*	14.53	18.28	30.53	11.26
41	18/02/2021	66.25	33.74	ND*	ND*	ND*	ND*	0.62	ND*	20.43	7.69	20.63	18.43
42	22/02/2021	55.62	26.26	ND*	ND*	ND*	ND*	0.38	ND*	24.64	10.34	17.21	15.62
43	25/02/2021	77.54	42.36	ND*	ND*	ND*	ND*	0.44	ND*	16.53	8.45	34.22	17.28
44	01/03/2021	58.67	30.23	ND*	ND*	ND*	ND*	0.64	ND*	25.32	12.62	27.63	20.22
45	04/03/2021	74.26	34.38	ND*	ND*	ND*	ND*	0.48	ND*	15.25	10.25	22.23	15.37
46	08/03/2021	84.54	45.66	ND*	ND*	ND*	ND*	0.62	ND*	18.31	14.55	34.32	11.32
47	11/03/2021	63.67	28.63	ND*	ND*	ND*	ND*	0.55	ND*	24.25	17.17	28.67	22.48
48	15/03/2021	83.47	42.33	ND*	ND*	ND*	ND*	0.66	ND*	17.51	15.22	29.36	18.37
49	18/03/2021	57.57	39.44	ND*	ND*	ND*	ND*	0.39	ND*	28.37	18.55	24.51	14.64
50	22/03/2021	73.22	43.21	ND*	ND*	ND*	ND*	0.56	ND*	23.56	20.18	33.55	23.44
51	25/03/2021	68.62	38.43	ND*	ND*	ND*	ND*	0.17	ND*	19.33	13.28	21.25	10.36
52	29/03/2021	60.37	23.68	ND*	ND*	ND*	ND*	0.33	ND*	14.53	11.49	15.55	13.44

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PCI-Idt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

ND*: - Not Detected - Lead as Pb ($\mu\text{g}/\text{m}^3$): 0.5

ND*: - Not Detected - Carbon Monoxide as CO (mg/m^3): 0.01

ND*: - Not Detected - Benzene as C_6H_6 ($\mu\text{g}/\text{m}^3$): 2

ND*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

ND*: - Not Detected - Arsenic as As (ng/m^3): 2

ND*: - Not Detected - Nickel as Ni (ng/m^3): 5

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Table-1.3: Ambient Air Quality Monitoring Results at Central Water Pump House

Sr. No.	Date of Sampling	Location-3: Central Water Pump House (N 21° 04.697'E 72° 38.420')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2020	63.63	26.53	ND*	ND*	ND*	ND*	0.45	ND*	28.66	10.38	26.65	10.29
2	05/10/2020	52.35	21.54	ND*	ND*	ND*	ND*	0.72	ND*	13.58	16.47	21.58	15.62
3	08/10/2020	76.22	30.28	ND*	ND*	ND*	ND*	0.25	ND*	17.33	18.35	29.58	13.65
4	12/10/2020	50.28	23.61	ND*	ND*	ND*	ND*	0.39	ND*	14.29	13.58	33.59	21.16
5	15/10/2020	68.24	31.64	ND*	ND*	ND*	ND*	0.52	ND*	18.55	19.30	36.22	23.49
6	19/10/2020	58.39	25.15	ND*	ND*	ND*	ND*	0.27	ND*	15.31	12.42	28.46	14.56
7	22/10/2020	65.34	22.48	ND*	ND*	ND*	ND*	0.37	ND*	10.22	8.66	24.23	11.45
8	26/10/2020	59.23	38.31	ND*	ND*	ND*	ND*	0.40	ND*	20.48	6.52	16.58	16.43
9	29/10/2020	69.25	33.78	ND*	ND*	ND*	ND*	0.80	ND*	16.46	15.53	20.27	12.84
10	02/11/2020	64.56	30.85	ND*	ND*	ND*	ND*	0.36	ND*	15.38	8.62	17.56	11.57
11	05/11/2020	50.38	23.82	ND*	ND*	ND*	ND*	0.48	ND*	11.61	14.52	29.58	14.40
12	09/11/2020	68.33	22.46	ND*	ND*	ND*	ND*	0.60	ND*	23.55	16.80	18.51	17.38
13	12/11/2020	58.37	38.50	ND*	ND*	ND*	ND*	0.41	ND*	17.59	12.70	21.61	10.86
14	16/11/2020	66.21	35.63	ND*	ND*	ND*	ND*	0.21	ND*	22.51	15.26	26.54	13.62
15	19/11/2020	55.36	31.85	ND*	ND*	ND*	ND*	0.34	ND*	33.57	13.58	32.31	19.32
16	23/11/2020	69.34	36.36	ND*	ND*	ND*	ND*	0.17	ND*	12.52	19.87	28.56	12.56
17	26/11/2020	57.59	24.51	ND*	ND*	ND*	ND*	0.56	ND*	28.52	10.52	19.24	20.28
18	30/11/2020	67.56	32.70	ND*	ND*	ND*	ND*	0.24	ND*	20.48	17.68	27.64	16.88
19	03/12/2020	60.36	25.37	ND*	ND*	ND*	ND*	0.27	ND*	33.61	9.56	14.55	22.36
20	07/12/2020	42.63	20.22	ND*	ND*	ND*	ND*	0.17	ND*	19.54	13.65	24.33	17.62
21	10/12/2020	57.21	37.55	ND*	ND*	ND*	ND*	0.42	ND*	30.36	19.61	33.48	23.58
22	14/12/2020	62.64	17.53	ND*	ND*	ND*	ND*	0.63	ND*	18.51	6.50	16.34	14.38
23	17/12/2020	72.35	36.24	ND*	ND*	ND*	ND*	0.78	ND*	23.61	8.62	25.39	12.40
24	21/12/2020	54.28	23.66	ND*	ND*	ND*	ND*	0.61	ND*	20.58	11.37	20.27	10.35
25	24/12/2020	61.28	34.59	ND*	ND*	ND*	ND*	0.48	ND*	25.37	15.70	23.17	13.91
26	28/12/2020	55.62	19.33	ND*	ND*	ND*	ND*	0.24	ND*	12.64	12.56	18.36	18.30
27	31/12/2020	48.38	16.33	ND*	ND*	ND*	ND*	0.34	ND*	31.69	7.54	15.41	15.29
28	04/01/2021	59.62	23.49	ND*	ND*	ND*	ND*	0.17	ND*	22.33	12.59	25.40	13.59
29	07/01/2021	70.24	28.27	ND*	ND*	ND*	ND*	0.32	ND*	18.35	8.68	17.53	16.27
30	11/01/2021	54.22	35.63	ND*	ND*	ND*	ND*	0.27	ND*	15.39	10.23	20.62	19.29
31	14/01/2021	61.25	29.43	ND*	ND*	ND*	ND*	0.50	ND*	33.49	17.59	36.56	18.71

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32	18/01/2021	56.39	33.48	ND*	ND*	ND*	ND*	0.15	ND*	14.32	13.52	27.53	15.28
33	21/01/2021	68.98	27.58	ND*	ND*	ND*	ND*	0.29	ND*	11.24	9.59	24.52	17.65
34	25/01/2021	74.22	37.51	ND*	ND*	ND*	ND*	0.39	ND*	17.56	11.26	34.30	10.73
35	28/01/2021	52.61	20.29	ND*	ND*	ND*	ND*	0.34	ND*	30.29	6.26	30.46	14.63
36	01/02/2021	58.36	29.33	ND*	ND*	ND*	ND*	0.36	ND*	26.34	19.58	28.65	15.35
37	04/02/2021	75.66	38.61	ND*	ND*	ND*	ND*	0.60	ND*	17.66	12.31	23.43	14.22
38	08/02/2021	64.23	34.38	ND*	ND*	ND*	ND*	0.33	ND*	28.54	7.58	21.22	20.66
39	11/02/2021	57.54	27.64	ND*	ND*	ND*	ND*	0.17	ND*	20.54	9.60	27.52	10.28
40	15/02/2021	76.33	40.20	ND*	ND*	ND*	ND*	0.37	ND*	10.24	11.39	26.35	19.66
41	18/02/2021	60.55	24.28	ND*	ND*	ND*	ND*	0.54	ND*	27.35	15.33	17.82	12.52
42	22/02/2021	67.55	39.34	ND*	ND*	ND*	ND*	0.23	ND*	19.51	6.59	20.25	17.54
43	25/02/2021	56.53	30.52	ND*	ND*	ND*	ND*	0.49	ND*	38.24	13.61	29.66	11.37
44	01/03/2021	52.65	25.44	ND*	ND*	ND*	ND*	0.50	ND*	21.54	22.30	30.23	16.26
45	04/03/2021	62.38	30.53	ND*	ND*	ND*	ND*	0.76	ND*	11.25	6.51	33.46	12.78
46	08/03/2021	47.62	23.52	ND*	ND*	ND*	ND*	0.54	ND*	23.45	8.57	27.52	18.66
47	11/03/2021	56.52	21.53	ND*	ND*	ND*	ND*	0.24	ND*	16.25	11.31	34.55	15.44
48	15/03/2021	63.52	24.26	ND*	ND*	ND*	ND*	0.29	ND*	20.27	10.61	22.51	13.67
49	18/03/2021	70.36	34.28	ND*	ND*	ND*	ND*	0.38	ND*	17.67	16.63	36.45	10.60
50	22/03/2021	51.54	29.22	ND*	ND*	ND*	ND*	0.19	ND*	13.62	12.34	26.51	14.58
51	25/03/2021	61.53	32.41	ND*	ND*	ND*	ND*	0.27	ND*	10.22	14.34	23.42	17.70
52	29/03/2021	54.23	27.24	ND*	ND*	ND*	ND*	0.16	ND*	18.25	9.29	19.26	11.24

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PCI-Idt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

ND*: - Not Detected - Lead as Pb ($\mu\text{g}/\text{m}^3$): 0.5

ND*: - Not Detected - Carbon Monoxide as CO (mg/m^3): 0.01

ND*: - Not Detected - Benzene as C_6H_6 ($\mu\text{g}/\text{m}^3$): 2

ND*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

ND*: - Not Detected - Arsenic as As (ng/m^3): 2

ND*: - Not Detected - Nickel as Ni (ng/m^3): 5

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Table-1.4: Ambient Air Quality Monitoring Results at Container Terminal

Sr. No.	Date of Sampling	Location-4: Container Terminal (N 21° 05.187'E 72° 37.774)											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2020	67.56	31.56	ND*	ND*	ND*	ND*	0.30	ND*	25.39	8.63	18.89	15.39
2	05/10/2020	58.68	28.55	ND*	ND*	ND*	ND*	0.36	ND*	28.33	10.30	35.28	20.66
3	08/10/2020	66.31	37.71	ND*	ND*	ND*	ND*	0.46	ND*	19.28	15.28	32.32	17.40
4	12/10/2020	72.63	33.57	ND*	ND*	ND*	ND*	0.60	ND*	13.62	9.59	23.49	13.37
5	15/10/2020	63.47	27.19	ND*	ND*	ND*	ND*	0.62	ND*	27.69	17.68	33.35	21.29
6	19/10/2020	70.33	35.43	ND*	ND*	ND*	ND*	0.50	ND*	18.64	14.40	34.26	12.51
7	22/10/2020	56.94	29.68	ND*	ND*	ND*	ND*	0.23	ND*	15.89	19.27	28.36	18.50
8	26/10/2020	65.65	40.22	ND*	ND*	ND*	ND*	0.34	ND*	12.67	11.34	21.64	24.27
9	29/10/2020	59.58	25.46	ND*	ND*	ND*	ND*	0.54	ND*	22.41	16.35	24.74	19.68
10	02/11/2020	59.34	27.54	ND*	ND*	ND*	ND*	0.63	ND*	20.39	10.30	22.34	12.73
11	05/11/2020	45.86	19.25	ND*	ND*	ND*	ND*	0.23	ND*	15.88	19.31	25.65	17.30
12	09/11/2020	63.35	33.61	ND*	ND*	ND*	ND*	0.50	ND*	18.27	11.24	29.21	20.29
13	12/11/2020	49.57	22.32	ND*	ND*	ND*	ND*	0.45	ND*	22.65	15.86	26.37	16.41
14	16/11/2020	54.29	25.35	ND*	ND*	ND*	ND*	0.39	ND*	25.58	12.34	19.86	22.63
15	19/11/2020	61.25	20.61	ND*	ND*	ND*	ND*	0.15	ND*	28.62	9.65	27.59	13.88
16	23/11/2020	58.45	26.45	ND*	ND*	ND*	ND*	0.37	ND*	16.22	14.33	21.81	15.69
17	26/11/2020	50.27	18.63	ND*	ND*	ND*	ND*	0.52	ND*	19.36	18.70	33.45	10.59
18	30/11/2020	72.47	42.43	ND*	ND*	ND*	ND*	0.22	ND*	29.39	8.56	23.64	21.68
19	03/12/2020	74.54	36.31	ND*	ND*	ND*	ND*	0.23	ND*	30.62	15.32	33.52	14.27
20	07/12/2020	53.68	25.42	ND*	ND*	ND*	ND*	0.58	ND*	23.54	12.87	30.23	10.44
21	10/12/2020	72.61	44.21	ND*	ND*	ND*	ND*	0.29	ND*	20.63	10.19	21.22	13.59
22	14/12/2020	67.56	38.34	ND*	ND*	ND*	ND*	0.36	ND*	25.66	11.21	22.68	20.68
23	17/12/2020	79.65	31.58	ND*	ND*	ND*	ND*	0.57	ND*	32.58	13.49	34.52	16.87
24	21/12/2020	60.29	26.51	ND*	ND*	ND*	ND*	0.68	ND*	15.31	8.99	18.62	19.32
25	24/12/2020	70.55	42.34	ND*	ND*	ND*	ND*	0.46	ND*	21.68	17.22	29.43	12.91
26	28/12/2020	62.39	27.55	ND*	ND*	ND*	ND*	0.21	ND*	18.24	19.31	23.57	11.60
27	31/12/2020	68.37	23.51	ND*	ND*	ND*	ND*	0.16	ND*	24.69	9.67	20.81	18.79
28	04/01/2021	66.21	37.27	ND*	ND*	ND*	ND*	0.48	ND*	25.95	14.68	34.60	15.74
29	07/01/2021	76.34	43.85	ND*	ND*	ND*	ND*	0.42	ND*	30.68	17.56	26.26	18.28
30	11/01/2021	68.59	31.54	ND*	ND*	ND*	ND*	0.36	ND*	21.22	15.72	23.45	14.35
31	14/01/2021	81.22	44.20	ND*	ND*	ND*	ND*	0.25	ND*	26.25	12.39	25.39	22.56

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32	18/01/2021	77.67	40.66	ND*	ND*	ND*	ND*	0.26	ND*	19.67	9.57	22.74	19.55
33	21/01/2021	56.27	24.29	ND*	ND*	ND*	ND*	0.54	ND*	23.57	16.42	33.57	21.68
34	25/01/2021	67.51	34.68	ND*	ND*	ND*	ND*	0.60	ND*	14.29	13.68	30.37	13.54
35	28/01/2021	47.58	15.34	ND*	ND*	ND*	ND*	0.44	ND*	22.69	8.52	24.34	16.43
36	01/02/2021	64.55	34.55	ND*	ND*	ND*	ND*	0.18	ND*	18.66	6.33	22.52	20.35
37	04/02/2021	70.35	42.64	ND*	ND*	ND*	ND*	0.24	ND*	20.37	8.71	27.23	17.37
38	08/02/2021	52.17	26.73	ND*	ND*	ND*	ND*	0.46	ND*	23.45	12.59	34.53	12.14
39	11/02/2021	72.11	43.53	ND*	ND*	ND*	ND*	0.16	ND*	27.87	7.23	30.47	16.22
40	15/02/2021	66.53	32.46	ND*	ND*	ND*	ND*	0.48	ND*	30.63	14.30	33.51	14.61
41	18/02/2021	55.27	27.52	ND*	ND*	ND*	ND*	0.42	ND*	12.71	10.42	23.36	10.33
42	22/02/2021	50.24	33.55	ND*	ND*	ND*	ND*	0.26	ND*	16.41	18.31	37.51	19.41
43	25/02/2021	63.42	36.33	ND*	ND*	ND*	ND*	0.61	ND*	28.43	11.54	25.46	15.22
44	01/03/2021	63.27	33.42	ND*	ND*	ND*	ND*	0.71	ND*	14.22	15.74	33.61	24.26
45	04/03/2021	69.47	27.55	ND*	ND*	ND*	ND*	0.57	ND*	19.44	9.57	28.13	19.63
46	08/03/2021	57.61	36.41	ND*	ND*	ND*	ND*	0.52	ND*	15.65	16.21	24.33	15.23
47	11/03/2021	68.74	31.29	ND*	ND*	ND*	ND*	0.37	ND*	20.31	6.25	15.67	13.28
48	15/03/2021	73.67	34.57	ND*	ND*	ND*	ND*	0.34	ND*	12.64	12.86	25.63	16.83
49	18/03/2021	65.27	44.55	ND*	ND*	ND*	ND*	0.25	ND*	22.86	14.67	32.52	12.44
50	22/03/2021	59.57	32.13	ND*	ND*	ND*	ND*	0.30	ND*	26.37	8.30	20.61	18.25
51	25/03/2021	74.55	35.67	ND*	ND*	ND*	ND*	0.36	ND*	21.16	10.52	16.52	20.88
52	29/03/2021	66.46	39.21	ND*	ND*	ND*	ND*	0.41	ND*	24.52	7.57	17.23	17.21

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PCI-Idt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

- ND*: - Not Detected - Lead as Pb ($\mu\text{g}/\text{m}^3$): 0.5
- ND*: - Not Detected - Carbon Monoxide as CO (mg/m^3): 0.01
- ND*: - Not Detected - Benzene as C_6H_6 ($\mu\text{g}/\text{m}^3$): 2
- ND*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5
- ND*: - Not Detected - Arsenic as As (ng/m^3): 2
- ND*: - Not Detected - Nickel as Ni (ng/m^3): 5

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Table-1.5: Ambient Air Quality Monitoring Results at Hazira Village

Sr. No.	Date of Sampling	Location-5: Hazira Village (N 21° 05.44' E 72° 38.44')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2020	89.51	48.54	0.76	ND*	2.36	10.39	1.02	ND*	35.21	22.50	29.25	18.16
2	05/10/2020	77.64	32.47	ND*	ND*	ND*	ND*	0.63	ND*	33.89	18.62	41.27	24.27
3	08/10/2020	81.64	42.40	0.62	ND*	2.48	10.63	0.42	ND*	28.77	11.44	38.31	22.33
4	12/10/2020	67.55	26.51	ND*	ND*	ND*	ND*	0.95	ND*	26.25	19.54	32.49	19.49
5	15/10/2020	79.34	37.74	ND*	ND*	ND*	ND*	0.82	ND*	31.23	21.19	39.39	28.48
6	19/10/2020	85.34	49.31	0.73	ND*	2.34	10.49	0.56	ND*	29.59	17.84	40.53	16.33
7	22/10/2020	90.25	52.48	ND*	ND*	ND*	ND*	0.57	ND*	21.59	15.25	36.50	23.55
8	26/10/2020	82.35	29.56	ND*	ND*	ND*	ND*	0.74	ND*	24.62	20.25	31.24	20.39
9	29/10/2020	78.56	45.35	ND*	ND*	ND*	ND*	0.89	ND*	27.85	24.40	37.45	25.30
10	02/11/2020	83.57	41.30	ND*	ND*	ND*	ND*	0.89	ND*	28.51	18.19	34.54	17.64
11	05/11/2020	58.69	30.55	ND*	ND*	ND*	ND*	0.80	ND*	25.64	24.58	37.55	25.59
12	09/11/2020	73.58	44.53	0.52	ND*	2.78	10.18	0.70	ND*	31.65	21.54	41.52	26.28
13	12/11/2020	85.33	29.47	ND*	ND*	ND*	ND*	0.62	ND*	27.55	26.30	31.58	21.35
14	16/11/2020	78.51	43.49	0.76	ND*	2.56	10.26	0.78	ND*	19.24	20.65	38.42	16.54
15	19/11/2020	84.57	39.55	ND*	ND*	ND*	ND*	0.49	ND*	35.51	19.56	30.47	20.64
16	23/11/2020	75.31	31.57	0.65	ND*	2.65	10.55	0.46	ND*	32.42	16.28	27.83	18.69
17	26/11/2020	70.28	37.63	ND*	ND*	ND*	ND*	0.87	ND*	36.22	15.37	29.68	12.54
18	30/11/2020	62.23	34.22	ND*	ND*	ND*	ND*	0.27	ND*	26.64	22.23	35.54	24.57
19	03/12/2020	80.28	40.25	ND*	ND*	ND*	ND*	0.39	ND*	24.21	11.61	30.45	19.58
20	07/12/2020	62.57	23.42	ND*	ND*	ND*	ND*	0.25	ND*	27.56	17.52	34.22	23.52
21	10/12/2020	95.48	53.61	0.71	ND*	2.64	10.49	0.31	ND*	33.36	25.37	28.40	25.61
22	14/12/2020	79.67	45.39	ND*	ND*	ND*	ND*	0.47	ND*	21.52	16.83	25.67	27.93
23	17/12/2020	89.37	47.54	0.60	ND*	2.36	10.89	0.90	ND*	29.27	18.59	37.22	22.52
24	21/12/2020	69.22	29.25	ND*	ND*	ND*	ND*	0.76	ND*	31.57	20.31	33.63	17.22
25	24/12/2020	92.66	55.37	0.82	ND*	2.42	10.80	0.38	ND*	28.33	22.37	31.51	15.42
26	28/12/2020	84.55	30.29	ND*	ND*	ND*	ND*	0.37	ND*	15.67	24.34	35.57	21.69
27	31/12/2020	90.26	37.23	ND*	ND*	ND*	ND*	0.52	ND*	38.69	15.55	29.30	26.23
28	04/01/2021	72.62	42.83	ND*	ND*	ND*	ND*	0.55	ND*	32.54	19.51	38.29	25.70
29	07/01/2021	87.53	48.26	0.72	ND*	2.36	10.44	0.62	ND*	35.62	22.56	35.36	22.66
30	11/01/2021	90.24	52.65	ND*	ND*	ND*	ND*	0.80	ND*	18.27	17.27	27.21	17.59
31	14/01/2021	74.21	40.19	ND*	ND*	ND*	ND*	0.70	ND*	39.32	21.63	39.35	24.54

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32	18/01/2021	86.21	49.28	0.52	ND*	2.18	10.51	0.81	ND*	36.26	24.26	44.17	26.87
33	21/01/2021	78.21	43.67	ND*	ND*	ND*	ND*	0.64	ND*	33.62	14.33	36.27	28.38
34	25/01/2021	80.35	46.50	0.56	ND*	2.56	10.33	0.79	ND*	20.39	25.62	42.23	19.44
35	28/01/2021	73.58	38.23	ND*	ND*	ND*	ND*	0.56	ND*	27.51	13.57	40.28	23.61
36	01/02/2021	69.35	37.50	ND*	ND*	ND*	ND*	0.64	ND*	23.55	22.36	40.32	18.23
37	04/02/2021	82.64	46.26	0.56	ND*	2.56	10.55	0.53	ND*	32.67	16.23	33.47	20.17
38	08/02/2021	77.35	49.24	ND*	ND*	ND*	ND*	0.40	ND*	35.33	19.83	38.46	23.65
39	11/02/2021	68.62	38.23	ND*	ND*	ND*	ND*	0.89	ND*	30.26	15.87	35.63	25.68
40	15/02/2021	87.61	35.45	0.76	ND*	2.42	10.33	0.52	ND*	33.66	21.67	39.22	21.21
41	18/02/2021	73.46	39.56	ND*	ND*	ND*	ND*	0.58	ND*	24.56	18.64	31.66	14.54
42	22/02/2021	62.45	30.22	ND*	ND*	ND*	ND*	0.41	ND*	21.27	20.37	34.34	24.62
43	25/02/2021	92.64	50.36	0.68	ND*	2.36	10.63	0.81	ND*	34.25	17.28	37.34	26.26
44	01/03/2021	70.27	36.28	ND*	ND*	ND*	ND*	0.78	ND*	36.57	24.24	36.23	22.57
45	04/03/2021	80.34	40.34	ND*	ND*	ND*	ND*	1.01	ND*	27.32	17.42	40.27	24.62
46	08/03/2021	72.52	31.55	0.72	ND*	2.36	ND*	0.79	ND*	20.57	21.26	37.55	12.67
47	11/03/2021	86.23	46.85	ND*	ND*	ND*	ND*	0.53	ND*	31.26	25.64	31.55	26.83
48	15/03/2021	94.26	53.42	0.65	ND*	2.56	ND*	0.73	ND*	38.54	19.24	41.21	20.35
49	18/03/2021	85.25	49.34	0.56	ND*	2.62	ND*	0.31	ND*	25.26	12.75	28.42	17.89
50	22/03/2021	68.34	35.41	ND*	ND*	ND*	ND*	0.96	ND*	18.63	18.26	38.21	25.42
51	25/03/2021	81.76	41.21	ND*	ND*	ND*	ND*	0.49	ND*	26.73	15.36	34.23	19.46
52	29/03/2021	73.33	44.23	ND*	ND*	ND*	ND*	0.26	ND*	30.25	13.32	26.31	15.65

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PCI-Idt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

ND*: - Not Detected - Lead as Pb ($\mu\text{g}/\text{m}^3$): 0.5

ND*: - Not Detected - Carbon Monoxide as CO (mg/m^3): 0.01

ND*: - Not Detected - Benzene as C_6H_6 ($\mu\text{g}/\text{m}^3$): 2

ND*: - Not Detected - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

ND*: - Not Detected - Arsenic as As (ng/m^3): 2

ND*: - Not Detected - Nickel as Ni (ng/m^3): 5

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4B. GROUND WATER QUALITY MONITORING: -
Table-1.6: Ground Water Quality Results for the period: October, 2020 to March, 2021

Sr. NO.	TEST PARAMETERS	UNIT	GROUND WATER OPEN WELL					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
			19/10/2020	24/11/2020	30/12/2020	25/01/2021	26/02/2021	12/03/2021
1	Colour	Hazen	2	3	2	3	3	3
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	0.09	0.13	0.04	0.09	0.13	0.13
5	pH Value	--	7.88	7.71	7.56	7.74	7.72	8.28
6	Total Hardness as CaCO ₃	mg/L	400	290	302	338	312	398
7	Iron as Fe	mg/L	0.12	0.18	0.18	0.24	0.28	Not Detected
8	Chloride as Cl	mg/L	169	110	155	158	136	110
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
10	Fluoride as F	mg/L	0.35	0.24	0.65	0.52	0.43	Not Detected
11	Total Dissolved Solids	mg/L	1987	1386	1502	1576	1173	1098
12	Calcium as Ca	mg/L	80	68	56	58	59.2	64.8
13	Magnesium as Mg	mg/L	48	28.8	38.8	46.32	39.36	56.64
14	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
15	Manganese as Mn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
16	Sulphate as SO ₄	mg/L	39	59	44	39	37.2	35.99
17	Nitrate Nitrogen as NO ₃	mg/L	0.87	0.64	0.95	0.73	0.69	11.75
18	Phenolic compounds as C ₆ H ₅ OH	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
19	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
20	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
21	Selenium as Se	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
22	Arsenic as As	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
23	Cyanide as CN	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
24	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
25	Zinc as Zn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	0.12
26	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
27	Chromium as Cr ⁺⁶	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
28	Mineral Oil	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
29	Alkalinity	mg/L	296	204	184	192	186	366
30	Aluminum as Al	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
31	Boron as B	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32	Pesticides							
32.1	Alachor	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.2	Atrazine	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.3	Aldrin/Dieldrine	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.4	Alpha HCH	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.5	Beta HCH	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.6	Butachlor	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected


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Sr. NO.	TEST PARAMETERS	UNIT	GROUND WATER OPEN WELL					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
			19/10/2020	24/11/2020	30/12/2020	25/01/2021	26/02/2021	12/03/2021
32.7	Chlorpyrifos	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.8	Delta HCH	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.9	2,4- Dichlorophenoxy acetic acid	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.10	DDT (o,p&p,p-Isomers of DDT, DDE & DDD	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.11	Endosulfan (alpha, beta, and sulphate)	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.12	Ethion	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.13	Gamma - HCH (Lindane)	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.14	Isoproturon	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.15	Malathion	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.16	Methyl Parathion	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.17	Monocrotophos	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
32.18	Phorate	µg/l	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
33	Coliform	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent
34	E-Coli	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Ground Water.

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**4C. SURFACE WATER QUALITY MONITORING: -****Table-1.7: Surface Water (Pond) Quality Results for the period: October, 2020 to March, 2021**

Sr. No.	Parameters	Unit	At Mora Village (Surface Water – Pond)					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-20	MARCH-21
			19/10/2020	24/11/2020	30/12/2020	25/01/2021	26/02/2021	12/03/2021
1	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
2	Colour	Hazen	5	4	30	20	10	10
3	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	pH Value	--	7.96	8.13	7.85	7.69	7.63	7.74
5	Turbidity	NTU	0.14	0.12	0.21	0.17	0.18	0.19
6	Total Dissolved Solids	mg/L	673	650	816	784	732	756
7	Total Hardness as CaCO ₃	mg/L	190	128	318	298	310	318
8	Chloride as Cl	mg/L	139	147	159	132	124	116
9	Fluoride as F	mg/L	0.24	0.21	0.44	0.32	0.28	0.25
10	Iron as Fe	mg/L	0.058	Not Detected	0.025	Not Detected	Not Detected	Not Detected
11	Coliform	/100 ml	Present	Present	Present	Present	Present	Present
12	E-Coli	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Surface Water.

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4D. SEA WATER QUALITY MONITORING: -

Table-1.8: Sea Water Quality Analysis Results of CB2 South End towards Landside from the Sea Basin for the period: October, 2020 to March, 2021

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS											
			CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN(N 21° 5'1.92", E 72°37'56.58")											
			OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	--	8.18	8.14	8.19	8.13	8.27	8.21	8.24	8.16	8.29	8.23	8.25	8.16
2	Temperature	°C	30.4	30.1	30.7	30.5	30.3	30.1	29.3	29	30.1	30.3	30.2	30
3	Total Suspended Solids	mg/L	225	240	234	256	204	216	196	184	218	234	227	240
4	BOD (3 Days @ 27 °C)	mg/L	4.1	Not Detected	4.2	Not Detected	3.8	Not Detected	3.3	Not Detected	3.6	Not Detected	3.5	Not Detected
5	Dissolved Oxygen	mg/L	5.9	5.6	5.8	5.6	5.9	5.7	5.8	5.6	5.9	5.7	5.8	5.7
6	Salinity	ppt	30.6	31	31.5	31.8	31.3	31.6	30.6	30.9	30.8	31.4	30.9	31.3
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	μmol /L	3.49	3.27	4.69	4.37	3.87	3.65	4.16	3.93	3.69	3.48	4.18	3.56
9	Nitrite as NO ₂	μmol /L	0.38	0.25	0.42	0.28	0.69	0.53	0.93	0.86	0.73	0.59	0.69	0.43
10	Ammonical Nitrogen as NH ₃	μmol /L	2.5	2.39	3.17	2.88	2.75	2.46	3.28	3.14	2.8	2.64	2.98	2.75
11	Phosphates as PO ₄	μmol /L	2.42	2.18	2.57	2.34	2.32	2.1	2.56	2.3	2.38	2.15	1.62	1.29
12	Total Nitrogen	μmol /L	6.37	5.91	8.28	7.53	7.31	6.64	10.93	7.93	7.22	6.71	7.85	6.74
13	Petroleum Hydrocarbon	μg/L	12.6	Not Detected	10.6	Not Detected	13	Not Detected	18	Not Detected	14.3	Not Detected	12.6	Not Detected
14	Total Dissolved Solids	mg/L	32486	32862	32290	33406	32668	33428	32476	32908	32840	33268	32902	33164
15	COD	mg/L	23	21	26.9	19.8	25	18	26	16	27.6	19	29	23
A Phytoplankton														
16.1	Chlorophyll	mg/m ³	2.93	2.88	3.04	2.5	2.78	2.02	2.94	2.83	3.2	3.09	2.82	2.26
16.2	Phaeophytin	mg/m ³	2.07	2.05	1.7	1.42	2.46	1.78	2.52	2.74	2.48	2.36	0.21	0.1
16.3	Cell Count	No. x 10 ³ /L	134	92	120	82	116	90	146	102	204	118	184	92
16.4	Name of Group Number and name of group species of each group	--	Thalassiosira sp. Nitzschia sp. Melosira sp. Skeletonema sp.	Fragillaria sp. Nitzschia sp. Thalassiosira sp. --	Closterium sp. Thalassiosira sp. Nitzschia sp. Rhizosolenia sp.	Navicula sp. Scenedesmus sp. Coscinodiscus sp. --	Thalassiosira sp. Skeletonema sp. Rhizosolenia sp. Pleurosigma sp.	Synedra sp. Navicula sp. Nitzschia sp. --	Nitzschia sp. Skeletonema sp. Coscinodiscus sp. Ankistrodesmus sp.	Navicula sp. Synedra sp. Thalassiosira sp. Pleurosigma sp.	Skeletonema sp. Ankistrodesmus sp. Coscinodiscus sp. Biddulphia sp.	Nitzschia sp. Navicula sp. Pleurosigma sp. --	Rhizosolenia sp. Thalassiosira sp. Skeletonema sp. Cheatoceus sp.	Navicula sp. Pleurosigma sp. Synedra sp. --

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Table-1.9: Sea Water Quality Analysis Results of MP1 West End towards Channel from the Sea Basin for the period: October, 2020 to March, 2021

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS MP1 WEST END TOWARDS CHANNEL FROM SEA BASIN(N 21° 5'9.78", E 72°37'24.48")											
			OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	—	8.2	8.13	8.21	8.16	8.28	8.17	8.23	8.2	8.28	8.24	8.21	8.17
2	Temperature	oC	30.3	30.1	30.6	30.5	30.2	30	29.4	29.2	30.3	30	30.2	29.9
3	Total Suspended Solids	mg/L	228	243	217	240	209	228	193	180	206	226	231	248
4	BOD (3 Days @ 27 °C)	mg/L	3.9	Not Detected	4	Not Detected	3.8	Not Detected	3.5	Not Detected	3.3	Not Detected	3.4	Not Detected
5	Dissolved Oxygen	mg/L	5.8	5.6	5.9	5.6	5.9	5.7	5.8	5.6	5.9	5.7	5.8	5.6
6	Salinity	ppt	30.9	31.1	31.9	32.2	31.3	31.6	30.5	30.7	30.9	31.4	31.2	31.5
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	µmo/l/L	3.38	3.14	4.7	4.56	3.75	3.59	4.16	3.87	3.51	3.37	4.12	3.89
9	Nitrite as NO ₂	µmo/l/L	0.4	0.32	0.56	0.47	0.63	0.41	0.87	0.63	0.62	0.75	0.59	0.47
10	Ammonical Nitrogen as NH ₃	µmo/l/L	2.17	1.9	3.12	2.86	3.41	3.1	3.27	2.98	3.14	3.23	2.85	2.61
11	Phosphates as PO ₄	µmo/l/L	1.85	1.63	2.57	2.29	2.38	2.29	2.19	1.87	2.58	2.69	1.73	1.53
12	Total Nitrogen	µmo/l/L	5.95	5.36	8.38	7.89	7.79	7.2	8.3	7.48	7.27	7.35	7.56	6.97
13	Petroleum Hydrocarbon	µg/L	9.4	Not Detected	13	Not Detected	12	Not Detected	17	Not Detected	19	Not Detected	15	Not Detected
14	Total Dissolved Solids	mg/L	32803	32410	33426	33804	32710	33328	32468	32698	32798	33348	33051	33402
15	COD	mg/L	24	21	23.6	18	25	20	24.8	18	25.6	17.6	24	18
A Phytoplankton														
16.1	Chlorophyll	mg/m ³	2.78	2.02	3.09	2.88	2.93	2.83	2.99	2.77	3.25	2.93	2.79	2.09
16.2	Phaeophytin	mg/m ³	2.46	1.78	2.14	1.15	2.07	2.1	1.46	2.68	1.68	2.74	0.15	0.22
16.3	Cell Count	No. x 10 ³ /L	116	90	126	98	134	92	150	102	220	116	178	90
16.4	Name of Group Number and name of group species of each group	—	Skeletonema sp. Nitzschia sp. Pleurosigma sp.	Navicula sp. Fragillaria sp. Synedra sp.	Navicula sp. Coscinodiscus sp. Rhizosolenia sp. Pleurosigma sp.	Nitzschia sp. Gyrodinium sp. Thalassiosira sp. —	Skeletonema sp. Rhizosolenia sp. Pleurosigma sp. Cyclotella sp. Thalassiosira sp.	Nitzschia sp. Pleurosigma sp. Fragillaria sp. Navicula sp. —	Skeletonema sp. Rhizosolenia sp. Thalassiosira sp. Ankistrodesmus sp.	Navicula sp. Nitzschia sp. Synedra sp. Pleurosigma sp.	Coscinodiscus sp. Rhizosolenia sp. Biddulphia sp. Ankistrodesmus sp. Thalassiosira sp.	Synedra sp. Pleurosigma sp. Nitzschia sp. Navicula sp. —	Coscinodiscus sp. Thalassiosira sp. Scenedesmus sp. Closterium sp. Pediastrum sp.	Nitzschia sp. Synedra sp. Pleurosigma sp. Melosira sp. —

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S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN(N 21° 5'1.92", E 72°37'56.58")											
			OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
B	Zooplanktons													
17.1	Abundance (Population)	Nox10 3/100 m3	29		31		28		33		34		25	
17.2	Name of Group Number and name of group species of each group	--	Copepods Gastropods Medusae Fish larvae		Copepods Polychaetes Chaetognathes Decapods		Polychaetes Bivalves Chaetognathes		Polychaetes Foraminiferans Decapods Copepods		Polychaetes Decapods Bivalves Isopods		Polychaetes Bivalves Decapods Isopods	
17.3	Total Biomass	ml/10 0 m³	3.55		3.6		2.9		3.45		3.65		2.95	
C	Microbiological Parameters													
18.1	Total Bacterial Count	CFU/ ml	2290		2190		2310		2210		2240		2390	
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Water.

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S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS MP1 WEST END TOWARDS CHANNEL FROM SEA BASIN(N 21° 5'9.78", E 72°37'24.48")											
			OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
B	Zooplanktons													
17.1	Abundance (Population)	Nox10 3/100 m ³	28		33		29		34		32		25	
17.2	Name of Group Number and name of group species of each group	--	Polychaetes Copepods Gastropods --		Copepods Decapods Bivalves --		Polychaetes Isopods Bivalves Decapods		Amphipods Copepods Polychaetes Foraminiferans		Polychaetes Decapods Chaetognathes Mysids		Copepods Gastropods Bivalves Decapods	
17.3	Total Biomass	ml/10 0 m ³	3.4		3.5		3.1		3.25		3.55		2.4	
C	Microbiological Parameters													
18.1	Total Bacterial Count	CFU/ ml	2240		2260		2210		2180		2340		2250	
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Water.

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Table-1.10: Sea Water Quality Analysis Results of CB1 End towards Channel from the Sea Basin for the period: October, 2020 to March, 2021.

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS											
			CB1 END TOWARDS CHANNEL FROM SEA BASIN (N 21° 5'14.67" , E 72°37'40.14")											
			OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	--	8.19	8.17	8.22	8.17	8.28	8.22	8.21	8.17	8.27	8.19	8.22	8.18
2	Temperature	oC	30.4	30.2	30.7	30.5	30.4	30.2	29.4	29.1	30	30.3	30.3	30.1
3	Total Suspended Solids	mg/L	219	236	239	253	210	227	203	180	228	198	237	254
4	BOD (3 Days @ 27 °C)	mg/L	3.7	Not Detected	4.1	Not Detected	3.7	Not Detected	3.9	Not Detected	3.5	Not Detected	3.6	Not Detected
5	Dissolved Oxygen	mg/L	5.8	5.7	5.9	5.7	5.9	5.8	5.8	5.6	5.9	5.7	5.8	5.6
6	Salinity	ppt	30.7	31	31.6	31.9	31.2	31.5	30.5	30.8	30.8	31.2	31.1	31.5
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	µmo/l/L	3.28	3.14	4.69	4.43	3.69	3.43	4.2	3.91	3.52	3.29	3.98	3.74
9	Nitrite as NO ₂	µmo/l/L	0.41	0.35	0.53	0.39	0.59	0.51	0.86	0.74	0.69	0.57	0.58	0.49
10	Ammonical Nitrogen as NH ₃	µmo/l/L	2.83	2.56	2.74	2.56	2.47	2.34	3.14	2.92	2.94	2.81	2.86	2.71
11	Phosphates as PO ₄	µmo/l/L	2.94	2.83	2.36	2.21	2.28	1.76	2.18	1.87	2.56	2.29	1.57	1.38
12	Total Nitrogen	µmo/l/L	6.52	6.05	7.96	7.38	6.75	6.28	8.2	7.57	7.15	6.67	7.42	6.94
13	Petroleum Hydrocarbon	µg/L	13.6	Not Detected	10.6	Not Detected	13	Not Detected	18.4	Not Detected	15.2	Not Detected	13.6	Not Detected
14	Total Dissolved Solids	mg/L	32118	32386	32104	33206	33050	33124	32410	32694	32684	33168	32784	33368
15	COD	mg/L	27	22	25.4	21.6	24	19.6	23	21	24.9	18.6	28	17
A Phytoplankton														
16.1	Chlorophyll	mg/m ³	2.99	2.18	2.93	2.83	2.99	2.61	3.04	2.88	3.31	3.1	2.75	2.24
16.2	Phaeophytin	mg/m ³	2.32	2.33	2.41	2.14	2.32	1.91	2.41	2.57	2.15	2.81	0.39	0.12
16.3	Cell Count	No. x 10 ³ /L	120	96	136	90	120	94	158	104	192	112	182	96
16.4	Name of Group Number and name of group species of each group	--	Phormidium Clostridium Navicula sp. Thallasi osira sp.	Bacteri astrum Nitzschia sp. Fragillaria sp.	Thallasi onema sp. Nitzschia sp. Rhizoso lenia sp. Coscino discus sp.	Navicul a sp. Fragillaria sp. Skeleto nema sp. --	Skeleto nema sp. Rhizoso lenia sp. Fragillaria sp. Cyclotel la sp.	Navicul a sp. Nitzschia sp. Pleuros igma sp. --	Skeleto nema sp. Rhizoso lenia sp. Thallasi osira sp. Navicul a sp.	Nitzschia sp. Pleuros igma sp. Melosira sp. --	Skeleto nema sp. Biddulphia sp. Coscino discus sp. Ceratiu m.sp.	Nitzschia sp. Navicul a sp. Synedr a sp. --	Pediasium sp. Skeleto nema sp. Coscino discus sp. Thallasi osira sp. Fragillaria sp.	Nitzschia sp. Melosira sp. Pleurosi gma sp. Anacyst is sp. --

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RESULTS OF SEA WATER QUALITY ANALYSIS CB1 END TOWARDS CHANNEL FROM SEA BASIN (N 21° 5'14.67" , E 72°37'40.14")														
S. NO.	TEST PARAMETERS	UNIT	OCT-20		NOV-20		DEC-20		JAN-21		FEB-21		MARCH-21	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
B Zooplanktons														
17.1	Abundance (Population)	Nox10 3/100 m3	26		35		27		36		31		26	
17.2	Name of Group Number and name of group species of each group	--	Copepods Decapods Ostracods Amphipods		Polychaetes Copepods Decapods Isopods		Polychaetes Decapods Isopods Ostracods		Chaetognathes Polychaetes Amphipods Copepods		Polychaetes Bivalves Decapods Isopods		Copepods Bivalves Amphipods Gastropods	
17.3	Total-Biomass	ml/10 0 m³	3.1		3.7		2.95		3.55		3.4		2.65	
C Microbiological Parameters														
18.1	Total Bacterial Count	CFU/ ml	2250		2310		2290		2150		2180		2270	
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Present	
18.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
18.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

Detection Limit, BOD: 1.0 mg/L, Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1 µg/L, Nitrite as NO₂: 0.002 mg/L, Pheophytin: 0.1 mg/m³

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Water.

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**4E. DUMP POND DISCHARGE WATER QUALITY MONITORING: -****Table-1.11: Dump Pond Water Quality Analysis Results for the Period: October, 2020 to March, 2021**

Sr. No.	Parameters	Unit	26/11/2020	26/11/2020	26/02/2021	26/02/2021
			OLD COAL YARD	PET COCK	OLD COAL YARD	PET COCK
1	pH	--	8.18	8.3	8.87	8.86
2	Total Dissolved Solids	mg/L	2846	2058	2136	2093
3	Total Suspended Solids	mg/L	69	63	52	71
4	Turbidity	NTU	15.4	13.4	17.4	14.8
5	BOD (3 Days @ 27 °C)	mg/L	43	32	39.8	29.3
6	Dissolved Oxygen	mg/L	5.8	5.3	5.9	5.6
7	COD	mg/L	170	128	186	143
8	Salinity	ppt	1.62	1.31	1.46	1.28
9	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
10	Total Hardness as CaCO ₃	mg/L	186	176	153	158
11	Fluoride as F	mg/L	0.5	0.64	0.42	0.53
12	Chloride as Cl	mg/L	899	730	810	712
13	Zinc as Zn	mg/L	0.74	0.43	0.68	0.46
14	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
15	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
16	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected

Detection Limit, Mercury as Hg: 0.00025 mg/L, Oil & Grease: 2.0 mg/L, Cadmium as Cd: 0.001 mg/L, Lead as Pb: 0.005 mg/L, Fluoride: 0.01 mg/L.

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Dump Pond Discharge Water.

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4F. AMBIENT NOISE LEVEL MONITORING: -

Table-1.12: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Near Port Gate No.: 2

Sampling Location	1 - Near Port Gate No.: 2					
Longitude Latitude	N 21° 05.426'E 72°37.739'					
Date of Monitoring	15/10/2020	02/11/2020	14/12/2020	07/01/2021	01/02/2021	01/03/2021
6:00-7:00	51.2	53.7	52.4	54.3	72.9	72.6
7:00-8:00	52.4	54.2	55.6	56.3	61.8	61.1
8:00-9:00	52.9	57.1	55.1	57.5	68.9	68.6
9:00-10:00	58.7	60.2	59.8	59.7	66.3	66.1
10:00-11:00	56.7	52.7	56.7	60.3	69.8	69.5
11:00-12:00	60.3	57.3	53.6	58.2	71.6	71.5
12:00-13:00	62.2	56.6	51.2	56.9	60.4	59.3
13:00-14:00	62.1	52.3	56.2	60.8	65.7	65.6
14:00-15:00	58.6	56.4	53.8	59.4	62.9	62.7
15:00-16:00	61.3	58.6	53.3	61.3	58.9	58.6
16:00-17:00	63.2	55.2	59.9	58.4	57.1	56.3
17:00-18:00	65.6	57.6	60.0	56.5	65.2	64.2
18:00-19:00	58.5	52.8	57.0	55.7	54.6	53.9
19:00-20:00	56.4	58.8	59.4	58.8	63.9	63.2
20:00-21:00	55.3	55.3	56.6	59.5	71.4	70.4
21:00-22:00	54.1	59.1	50.3	55.4	68.2	68.0

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm

Table-1.13: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Near Port Gate No.: 2

Sampling Location	1 - Near Port Gate No.: 2					
Longitude Latitude	N 21° 05.426'E 72°37.739'					
Date of Monitoring	15/10/2020 & 16/10/2020	02/11/2020 & 03/11/2020	14/12/2020 & 15/12/2020	07/01/2021 & 08/01/2021	01/02/2021 & 02/02/2021	01/03/2021 & 02/03/2021
22:00-23:00	52.2	55.8	52.8	56.5	63.3	62.9
23:00-00:00	52.9	53.8	48.5	57.2	62.3	61.6
00:00-01:00	51.1	54.6	47.0	48.9	65.1	64.3
01:00-02:00	51.8	47.9	49.9	46.5	59.5	59.1
02:00-03:00	52.5	48.3	47.8	49.9	55.6	55.4
03:00-04:00	52.4	54.8	44.4	52.6	61.9	61.0
04:00-05:00	23.0	54.5	49.3	58.7	59.7	59.7
05:00-06:00	23.1	50.9	46.3	51.6	56.1	56.0

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.

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Table-1.14: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At HSE Building Terrace

Sampling Location	2 - HSE Building Terrace					
Longitude Latitude	N 21° 05.043' E 72° 38.491'					
Date of Monitoring	22/10/2020	09/11/2020	24/12/2020	14/01/2021	08/02/2021	08/03/2021
6:00-7:00	55.8	53.1	49.8	53.9	59.3	58.2
7:00-8:00	57.1	49.0	48.0	52.1	62.6	61.7
8:00-9:00	60.1	55.5	47.6	51.8	71.0	70.5
9:00-10:00	62.6	51.2	50.8	55.2	58.8	58.7
10:00-11:00	62.8	60.7	52.8	57.8	68.7	67.8
11:00-12:00	63.3	50.2	54.5	50.4	69.6	68.8
12:00-13:00	60.5	52.2	54.6	58.3	66.4	65.8
13:00-14:00	64.5	59.8	52.6	54.9	52.2	51.2
14:00-15:00	61.2	52.9	55.8	57.2	68.0	67.4
15:00-16:00	62.7	61.3	56.9	52.8	65.5	64.7
16:00-17:00	64.1	56.9	60.8	59.1	72.2	71.6
17:00-18:00	64.4	55.4	57.2	56.4	56.2	55.3
18:00-19:00	57.3	51.6	58.1	50.7	57.3	56.7
19:00-20:00	56.0	55.9	56.1	52.6	51.5	50.5
20:00-21:00	56.5	61.8	51.7	47.6	64.4	63.7
21:00-22:00	54.0	61.4	51.8	50.2	64.2	64.0

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm

Table-1.15: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At HSE Building Terrace

Sampling Location	2 - HSE Building Terrace					
Longitude Latitude	N 21° 05.043' E 72° 38.491'					
Date of Monitoring	22/10/2020 & 23/10/2020	09/11/2020 & 10/11/2020	24/12/2020 & 25/12/2020	14/01/2021 & 15/01/2021	08/02/2021 & 09/02/2021	08/03/2021 & 09/03/2021
22:00-23:00	53.0	54.4	47.5	56.2	60.9	60.2
23:00-00:00	53.5	56.8	48.7	53.6	67.4	67.2
00:00-01:00	55.3	51.3	51.1	54.9	57.7	56.7
01:00-02:00	52.1	49.4	46.0	48.4	62.8	62.5
02:00-03:00	53.1	47.8	47.7	45.1	60.5	60.4
03:00-04:00	51.0	54.9	48.3	53.9	59.2	58.8
04:00-05:00	51.3	50.0	48.0	57.3	66.8	66.7
05:00-06:00	52.6	54.1	46.6	55.6	61.6	61.4

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.

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Table-1.16: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Central Water Pump House

Sampling Location	3 - Central Water Pump House					
Longitude Latitude	N 21° 04.697' E 72° 38.420'					
Date of Monitoring	26/10/2020	12/11/2020	28/12/2020	18/01/2021	11/02/2021	11/03/2021
6:00-7:00	56.3	58.0	55.0	61.6	68.8	68.4
7:00-8:00	58.2	60.3	61.1	64.7	65.1	64.9
8:00-9:00	64.2	59.0	60.3	66.9	67.9	67.6
9:00-10:00	65.5	61.5	65.3	63.4	61.2	60.8
10:00-11:00	65.8	67.8	65.5	61.8	66.7	66.4
11:00-12:00	66.7	66.2	67.5	65.9	69.5	68.5
12:00-13:00	60.0	68.8	63.2	69.3	63.4	62.8
13:00-14:00	60.4	63.8	63.3	67.5	58.7	58.4
14:00-15:00	58.1	64.3	65.6	66.4	66.9	66.6
15:00-16:00	63.8	64.1	67.4	64.8	70.1	69.3
16:00-17:00	64.7	63.5	64.8	69.5	60.0	59.4
17:00-18:00	65.9	63.7	59.5	64.4	63.5	62.6
18:00-19:00	60.2	62.2	66.4	63.9	57.6	57.4
19:00-20:00	60.8	67.3	63.9	59.3	52.1	51.5
20:00-21:00	58.4	64.4	63.0	56.6	57.5	57.1
21:00-22:00	56.1	61.9	59.1	58.7	55.6	54.6

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm.

Table-1.17: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Central Water Pump House

Sampling Location	3 - Central Water Pump House					
Longitude Latitude	N 21° 04.697' E 72° 38.420'					
Date of Monitoring	26/10/2020 & 27/10/2020	12/11/2020 & 13/11/2020	28/12/2020 & 29/12/2020	18/01/2021 & 19/01/2021	11/02/2021 & 12/02/2021	11/03/2021 & 12/03/2021
22:00-23:00	56.8	53.0	61.5	65.7	60.4	59.5
23:00-00:00	58.2	53.5	64.6	61.4	63.2	62.6
00:00-01:00	51.4	54.3	65.5	62.6	63.7	63.1
01:00-02:00	53.3	52.1	64.0	65.4	59.3	58.4
02:00-03:00	53.8	49.3	60.4	65.3	61.3	60.3
03:00-04:00	54.4	55.3	65.7	63.4	55.2	54.4
04:00-05:00	52.0	55.1	61.7	55.4	56.6	56.6
05:00-06:00	51.6	58.8	59.2	60.3	60.3	60.0

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.

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Table-1.18: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Container Terminal

Sampling Location	4 - Container Terminal					
Longitude Latitude	N 21° 05.187' E 72° 37.774'					
Date of Monitoring	19/10/2020	05/11/2020	17/12/2020	11/01/2021	04/02/2021	04/03/2021
6:00-7:00	54.3	58.1	56.5	59.2	65.0	64.1
7:00-8:00	56.2	59.6	56.0	57.4	61.4	61.2
8:00-9:00	56.8	61.0	56.3	56.1	66.5	65.9
9:00-10:00	61.4	64.2	58.2	62.9	61.3	60.7
10:00-11:00	61.8	62.5	62.1	64.2	59.5	58.8
11:00-12:00	62.3	70.0	62.0	67.3	62.2	61.3
12:00-13:00	62.4	64.7	64.3	68.5	67.3	67.1
13:00-14:00	58.3	68.2	66.0	65.3	70.4	69.4
14:00-15:00	58.9	65.8	57.5	61.9	69.2	69.0
15:00-16:00	61.5	60.8	60.1	66.6	57.8	57.3
16:00-17:00	61.9	64.8	62.2	60.2	55.9	55.0
17:00-18:00	63.1	67.4	63.6	68.4	58.6	58.3
18:00-19:00	59.3	66.8	62.3	63.2	67.4	66.5
19:00-20:00	58.8	69.1	62.9	67.9	63.3	63.1
20:00-21:00	55.2	70.5	60.9	63.7	55.3	54.4
21:00-22:00	54.8	63.2	62.8	66.3	56.9	56.6

#dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
Day Time shall mean from 6:00 am to 10:00 pm.

Table-1.19: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Container Terminal

Sampling Location	4 - Container Terminal					
Longitude Latitude	N 21° 05.187' E 72° 37.774'					
Date of Monitoring	19/10/2020 & 20/10/2020	05/11/2020 & 06/11/2020	17/12/2020 & 18/12/2020	11/01/2021 & 12/01/2021	04/02/2021 & 05/02/2021	04/03/2021 & 05/03/2021
22:00-23:00	54.8	56.7	58.8	60.6	66.5	66.3
23:00-00:00	52.3	51.2	61.0	59.9	61.8	61.5
00:00-01:00	52.8	56.4	57.3	58.1	65.0	64.4
01:00-02:00	56.3	53.6	55.4	56.9	57.6	57.4
02:00-03:00	51.2	59.4	56.2	58.6	64.2	63.2
03:00-04:00	53.4	59.0	58.1	53.2	61.0	60.9
04:00-05:00	55.8	61.1	54.6	59.3	54.7	54.3
05:00-06:00	51.5	62.8	58.2	59.6	56.4	56.1

#dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.

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Table-1.20: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Hazira Village

Sampling Location	5 - Hazira Village					
Longitude Latitude	N 21° 05.44' E 72° 38.44'					
Date of Monitoring	29/10/2020	17/11/2020	31/12/2020	21/01/2021	15/02/2021	15/03/2021
6:00-7:00	48.1	51.4	50.1	45.3	60.5	59.8
7:00-8:00	48.4	54.3	57.1	47.4	64.9	64.8
8:00-9:00	50.3	54.6	55.3	49.6	51.0	50.7
9:00-10:00	50.4	67.1	53.7	52.7	60.6	60.1
10:00-11:00	51.3	55.8	61.3	53.8	63.0	62.9
11:00-12:00	51.8	59.5	56.8	51.3	60.1	59.7
12:00-13:00	51.7	50.6	54.1	54.2	53.3	52.4
13:00-14:00	50.2	54.8	51.1	50.8	57.7	56.9
14:00-15:00	51.9	53.4	52.5	47.5	64.1	64.3
15:00-16:00	52.3	58.7	49.5	46.9	53.1	52.1
16:00-17:00	52.8	58.5	52.7	48.2	56.7	56.4
17:00-18:00	54.4	60.4	61.6	53.4	55.7	55.5
18:00-19:00	53.0	54.9	58.0	54.6	66.2	65.5
19:00-20:00	52.1	50.8	58.3	56.8	66.6	66.0
20:00-21:00	47.1	51.9	53.2	57.1	62.4	62.2
21:00-22:00	47.5	53.9	52.9	59.6	68.3	67.5

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
Day Time shall mean from 6:00 am to 10:00 pm.

Table-1.21: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: October, 2020 to March, 2021 At Hazira Village

Sampling Location	5 - Hazira Village					
Longitude Latitude	N 21° 05.44' E 72° 38.44'					
Date of Monitoring	29/10/2020 & 30/10/2020	17/11/2020 & 18/11/2020	31/12/2020 & 01/01/2021	21/01/2021 & 22/01/2021	15/02/2021 & 16/02/2021	15/03/2021 & 16/03/2021
22:00-23:00	48.8	41.4	50.2	54.4	56.9	56.5
23:00-00:00	47.3	48.9	46.4	48.6	55.4	54.8
00:00-01:00	47.2	45.3	46.2	47.7	62.2	61.9
01:00-02:00	48.4	47.7	44.6	50.9	60.6	59.8
02:00-03:00	45.3	40.4	39.3	41.6	58.5	58.1
03:00-04:00	44.7	42.7	40.0	45.9	64.6	64.1
04:00-05:00	44.8	42.0	44.3	48.3	65.8	65.3
05:00-06:00	43.2	50.2	48.4	50.6	60.2	59.6

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.

Note: The Noise Level of Hazira Village is compared with the Industrial area Norms as Hazira Village is surrounded by numbers of industries.

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4G. DG SETS STACK EMISSION AND NOISE LEVEL MONITORING: -

Table-1.22: DG Sets Stack Monitoring Results for the period: October, 2020 to March, 2021

Table-1.22 (a): DG Sets Stack Monitoring Results:

Sr. No.	Parameters	Unit	DG SET TOYO DENKI -1		DG SET TOYO DENKI -2		DG SET TOYO DENKI -3	
			26/11/2020	15/02/2021	26/11/2020	15/02/2021	26/11/2020	15/02/2021
1	Particulate Matter	mg/Nm ³	26.62	28.44	28.61	26.41	32.43	24.62
2	Sulphur Dioxide	ppm	6.23	5.79	7.68	4.9	8.57	6.45
3	Oxide of Nitrogen	ppm	30.56	27.39	33.63	30.41	36.43	33.53
4	Carbon Monoxide (CO)	mg/m ³	14.31	14.94	21.93	22.9	18.23	18.61
5	Non Methyl Hydro Carbon (NMHC)	mg/m ³	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Table-1.22 (b): DG Sets Stack Monitoring Results:

Sr. No.	Parameters	Unit	SS-1 LT DG -320 KVA		SS3 -DG -200 KVA		LT Phase -1 (625 KVA)	
			26/11/2020	15/02/2021	27/11/2020	16/02/2021	27/11/2020	16/02/2021
1	Particulate Matter	mg/Nm ³	19.67	17.53	17.58	15.52	14.5	18.62
2	Sulphur Dioxide	ppm	5.02	4.2	6.99	4.52	6.39	7.27
3	Oxide of Nitrogen	ppm	35.63	33.48	30.56	28.66	33.5	34.54
4	Carbon Monoxide (CO)	mg/m ³	18.32	13.74	9.16	6.87	14.89	12.6
5	Non Methyl Hydro Carbon (NMHC)	mg/m ³	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Table-1.22 (c): DG Sets Stack Monitoring Results:

Sr. No.	Parameters	Unit	LT Phase -2 (750 KVA)		ER-1 (100 KVA)	
			27/11/2020	16/02/2021	27/11/2020	16/02/2021
1	Particulate Matter	mg/Nm ³	24.55	26.57	19.52	21.58
2	Sulphur Dioxide	ppm	7.4	8.82	5.45	6.87
3	Oxide of Nitrogen	ppm	38.69	36.5	31.57	35.39
4	Carbon Monoxide (CO)	mg/m ³	19.47	9.16	10.31	14.89
5	Non Methyl Hydro Carbon (NMHC)	mg/m ³	Not Detected	Not Detected	Not Detected	Not Detected

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**Table-1.22 (d): DG Sets Stack Monitoring Results:**

Sr. No.	Parameters	Unit	NDG Building (380 KVA)		Custom Building (320 KVA)	
			27/11/2020	16/02/2021	27/11/2020	16/02/2021
1	Particulate Matter	mg/Nm ³	21.38	23.41	15.64	21.59
2	Sulphur Dioxide	ppm	5.98	6.84	4.46	5.48
3	Oxide of Nitrogen	ppm	38.56	35.57	32.57	30.56
4	Carbon Monoxide (CO)	mg/m ³	11.45	8.02	16.03	11.45
5	Non Methyl Hydro Carbon (NMHC)	mg/m ³	Not Detected	Not Detected	Not Detected	Not Detected

Table-1.23: DG Sets Noise Level Monitoring Results for the period: October, 2020 to March, 2021

Sr. No.	DG Set Average Noise Level In Leq. dB(A)		
	Sampling Location	At 1 M Distance From The Enclosure	
	Sampling Date	26 & 27/11/2020	15 & 16/02/2021
1.	DG SET TOYO DENKI - 1	68.8	67.2
2.	DG SET TOYO DENKI - 2	67.1	68.9
3.	DG SET TOYO DENKI -3	69.2	70.2
4.	SS-1 LT DG -320 KVA	64.2	63.5
5.	SS3 -DG -200 KVA	70.6	69.5
6.	LT PHASE -1 (625 KVA)	65.9	64.8
7.	LT PHASE -2 (750 KVA)	67.7	66.2
8.	ER-1 (100 KVA)	65.6	64.9
9.	NDG BUILDING (380 KVA)	68.4	65.8
10.	CUSTOM BUILDING (320 KVA)	68.8	67.2

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4H. SEA SEDIMENT QUALITY MONITORING: -

Table-1.25: Sea Sediment Quality Results of CB2 South End towards Landside for the period: October, 2020 to March, 2021

S. NO	PARAMETERS	UNIT	CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN (N 21° 5'1.92", E 72°37'56.58")					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
1	Organic Matter	%	0.49	0.47	0.51	0.63	0.56	0.46
2	Phosphorus as P	µg/g	663	639	603	742	628	706
3	Texture	---	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	Heavy Metals							
5.1	Aluminum as Al	%	4.92	4.92	4.79	5.14	4.68	4.7
5.2	Total Chromium as Cr ⁺³	µg/g	146	186	158	172	132	112
5.3	Manganese as Mn	µg/g	804	853	734	846	769	724
5.4	Iron as Fe	%	5.16	4.8	4.62	5.38	4.73	4.86
5.5	Nickel as Ni	µg/g	63	56	39	59	61.48	52
5.6	Copper as Cu	µg/g	49	47	27	46	58.2	36
5.7	Zinc as Zn	µg/g	136	204	183	132	124	150
5.8	Lead as Pb	µg/g	2.64	2.63	1.7	2.14	1.76	2.17
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	---	Polychaetes Branchyurans Decapods	Crustaceans Copepods Bivalves	polychaetes crustaceans ---	Crustaceans Polychaetes Isopods	Crustaceans Bivalves Polychaetes	Polychaetes Gastropods Bivalves
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	---	Nematodes	Foraminiferans	Nematodes	Foraminiferans	Nematodes Foraminiferans	Nematodes ---
6.3	Population	No./m ²	324	352	382	529	499	441

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Sediment.

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Table-1.26: Sea Sediment Quality Results of MP1 West End towards Channel of Sea Basin for the period: October, 2020 to March, 2021

S. NO.	PARAMETERS	UNIT	MP1 WEST END TOWARDS CHANNEL OF SEA BASIN (N 21° 5'9.78", E 72°37'24.48")					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
1	Organic Matter	%	0.48	0.48	0.51	0.58	0.62	0.52
2	Phosphorus as P	µg/g	613	630	596	687	573	674
3	Texture	--	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	Heavy Metals							
5.1	Aluminum as Al	%	4.96	4.89	4.63	5.16	4.92	4.73
5.2	Total Chromium as Cr ⁺³	µg/g	132	207	174	190	183	128
5.3	Manganese as Mn	µg/g	826	872	810	834	724	702
5.4	Iron as Fe	%	4.83	4.68	4.46	4.69	4.58	4.76
5.5	Nickel as Ni	µg/g	61	57	43	60	53.2	57
5.6	Copper as Cu	µg/g	54	43	27	47	62.7	43
5.7	Zinc as Zn	µg/g	170	209	180	168	146	132
5.8	Lead as Pb	µg/g	2.68	2.36	1.74	2.7	1.93	2.29
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	Branchyuran s Polychaetes Isopods	Polychaete worms Crustaceans Gastropods	polychaetes crustaceans Bivalves	Crustaceans Polychaetes	Crustaceans Polychaetes Bivalves	Polychaetes Gastropods Decapods
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes	Foraminifera ns	--	Foraminifera ns Nematodes	Foraminifera ns	Nematodes
6.3	Population	No./m ²	353	322	441	471	529	353

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Sediment.

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Table-1.27: Sea Sediment Quality Results of CB1 End towards Channel for the period: October, 2020 to March, 2021

S. NO.	PARAMETERS	UNIT	CB1 WEST END TOWARDS CHANNEL OF SEA BASIN (N 21° 5'14.67" , E 72°37'40.14")					
			OCT-20	NOV-20	DEC-20	JAN-21	FEB-21	MARCH-21
1	Organic Matter	%	0.47	0.47	0.53	0.56	0.64	0.52
2	Phosphorus as P	µg/g	636	639	598	634	738	678
3	Texture	--	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	Heavy Metals							
5.1	Aluminum as Al	%	4.83	4.98	4.79	5.24	4.86	4.68
5.2	Total Chromium as Cr ⁺³	µg/g	150	214	186	198	159	112
5.3	Manganese as Mn	µg/g	820	836	713	802	728	724
5.4	Iron as Fe	%	4.79	4.7	4.56	4.76	4.65	4.86
5.5	Nickel as Ni	µg/g	60	56	41	59	36.2	52
5.6	Copper as Cu	µg/g	54	43	32	43	58.9	36
5.7	Zinc as Zn	µg/g	168	198	170	186	132	150
5.8	Lead as Pb	µg/g	2.46	2.19	1.56	2.34	1.78	2.17
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	Branchyuran s Polychaetes --	Polychaete worms Bivalves Crustaceans	polychates crustaceans --	polychates crustaceans Decapods	Polychaetes Crustaceans Decapods	Polychaetes Gastropods Bivalves
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes	Foraminifera ns	Nematodes	Nematodes	Foraminifera ns Nematods	Nematodes --
6.3	Population	No./m ²	294	381	412	441	559	441

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Sediment.

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**4I. SOIL QUALITY MONITROING: -****Table-1.28A : Soil Quality Testing Results for the period: October, 2020 to March, 2021**

SR. NO.	PARAMETERS	UNIT	NEAR LT CANTEEN PARKING	
			31/12/2020	30/03/2021
1	Type	--	Sandy Loam	Sandy Loam
Grain Size Analysis				
2	Gravel	%	3	2.5
3	Coarse Sand	%	8	8.5
4	Medium Sand	%	22	23
5	Fine Sand	%	39	41
6	Total Sand	%	72	75
7	Silt + Clay	%	28	25
8	pH (1:5)	--	8.95	8.79
9	Electricity Conductivity	µmho/cm	1840	1983
10	Alkali matter	mg/kg	512	490
11	Cation Exchange Capacity	meq/100 gm	11.5	11.76
12	Sodium Absorption Ratio	--	10.1	10.32
13	Organic Matter	mg/kg	0.75	0.73
14	Available Nitrogen	meq/100 gm	0.54	0.58
15	Available Potassium	mg/kg	3.5	5
16	Available Phosphorus	mg/kg	0.4	0.38
17	Available Sodium	mg/kg	5	5.72
18	Permeability	cm/sec	1.1×10^{-7}	1.2×10^{-7}

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Soil Quality.

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**Table-1.28B: Soil Quality Testing Results for the period: October, 2020 to March, 2021**

SR. NO.	PARAMETERS	UNIT	NEAR PORT GATE NO. 2	
			31/12/2020	30/03/2021
1	Type	--	Sandy Loam	Sandy Loam
Grain Size Analysis				
2	Gravel	%	1.8	1.7
3	Coarse Sand	%	3.2	3.3
4	Medium Sand	%	33	32
5	Fine Sand	%	38	37
6	Total Sand	%	76	74
7	Silt + Clay	%	24	26
8	pH (1:5)	--	8.43	8.37
9	Electricity Conductivity	µmho/cm	1428	1580
10	Alkali matter	mg/kg	556	569
11	Cation Exchange Capacity	meq/100 gm	20.2	17.6
12	Sodium Absorption Ratio	--	9.8	10.2
13	Organic Matter	mg/kg	0.52	0.64
14	Available Nitrogen	meq/100 gm	0.48	0.58
15	Available Potassium	mg/kg	3.2	5.9
16	Available Phosphorus	mg/kg	0.56	0.75
17	Available Sodium	mg/kg	2.3	5.1
18	Permeability	cm/sec	1.5×10^{-7}	1.6×10^{-7}

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Soil Quality.

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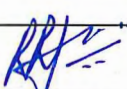

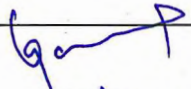
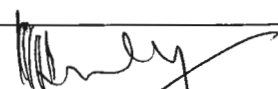
**From: October 2020
to March 2021**

ANNEXURE-5

Updated Emergency Response Plan & Disaster Management Plan



EMERGENCY RESPONSE
AND
DISASTER MANAGEMENT PLAN
OF
ADANI HAZIRA PORT PVT. LTD. –
LIQUID TERMINAL
HAZIRA-SURAT

	UPDATED BY	REVIEWED BY		APPROVED BY
NAME	R R Jambudi	Jeetendra Vyas	Gaurang Chudasama	Pranav Choudhary
DESIG.	AGM-HSE	GM-HR	Head – Liquid terminal	Chief Executive Officer
SIGN.				
Date	28/5/20	28/5/2020	28/05/2020	28/05/2020



EMERGENCY RESPONSE
AND
DISASTER MANAGEMENT PLAN
OF
ADANI HAZIRA PORT PVT. LTD. –
LIQUID TERMINAL
HAZIRA-SURAT

	UPDATED BY	REVIEWED BY		APPROVED BY
NAME	R R Jambudi	Jeetendra Vyas	Gaurang Chudasama	Pranav Choudhary
DESIG.	AGM-HSE	GM-HR	Head – Liquid terminal	Chief Executive Officer
SIGN.				
Date				

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B. REVISION RECORD SHEET

When it becomes necessary to revise contents of this EMERGENCY ACTION PLAN, the issue of a new page will make corrections for the relevant section. The plan will bear the revision no. & Date of revision and the same are entered on this revision record sheet and approved by Chief Executive Officer.

The recipient should destroy the old page(s) and insert the revised sheets along with this revision record sheet.

[illegible]

C. AUTHORIZATION

- This "EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN" is the property of Adani Hazira Port Private Limited and is authorized for use in the AHPPL premises.

- **MANAGEMENT APPOINTEE/ MANAGEMENT REPRESENTATIVE**

D. FOREWORD

The management of Adani Hazira Port Private Limited, referred to as AHPPL is committed to the establishment and maintenance of action plans to meet any emergency for the purpose of fulfilling. The objectives of occupational health & safety and protection of environment.

In order to harmonize the actions during an emergency, a set of guidelines have been identified and included in this plan.

Individual departments and every individual shall take into account the guidelines given in this plan.

The guidelines given in this plan are broadly directional, and nothing in this plan shall restrict the Site Main Controller and/ or Site incident Controller to take additional measures in the interest of safety of men, machine and for the protection of environment.

- **MANAGEMENT APPOINTEE/ MANAGEMENT REPRESENTATIVE**

E. Schedule – 8 A

*Under Rule – 68-J (12) (1) of Gujarat Factories Rules 1963(2004)
Schedule – 11*

Under Rule – 13(1) of MSIHC Rules 1989 (2000)

1.	Name and Address of the person furnishing the information	:	<p>Full Name of Company</p> <p>Adani Hazira Port Pvt. Ltd., At & PO Hazira, Choriyashi,</p> <p>Tal: Choriyashi</p> <p>Dist. Surat</p> <p>Surat 394 270</p> <p>Phone Factory : 0261 2207510</p> <p>Tel Fax : 0261 2207777</p> <p>Full Name & Address of the Occupier:</p> <p>Capt. Sandeep Mehta</p> <p>Flat No. 304, Wing - A,</p> <p>Chaitanya Towers,</p> <p>Appa Saheb Marathe Marg,</p> <p>Prabhadevi,</p> <p>Mumbai - 400025</p> <p>Phone: 02266881116</p> <p>Full Name & Address of the Factory Manager</p> <p>Mr Gaurang Chudasama</p> <p>C-203 Shreepad Panorama,</p> <p>Palanpor, Surat.</p> <p>395009.</p> <p>Phone No Office 0261-2207539.</p>
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2.	Key personnel of the organization and responsibilities assigned to them in case of an emergency		:	As per Chapter 10, Annexure 14, 15, 16, 17, 18, 29.
3.	Outside organizations if involved in assisting during On-Site Emergency		:	As per Chapter 11, Annexure 28, Appendix G.
	(a)	Type of accidents		Fire, Explosion, Spillage, Release of Corrosive/Toxic liquids
	(b)	Responsibility assigned		Mutual understanding as per chapter 11.
4.	Details of liaison arrangement between the organizations		:	Telephone, Mobiles, Messengers, Wireless, Fax, Internet, Emergency Vehicles.
5.	Information on the preliminary hazard analysis		:	As per Chapter-7
	(a)	Type of accidents		As per Chapter-7
	(b)	System elements or events that can lead to a main accident.		As per Chapter-7
	(c)	Hazards.		As per Chapter-7
	(d)	Safety relevant components		As per Chapter-16, Appendix C, H
6.	Details about the site		:	
	(a)	Location of dangerous substances.		Liquid Terminal – Storage Tank Farm, Connected pipeline, Loading / Unloading facilities at AHPPL, Hazira, Ta. Choryashi, Dist. Surat
	(b)	Seat of key personnel		Port Administration building, & all plant complex. As per Annexure 17
	(c)	Emergency control room		As per Annexure-20
7.	Description of hazardous chemicals at plant site		:	

ADANI HAZIRA PORT PVT. LTD.
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	(a)	Chemicals (quantities and toxicological data).		As per Annexure 4 & 5
	(b)	Transformation if any which could occur.		As per Annexure 5
	(c)	Purity of hazardous chemicals.		As per customer requirement
8.	Likely dangers to the plant		:	Refer Chapter-5
9.	Enumerate effects of		:	
	(i)	stress and strain caused during normal operations		<p>Equipment / piping – properly designed and tested before use</p> <p>Human being-Stress & Strain can cause various type of frustration like Aggression, fixation, resignation, negativism, repression and withdrawal.</p> <p>To overcome stress & strain company is providing various soft skills & stress management training program.</p>
	(ii)	Fire and explosion inside the plant and effect if any of fire and explosion outside.		As per Chapter 7, Annexure-11
10.	Details regarding		:	
	(i)	Warning, alarm and safety and security systems.		As per Annexure-26.

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	(ii)	Alarm and hazard control plans in line with disaster control and hazard control planning, ensuring necessary technical and organizational precaution.		Details of Alarm & Siren are given in Annexure 26, Hazard & Control systems are given in Annexure – 4 & 6.
	(iii)	Reliable measuring instruments, control units and servicing of such equipment		Periodical Calibration of Equipment
	(iv)	Precautions in designing of the foundation and load bearing parts of the building		Various Prevailing Standards followed & Stability Certificate obtained
	(v)	Continuous surveillance of operations.		Preventive Maintenance and inspection
	(vi)	Maintenance and repair work according to the generally recognized rules of good engineering practices		Yes
11.	Details of communication facilities available during emergency and those required for an Off-Site Emergency.		:	Telephone, Mobiles, Messengers, Wireless, Fax, Internet, Emergency Vehicles, Security Jeep with PA system, hand held PA System Chapter 14 Communication and Public affairs Important Telephone Nos. are given in Chapter 12, Annexure 27, 28, Appendix – A , B,
12.	Details of firefighting and other facilities available and those required for an off-site emergency.		:	As per Chapter 16, Annexure-21, Appendix – H

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13.	Details of first aid and hospital services available and its adequacy.	:	First Aid Box is provided in all departments. Facility available at own Medical Centre is given in Annexure - 22, List of First Aid Trained Persons are given in Appendix – D. Telephone Nos. of Important Hospital are given in Annexure 28.
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G. Health & Safety Policy



adani Hazira Port Pvt. Ltd.

Quality, Occupational Health, Safety & Environment Policy

Adani Hazira Port Pvt. Ltd. is committed to Quality, Occupational Health, Safety & Environment in port Business. We consider QHSE responsibilities are integral part of our Business. To meet this commitment, AHPPL shall abide by the following Principles:

- ◆ Satisfy our customers by maintaining a standard of service that consistently meets the agreed requirements;
- ◆ Focus on Occupational health & safety of employees, pollution prevention, preservation & protection of environment at all times and in all circumstances;
- ◆ Identify and analyse the HSE risks arising from our activities to reduce them to the lowest possible levels;
- ◆ Eliminate or reduce the potential and severity of injuries, damages to material and non-material assets, and impact on environment & community arising out of our operations;
- ◆ Conform to applicable legislations, regulations and other requirement on QHSE and take additional measures considered necessary;
- ◆ Shall strive to achieve the QHSE goals and performance objectives, using effective management system; and reviewed to improve performance;
- ◆ Develop, conduct & promote education and training and ensure workers participation and consultation to improve QHSE performance;
- ◆ Continually improve QHSE management system by monitoring, evaluating and reviewing through the definitions of operational standards, assessments and audits;
- ◆ Communicate our policies and standards to employees, suppliers, business partners and where ever necessary, work with them to raise their standards.

Head - Ports

Date: 01st July 2019

Signed by Mr. Pranav Choudhary – CEO, AHPPL

1.0 INTRODUCTION

- This "EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN" is the property of Adani Hazira Port Pvt. Ltd., herein after referred to as AHPPL, and shall not be removed from the Company's premises.
- This EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN is distributed to all users in soft copy. This EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN shall not normally be distributed to outsiders.
- The holder of the control copy shall ensure that the persons working under him, who are responsible for any activity described in this EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN, are made aware of such responsibility. All persons to whom the EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN has been circulated shall also be made aware of any revisions there to by the holder of the controlled copy of the EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN. Preliminary and periodic ER & DMP trainings will be conducted and records for the same will be maintained.
- A signed copy of this document shall be made available to the Harbor Master (HPPL), and also as and when any changes are made to it.
- ERDMP updated hard copy is available with MR/MA.

Details of AHPPL are mentioned in Annexure 1 Identification of Factory. The Map of the area – General Lay out is also mentioned in Annexure 2.

2.0 ABBREVIATIONS

AHPPL	:	ADANI HAZIRA PORT PRIVATE LIMITED
CG	:	Close Godown
Cont.	:	Continue
LT	:	Liquid Terminal
CT	:	Container Terminal
DC	:	Dry Cargo
Dept.	:	Department
ER & DMP	:	Emergency Response & Disaster Management Plan
ES	:	Engineering Services
Ex.	:	Example
GEN.	:	General
GM	:	General Manager
GMB	:	Gujarat Maritime Board
Govt.	:	Government
HPPL	:	Hazira Port Pvt. Ltd. (Shell)
HOD	:	Head of Department
HOS	:	Head of Section
HR	:	Human Resources
ICG	:	Indian Coast Guards
MP	:	Multi Purpose
MPT	:	Multi Purpose Terminal
OSY	:	Open Stack Yard
P & A	:	Planning & Allocation
POC	:	Port Operation Control
PPEs	:	Personal Protective Equipment
PRO	:	Public Relation Officer
PROC.	:	Procedure
QHSE & F	:	Quality, Health, Safety, Environment & Fire
R & D	:	Research & Development
SCBA	:	Self Contained Breathing Apparatus

3.0 GLOSSARY

Accident	An undesired event that has a probability of causing personal injury or damage to property or environment or both.
Cold Zone	Area outside the warm zone that poses minimal or negligible hazards to emergency response personnel. The command post, deployed apparatus and the resource staging area should be located in this zone.
Contingency	A future event or circumstance which is possible but cannot be predicted with certainty, Any unforeseen event
Coordinator	HOD or senior most functionaries in the respective services and other critical personnel available at site at the time of an emergency. They will report at the Emergency Control Center, unless and otherwise instructed by the site main controller.
Crisis	Is any event that is, or is expected to lead to, an unstable and dangerous situation affecting an individual, group, community, or whole society.
Disaster	Disaster is as catastrophic situation and is a result of sudden occurrence of chain of unforeseen events due to natural causes which affects normal working within the factory premises and also in the vicinity, causing serious injuries, loss of lives and extensive damage to the property.
Emergency	Any situation which presents a threat to safety of persons, property and/ or the environment. It may require call for outside help.
Emergency Control Center	In the event of an emergency, Port Operation Center has been declared as Emergency Control Center (POC). Port Operation Center (POC) is situate at Marine Control,
Emergency Support Officers	Personnel who is in control of the area, dept., manpower and with his help the emergency can be tackled.
Hazard	source, situation, or act with a potential for harm in terms of human injury or ill health (3.8), or a combination of these
Hazardous Occurrence	An undesired situation having potential to result in an incident, if left as such.
Hot Zone	Area of maximum hazard surrounding the damaged or fire area that may only be entered by specially equipped and

	trained response personnel.
Incident	<p>Work-related event(s) in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred</p> <p>NOTE 1 An accident is an incident which has given rise to injury, ill health or fatality.</p> <p>NOTE 2 An incident where no injury, ill health, or fatality occurs may also be referred to as a "near-miss", "near-hit", "close call" or "dangerous occurrence".</p> <p>NOTE 3 An emergency situation is a particular type of incident.</p>
Major Incident	It is a sudden, unexpected, unplanned event resulting from uncontrolled developments during an industrial activity.
Non-Essential Personnel	Consists of employees, contractor's employees, visitors etc. (other than emergency response personnel) present at the incident site. In the event of an emergency, these persons shall assemble at the emergency assembly point of the plant/ area and shall respond as instructed by the site incident controller. They shall assemble in a manner as directed by Assembly point In charge so that counting is easy – preferably 6X4 format.
Plant Key Person	Head of Department of individual process plant(s). {Should assume charge of Site Incident Controller in case of an emergency in their respective plant(s)}.
Warm Zone	Area of moderate hazard outside the hot zone in which properly equipped and trained back-up crews remain standby and decontamination can be carried out.

4.0 PURPOSE, SCOPE & OBJECTIVE

4.01. PURPOSE

The purpose of this plan is to:

- Establish & define roles of coordinators, key personnel and other emergency response personnel.
- Establish guidelines for effective response to any emergency.
- Ensure a smooth interface between various emergency procedures and the AHPPL Emergency Action Plan.

This document describes the structure for the management for emergencies and evacuation plans at AHPPL. The prime objective of the emergency response plan is to ensure that the activities are carried out in the following priorities:

- Safeguard lives
- Protect the environment
- Protect company and third party assets
- Maintain company image and reputation
- Manage external stakeholders
- Resume normal activities
- Identify pre incident scenarios and outline mitigation process.

Personnel involved with dealing with emergencies shall follow these priorities when making decisions and developing strategies.

4.02 SCOPE & OBJECTIVE

Disaster and AHPPL:

A major emergency in Port is one, which has the potential to cause serious injury or loss of life. It may cause extensive damage to property and serious disruption both inside and outside the port. Sometimes, it would require the assistance of outside emergency services to handle it effectively. Although an emergency may be caused by a number of different factors, viz. plant failure, human error, earthquake, Cyclone, flood, vessel collide, vehicle crash, major spillage or sabotage, it will normally manifest itself in basic forms viz. - Fire, Major Liquid release, Explosion.

Need of Disaster Response Plan:

In spite of universal acceptance of excellent codes of practices for design and operation of plants and storage, there have been occurrences of a number of losses due to major incidents of varying degree of severity. In fact, no industrial plant or office and no commercial or mercantile organization can be

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totally immune from disaster. These disasters could be attributed to various causes including failure of adherence to codes of practice.

The first few minutes after an emergency situation occurs are generally the most critical. The wrong action or a few seconds delayed action in crises can make all the difference. A quick and effective response at that time can have tremendous significance on whether the situation is controlled with little loss or whether it turns into a disaster.

Contingency planning increases thinking accuracy and reduces thinking time in an emergency, which reduces loss. The effectiveness of what we should do if disaster strikes will depend upon how well we have prepared the contingency plans and trained the people who will have to implement them. Even if the plans generated and equipment provided are never used, the very fact that the plans have been developed and equipment have been provided creates confidence among employees and from an economic point, may reduce the insurance rates.

The Social and legal consequences of "Bhopal" Gas Tragedy have sufficiently demonstrated that these considerations alone are important enough to persuade management of hazardous plants to develop suitable plans.

Thus disaster is a situation generally arising with little or no warning and causing or threatening death, injury or serious disruption to people and services which cannot be controlled, by fire, police and services operating alone. The incident will require special mobilization and co-operation of other bodies and voluntary organization.

The very purpose of this plan is to activate the emergency response organization smoothly and effectively, once the emergency is declared. The plan details the arrangements for responding to emergency scenarios, covering in details the following aspects:

- To assess and define emergency including level of risk.
- To contain the incident and bring it under control.
- To coordinate with mutual aid members and Government authorities.
- To minimize damage to lives, property and the environment.
- To rescue and evacuate workers to safe areas.
- To provide necessary assistance to casualties.

This response plan will identify what needs to be done during various situation and how. However, the action plan to achieve the recommended objectives can only be met if all the assigned responsibilities either for a particular person or dept. are performed.

For this plan to be effective, it is necessary that:

- Coordinators, key personnel and other emergency response personnel are familiarized with this action plan.

- On-site resources are mobilized in minimum time.
- Assistance from outside agencies is readily available.
- The drills for identified emergencies are regularly exercised.
- The emergency responses are reviewed and updated based on latest developments, other information and requirements in order to improve effectiveness of the AHPPL-ER & DMP.

5.0 EMERGENCY SIREN CODE

Sr. no.	Location of the Siren	Type of the Siren	The Alarm (Signal) is heard (Seen)	Type of Emergency	Duration of Sounding
1	At ER – 1 Building (Near MP Jetty) At SS-1 Building (Marine Control Room)	Double mounding, motor driven	Wailing ____(Off)____(Off)____(Off)	Liquid spillage / Gas leakage	Two minutes
			Wailing ____(Off)____(Off)____(Off) Two times	Fire	Four minutes
			_____(Two minute)	All clear	Two minutes

NOTE : Siren Testing will be carried out every Tuesday at 11:00 hrs for ER-1 and 11:30 for SS-1

ON HEARING OF EMERGENCY SIREN

- Non-essential Personnel shall report to concern area head / area in charge for further instruction or follow the safe route of evacuation if announced
- Concerned head/concerned area head shall report to respective emergency control wings.

EMERGENCY NUMBERS

<i>Dept</i>	<i>Ext.</i>	<i>Mobile</i>
<i>Marine Control Room</i>	<i>61755, 61754</i>	<i>9909957115</i>
<i>Security Control Room</i>	<i>61700, 61701</i>	<i>9909957114</i>
<i>Fire Control Room</i>	<i>61633, 61617</i>	<i>9909957113/ 9099900848</i>
<i>Ambulance/ Medical Centre</i>	<i>61605, 61604</i>	<i>8980802405 / 06</i>
<i>Liquid Control room</i>	<i>61783, 61759</i>	<i>8980802656</i>
<i>Safety Common</i>	<i>61726</i>	<i>8980802896</i>
<i>Night Duty Officer</i>	<i>--</i>	<i>9099991011</i>

6.0 CLASSIFICATION OF EMERGENCIES

Different types of emergencies that may arise at AHPPL can be broadly classified as:

a) Nature – I (On – Site Emergency) –

Any Incident that possess the potential to cause injuries to personnel & damage to property and Environment in the vicinity of incident & which can be controlled within company by plant personnel without outside help.

It can be further subdivided into two levels:

Level – I The emergency is perceived to be a kind of situation arising due to an incident which is confined to a small area and does not pose an immediate threat to life and property and which can be handled with the resources available within the premises.

Shift In-Charge will be having the authority to declare Level – I Emergency.

Level – II The emergency is perceived to be a kind of situation arising due to an incident which poses threat to human lives and/ or property, having potential to affect large area within the factory premises. This kind of situation is beyond the control of internal resources and requires mobilization of additional resources from other sections/ departments and help from outside agencies. The situation requires declaration of On – Site emergency.

HOD will be having the authority to declare Level – II Emergency.

b) Nature – II (Off – Site Emergency – Level III)

Outside emergency deals with measures to prevent and control emergencies affecting public and Environment outside the factory.

The emergency is perceived to be a kind of situation arising out of an incident having potential threat to human lives and property not only within AHPPL but also in surrounding areas and environment. It may not be possible to control such situations with the resources available within AHPPL. The situation may demand prompt response of multiple emergency response groups as have been recognized under the District Emergency plan for HAZIRA. A similar situation in neighboring industry that may affect AHPPL and also falls under this category.

Only Site Main Controller will be having the authority to declare Level – III Emergency.

7.0 IDENTIFICATION OF POTENTIAL EMERGENCY SITUATION

AHPPL has established procedures to conduct HSE meetings, HSE audits, HSE walk and risk / aspect assessment to identify potential incident and emergency situations in the plant. The emergency situations, besides natural / man-made calamities, which have potential to cause serious injuries or loss of lives, damage to property and serious disruption inside and outside the organization or to environment, have been identified as fire, explosion and toxic/corrosive liquid release due to following locations / reasons – apart from physical common hazards eg fall from height, electrocution, fall of material, drowning etc.

SITE LOCATION and PROBABLE FAILURE / Hazard	TYPE OF INCIDENT
PIPELINE FAILURE	FIRE, EXPLOSION, CORROSIVE, TOXIC LIQUID
TANK FAILURE	FIRE, EXPLOSION, CORROSIVE, TOXIC LIQUID
GAS CYLINDERS	FIRE, EXPLOSION
HARBOUR AND YARD (COLLAPSE/FALL OF EOT, GANTRY, RTG CRANE, HYDRA, FALL OF PERSON, DROWNING, VEHICULAR HAZARDS)	PERSONAL INJURY TO MORE THAN 1 PERSON
OIL, CHEMICAL SPILLAGE	LAND CONTAMINATION, WATER CONTAMINATION, FIRE, PERSONAL INJURY
NEIGHBOURING INDUSTRIES	FLAMMABLE GAS RELEASE

For more detail on, storage hazards, process vessels hazards and controls, other hazards & trade waste disposals refer **Annexure: - 4, 6, 7, 8** respectively.

7.1 POTENTIAL EMERGENCIES

Sr. No.	Emergencies
1	Cyclonic Storm/ Hurricane
2	Earthquake
3	Tsunami
4	Flood
5	Industrial unrest
6	Bomb Threat
7	War
8	Food/ Water Poisoning
9	Fire / Explosion
10	Transportation / Storage Incidents involving Hazardous Material- leakage of

	flammable, corrosive or toxic substance
11	Medical Emergencies & Response
12	Marine Emergency
13	Outbreak of disease
14	Excessive rains
15	Failure of critical control system
16	Design deficiency
17	Unsafe acts
18	Inadequate maintenance
19	Riots / civil disorder / mob attack
20	Terrorism / Bomb Threat / Hijacking of merchant vessel within port limits
21	Sabotage
22	War / hit by missiles
23	Abduction

7.2 STAGES OF EMERGENCY PLAN

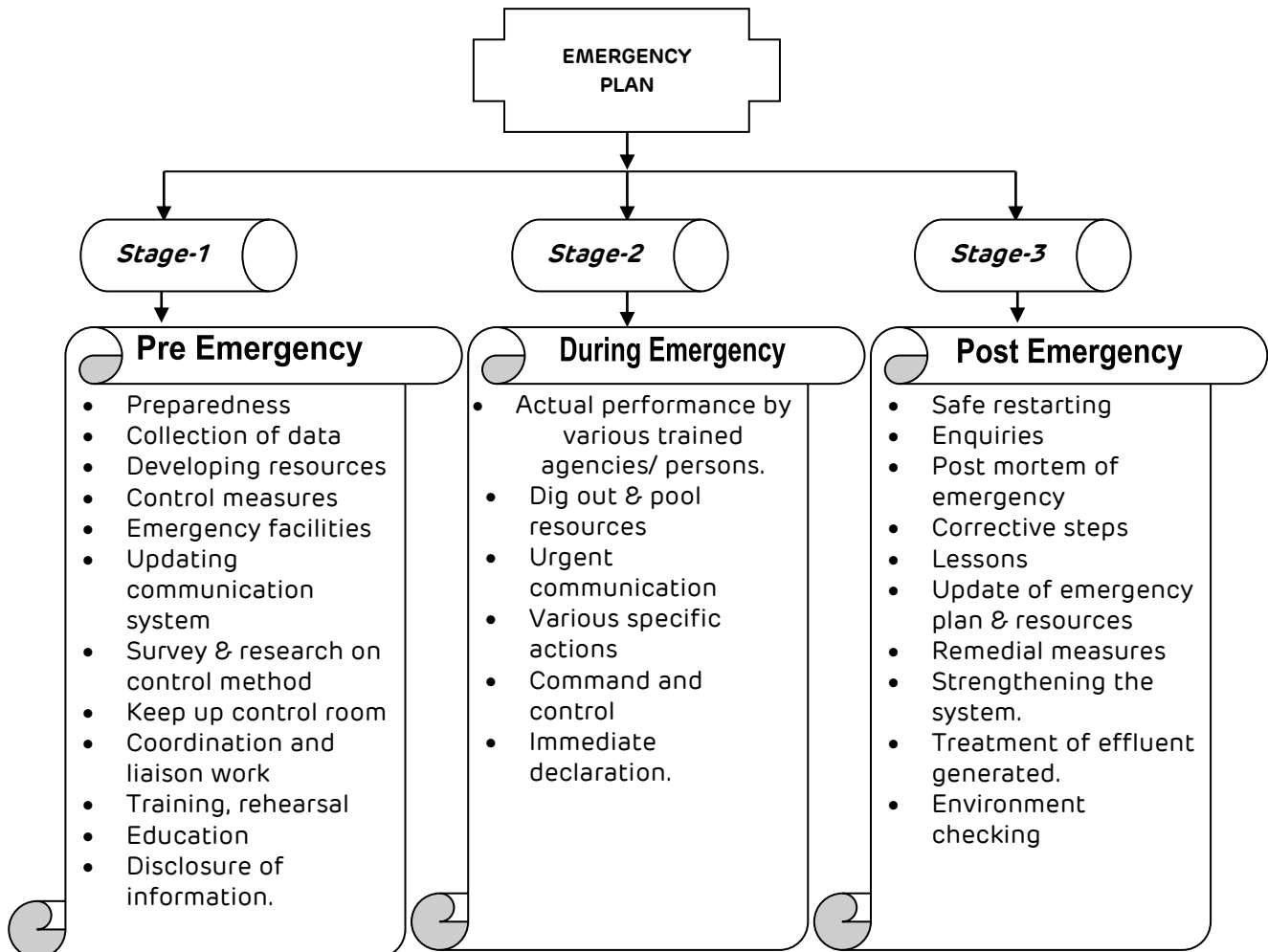
The plan consists of the actual performance of duties & responsibilities by designated personnel and other agencies. Therefore, the plan is divided into three stages.

The stage one is pre-emergency period preparedness, awareness and training parts during normal activities, and prior to emergency.

While stage second explains actions during emergency period i.e. during actual emergency period, specific duties and responding actions are to be performed by designated person by using available resources to control the emergency by various persons in systematic ways within shortest period.

The third stage indicates post-emergency period which describes rehabilitation and normalcy after the emergency and to preserve evidences and records for remedial measures, and to face inquiry as required by various authorities. It also explains corrective steps learnt from the incident and investigation of reasons behind the emergency to prevent re-occurrence of such type emergency.

CHART



8.0 EMERGENCY MANAGEMENT PLANNING

Flow Chart of Emergency Response during the emergency is given in Chapter 9.4, which foresees the order of command, channel of information flow and action with gravity of situation as required to deal with the emergency.

The single organization structure has been constituted and same shall be continued till the emergency is over.

The Shift In charge / senior most person present at the time of emergency in the department will be **Dy. Incident Controller**.

On assessing the situation he will initiate the action and also inform Head of the Dept. On arrival at site, HOD of the respective department shall take the initial charge as **Site Incident Controller**, and he will co-ordinate with different department including Fire & Security and Safety to respond to the situation.

The **Marine Control Room** will be used as **emergency control centre** and **Security Control Room** at NDC will be used as alternative emergency control centre.

On arrival of **Site Main Controller** - (Chief Executive Officer) to the site, he gets status of situation from the HOD (Site Incident Controller), Head HSE. After assessing situation, he will declare the "EMERGENCY" & he will act as site main controller and put On Site Emergency Plan in action.

9.0 EMERGENCY RESPONSE ORGANIZATION

AHPPL shall be responsible for dealing with all emergencies in operations under their operational control and within the Berth area. AHPPL shall respond to emergencies within the port and its port limits.

For control of an emergency, AHPPL has established an Emergency Response Organization headed by Business Head (alternate – next Sr. Officer In-charge), who shall be the Site Main Controller. This emergency response organization will provide the command and control structure to coordinate and direct the response to an emergency, and depending on the circumstances of the emergency will consists of:

9.1 Management Team

Business Head, Dy. Business Head (Site Main Controller)

Site Incident Controller – HOD or senior most functionaries available at site

HSE & Fire – HOD or senior most functionary of the department

Deputy Site Incident Controller – Section Head/Shift Incharge

9.2 Primary Support Team

Coordinators (HOD or senior most functionaries)

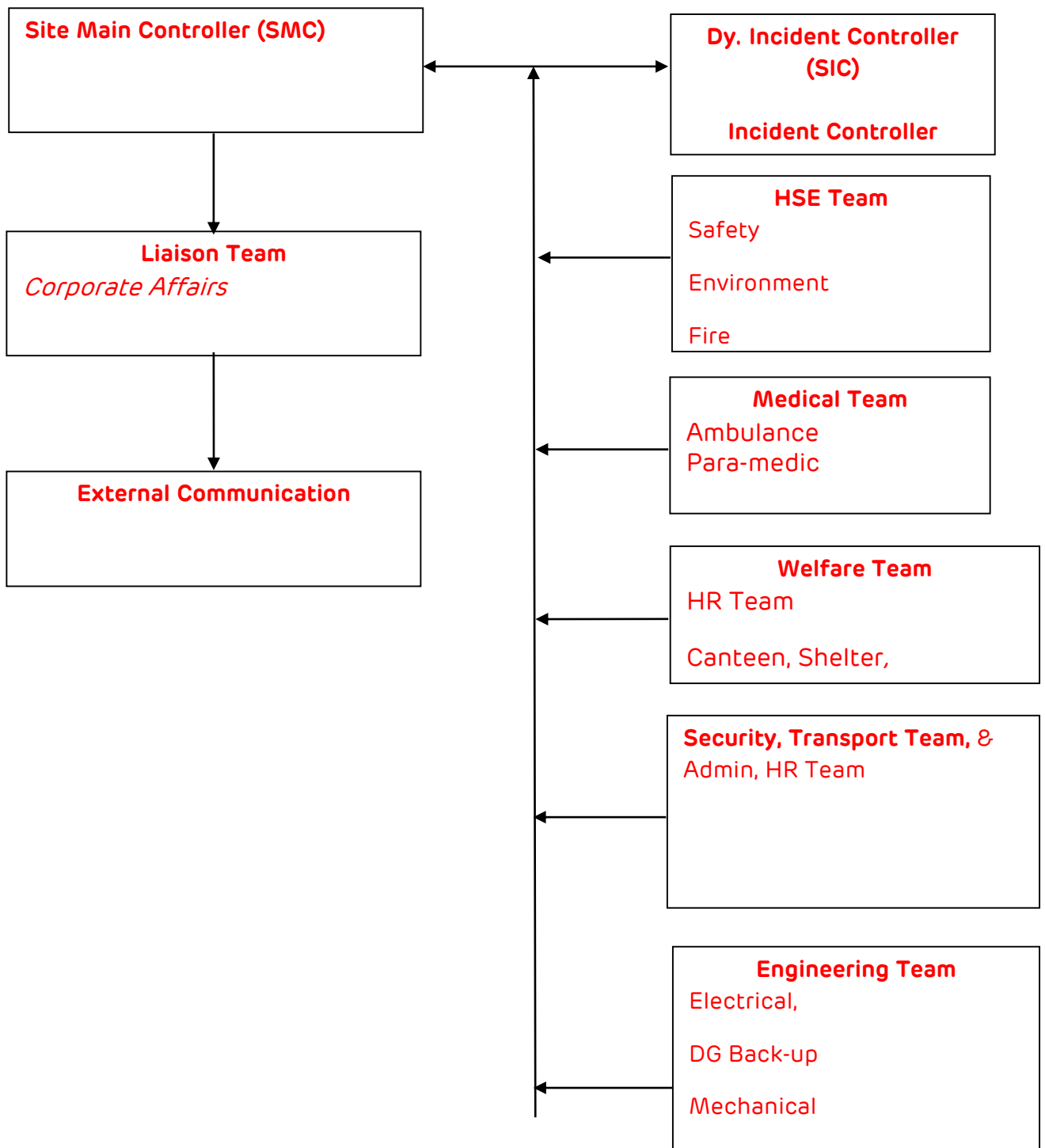
- **HSE & Fire Services**
- **Marine**
- **Security Services**
- **Occupational Health Center**
- **Engineering Services**
- **Human Resource**
- **Administration**

9.3 Secondary Support Team

Coordinators (HOD or senior most functionaries)

- **Finance & Accounts**
- **Commercial**
- **Administration (Transport Cell)**
- **Administration (Welfare & Canteen)**
- **Corporate Communication**

9.4 ORGANIZATION CHART FOR ON SITE EMERGENCY PLAN

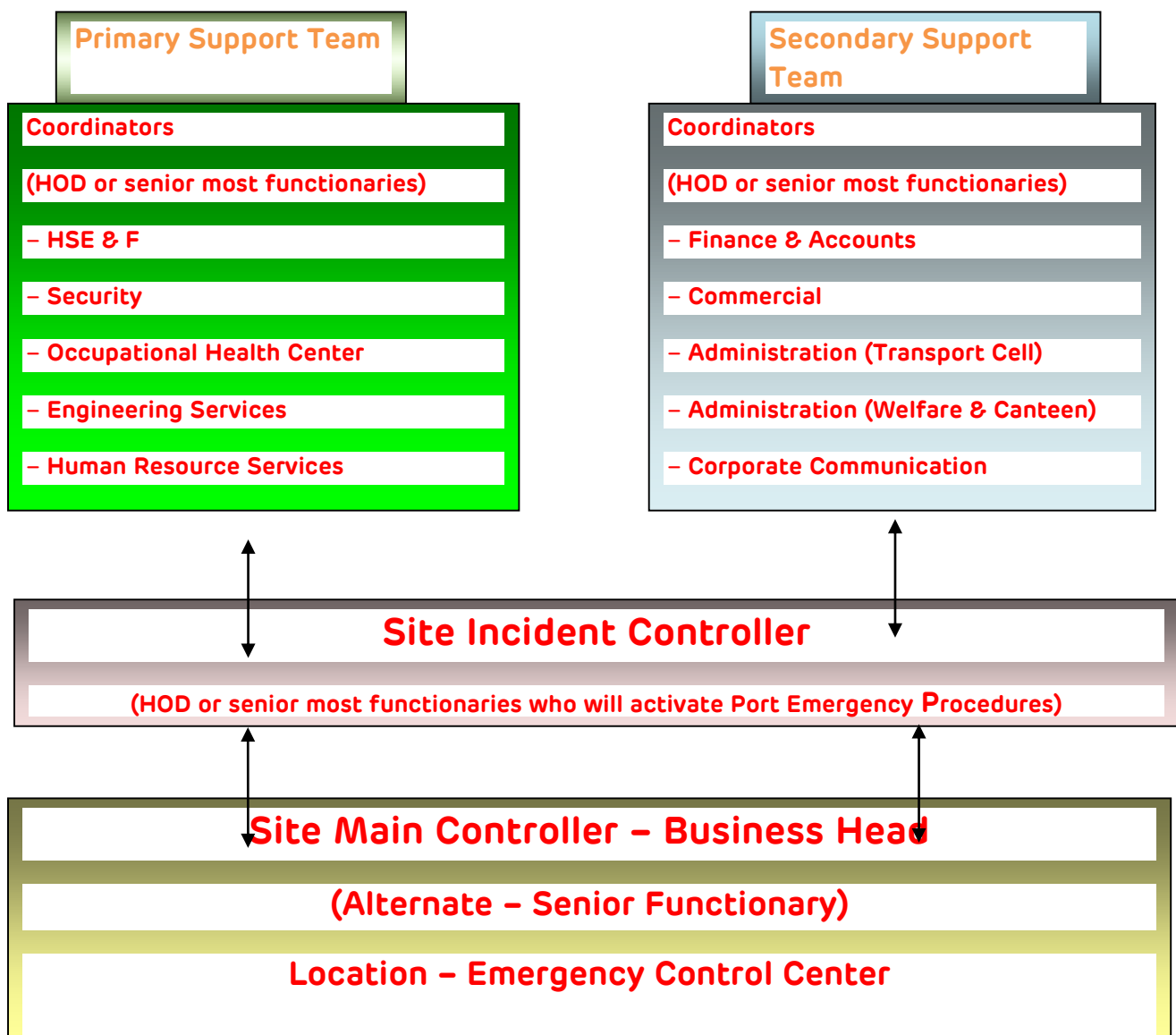


Only Site Main controller can activate the Level – III emergency response organization. An Emergency Control Center has been established in the Marine Control Room (Alternate – Security Control Room – Port Operation Centre).

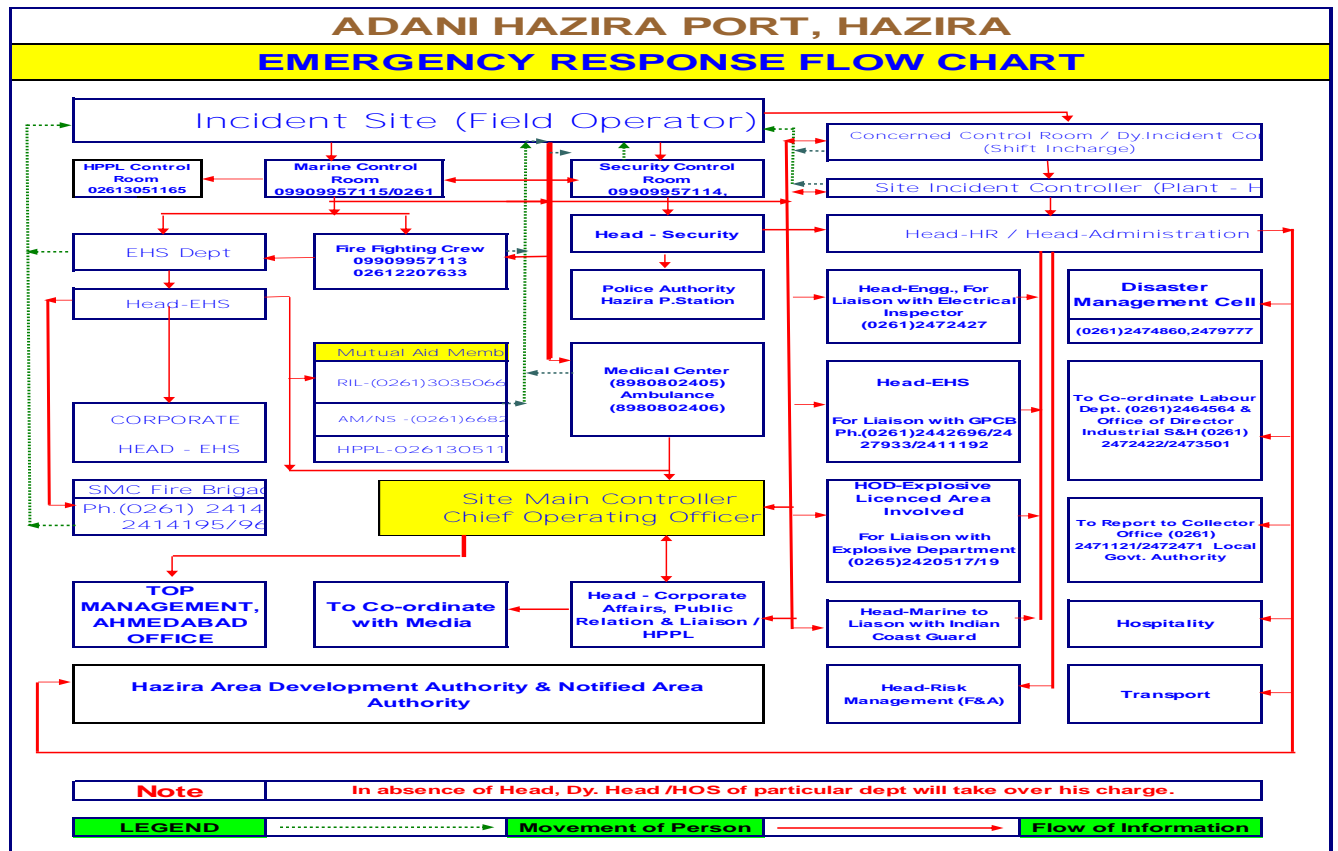
The primary role of the emergency response organization in an emergency shall be:

- Determine the degree to which the emergency response organization shall be activated.
- Determine extent of actual action required, organize and render assistance to Site Incident Controller.
- Coordinate with all other concerned.

9.5 EMERGENCY TEAM REPORTING PLAN

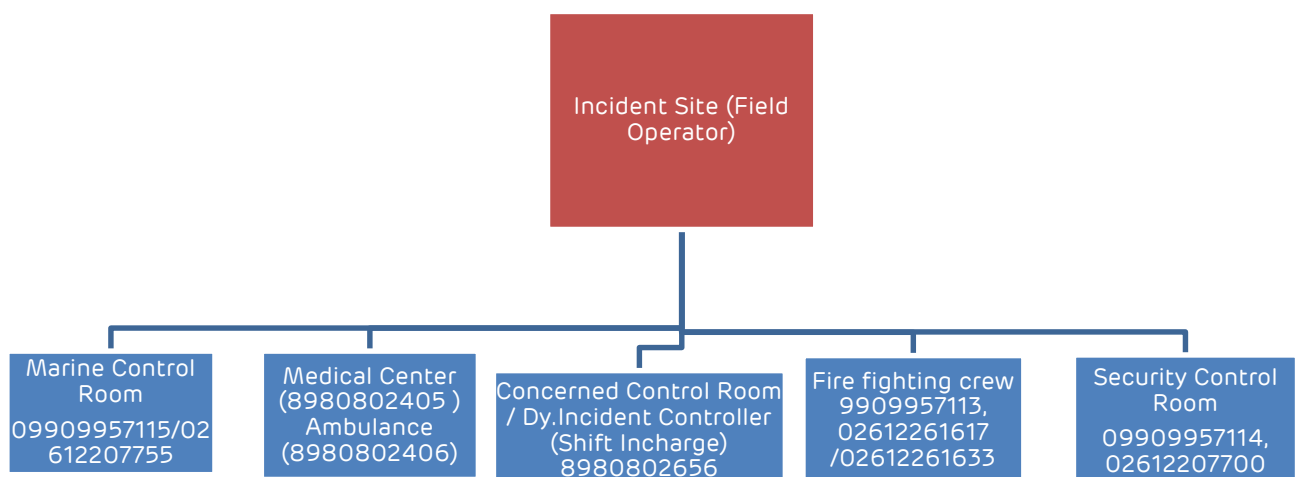


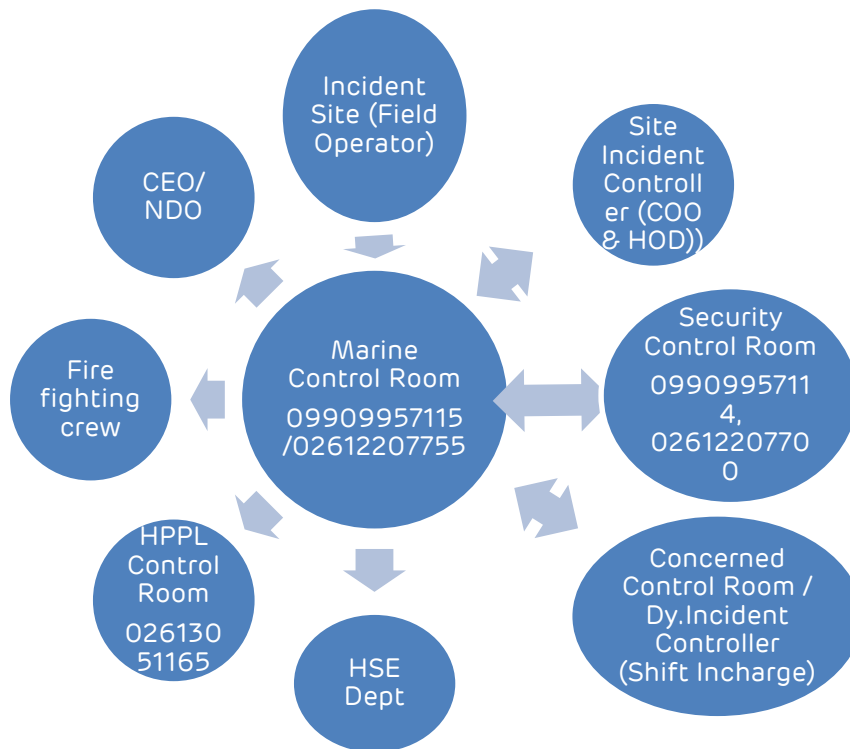
9.6 EMERGENCY RESPONSE FLOW CHART



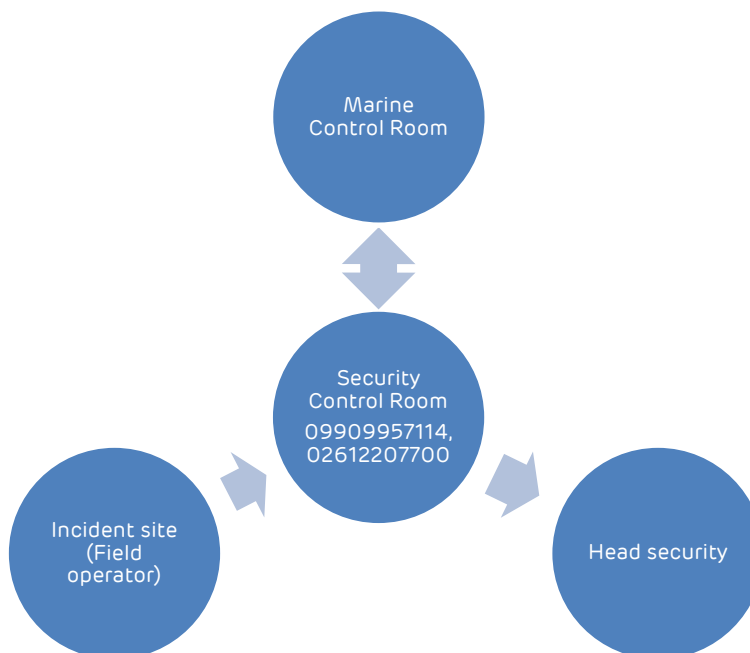
FLOW OF INFORMATION

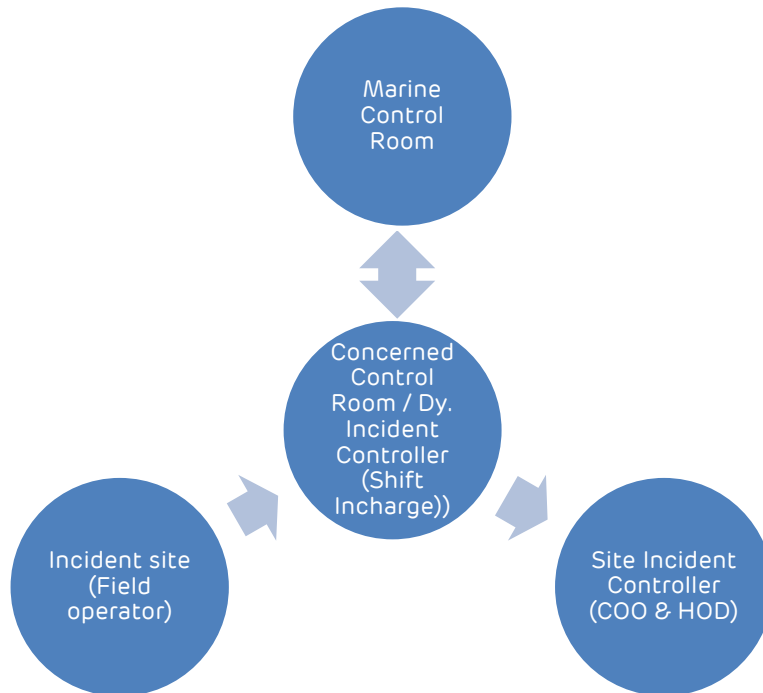
Information flow diagrams - Incident Site (Field Operator)



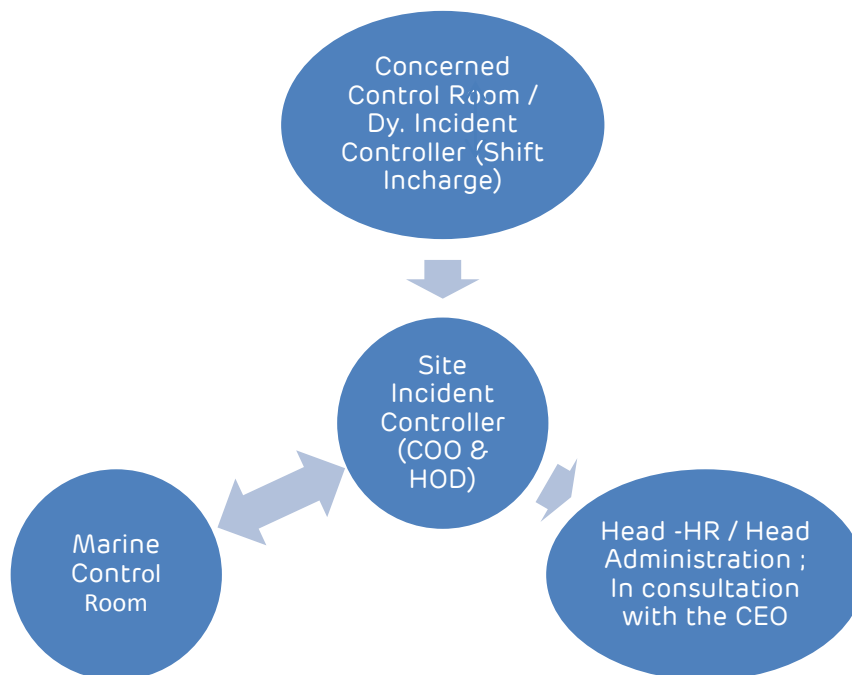


Security Control Room (Assume responsibility as Emergency Control Room, If Main Control Room is not operational)

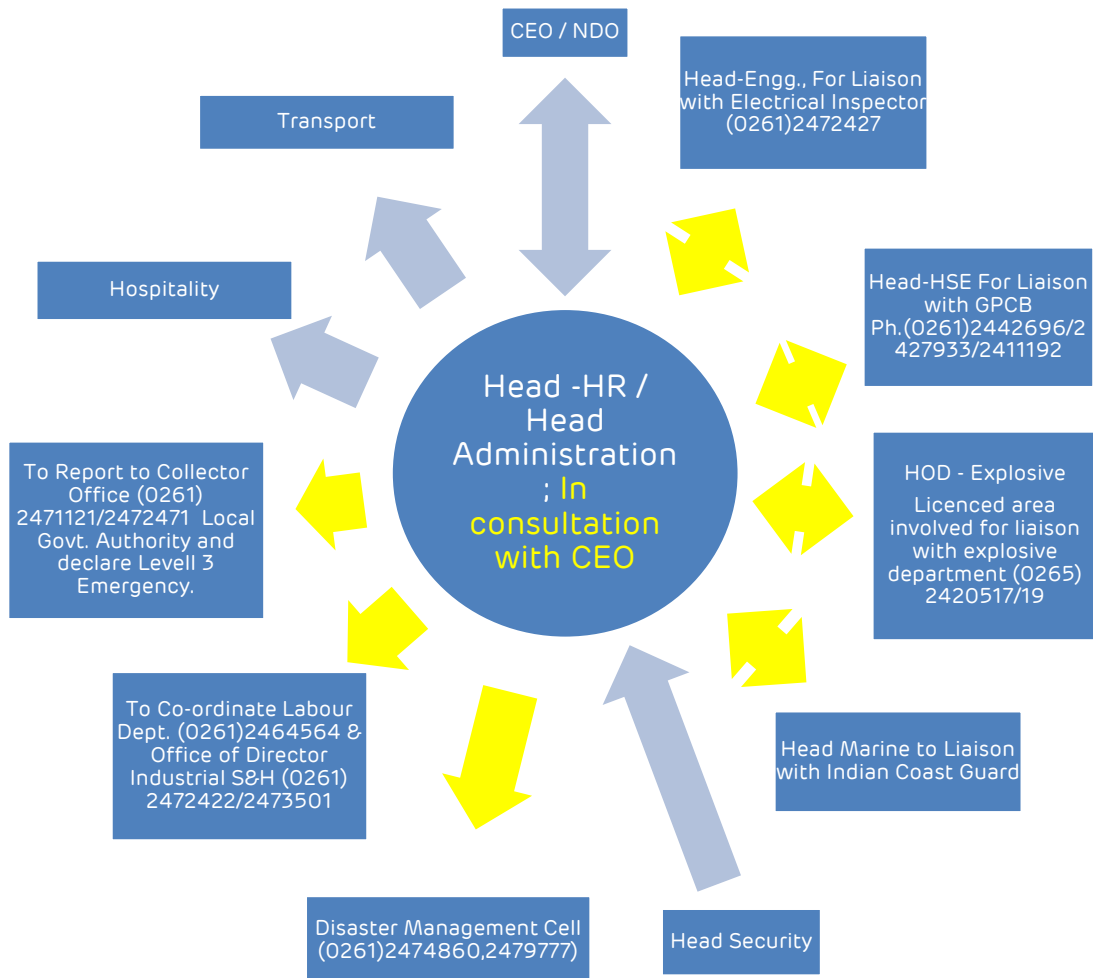




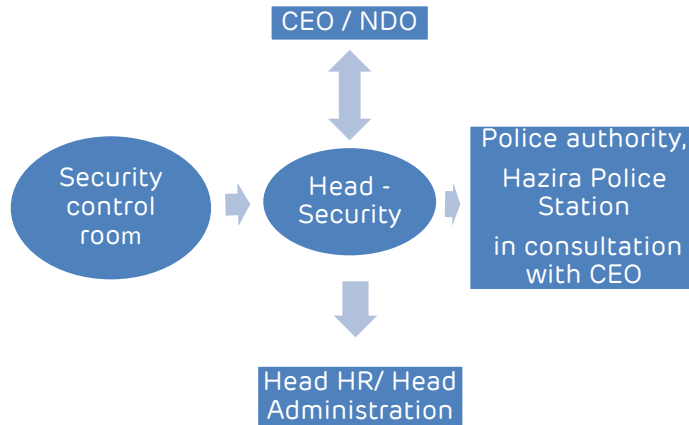
Site Incident Controller



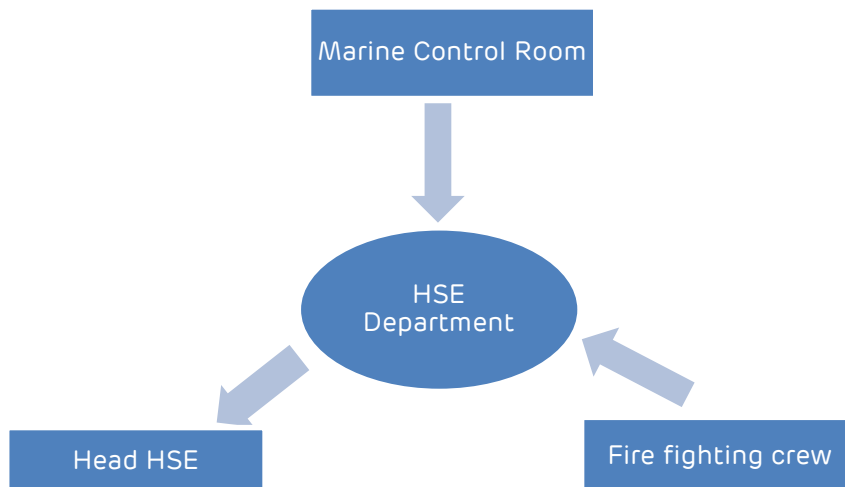
Head HR/ Head Administration (In consultation with the CEO)



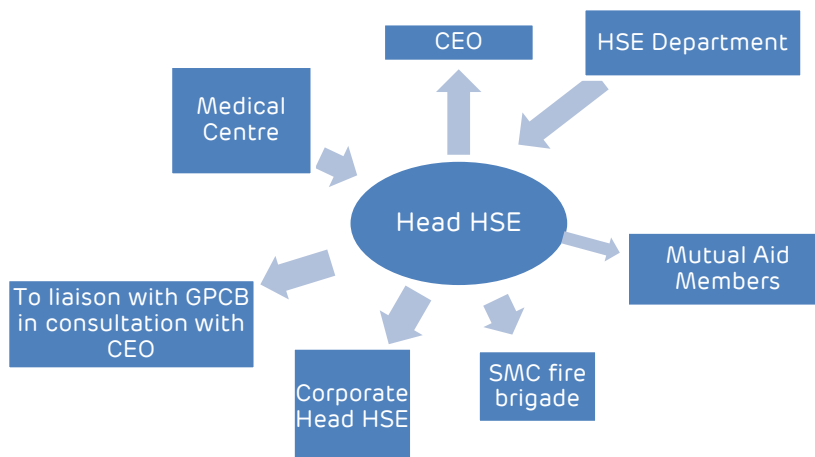
Head - Security



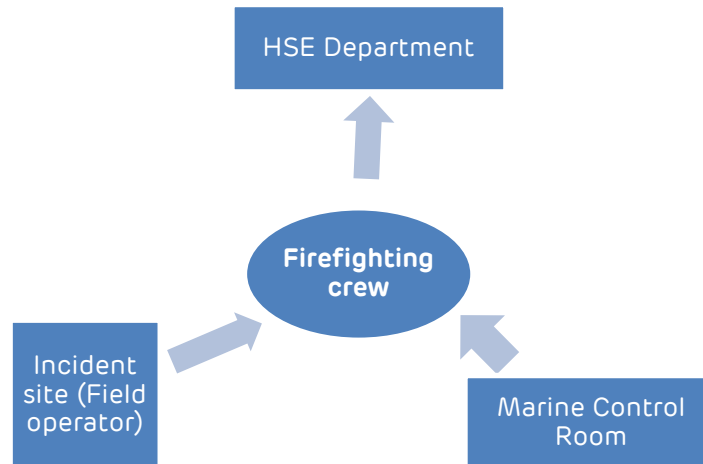
HSE Department



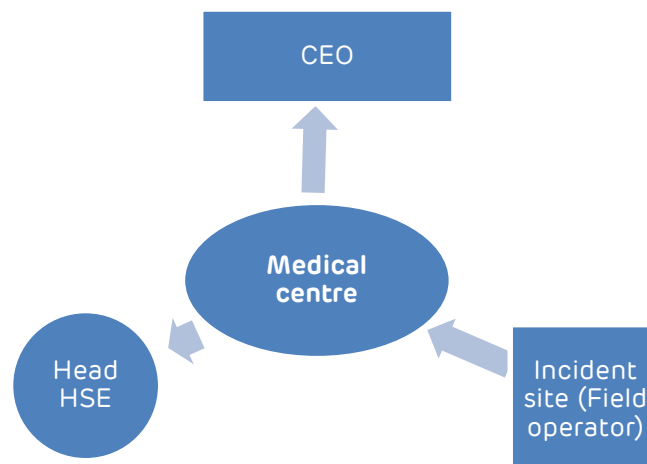
Head - HSE



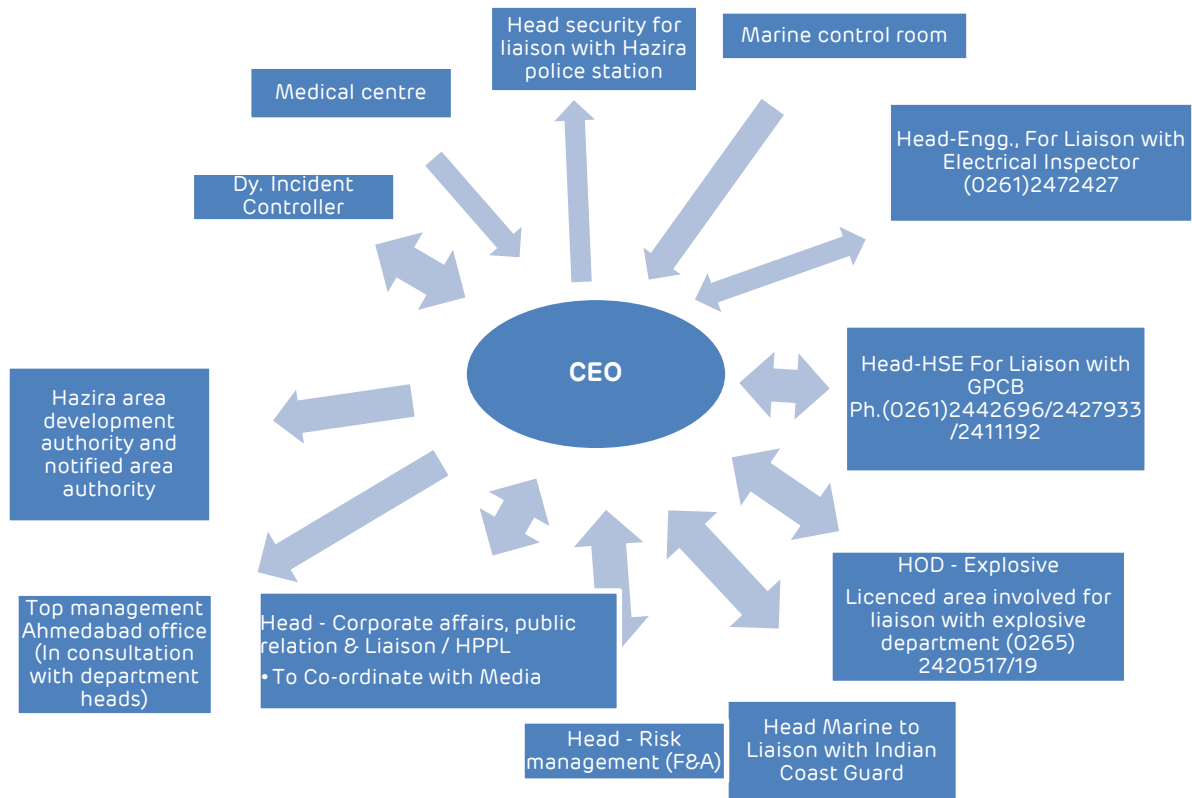
Firefighting crew



Medical Centre

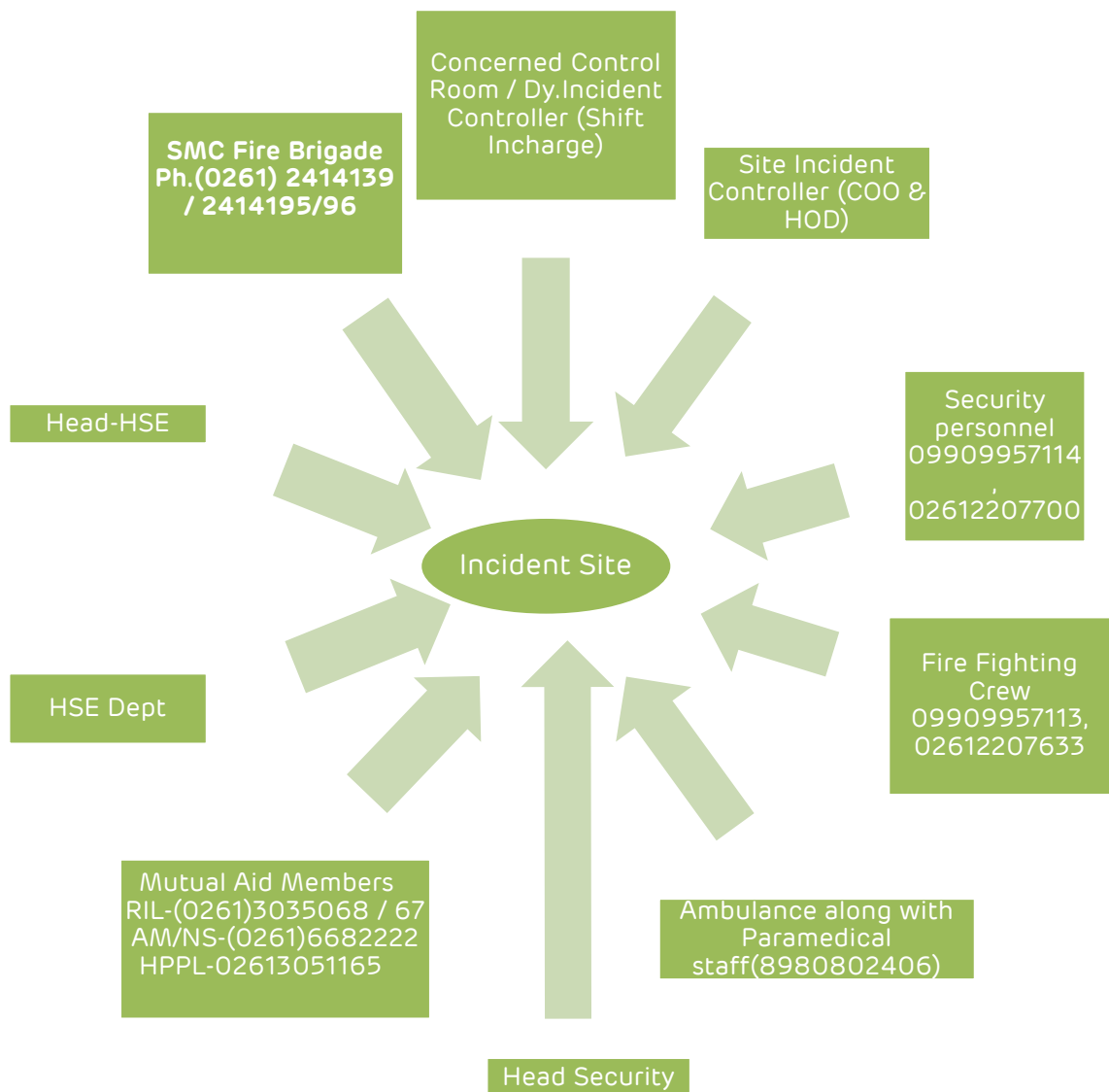


CEO



FLOW OF PEOPLE

Flow of people to incident site



9.7 CATEGORIES OF EMERGENCIES

The general action plan to deal with various categories is explained below :

Emergencies
(Occurrence – with due warning or without warning)
<ul style="list-style-type: none">▪ Cyclonic Storm/ Hurricane (Refer AHPPL DMP_Cyclone R4)▪ Earthquake (Refer AHPPL DMP_Earthquake R4)▪ Flood (Refer AHPPL DMP_Flood R4)▪ Tsunami (AHPPL DMP_Tsunami R4)▪ Industrial Unrest▪ Bomb Threat▪ Hijacking of vessel▪ War

Emergencies
(Occurrence – without warning)
<ul style="list-style-type: none">▪ Food/ Water Poisoning▪ Fire▪ Major Release of Flammable/ Toxic Chemicals▪ Transportation incidents involving Hazardous Materials, Material fall from height▪ Marine Emergency▪ Medical Emergency▪ Outbreak of disease

9.7.1 EMERGENCIES (WITH DUE WARNING)



Planning & Preparedness

- **Constitute an emergency response team**
- **Maintain inventory of emergency items & supplies**



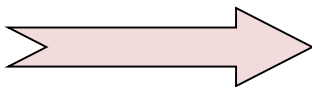
Action before Effective Period

Mobilize emergency response team
Release non-essential personnel
Initiate shut down of Port(s) if required
Audit port safety measures



Action during Effective Period

Stop field activities
Remain indoors & be observant
Respond to emergency calls
Help the emergency teams to tackle the emergency



Action after Effective Period

Inspect port areas(s)
Implement restorative and repair measures
Investigate, Analyze to prevent reoccurrence
Restart the port activities

9.7.2 EMERGENCIES (WITHOUT DUE WARNING)

Any emergency may start as a small incident that may become a major incident if not controlled in time. At the initial stages, the emergency organization chart shall be put into action. If the incident goes beyond control, the site main controller will actuate the DMP at the appropriate stage as considered necessary.

The plan is to be drawn by appointing key personnel and defining their specific duties that will be handy in emergency. To control the emergency in the most effective manner it is important that roles and responsibilities are well defined and the command structure is absolutely clear.

The key roles exercised during the emergency are those of "site main controller" (whose main function is to take charge of the incident) and of the "incident controller" (whose main function would be to take overall charge of rescue, facilitation, coordination, communication etc.). In addition, other individuals would be assigned specific responsibilities. These people would report to "site main controller" or "incident controller" during the time of emergency and would work under his instructions. The functions and their key responsibilities are discussed in Chapter 10.

10.0 DUTIES & RESPONSIBILITIES

10.1 Site Main Controller

- Has overall responsibility for the conduct of all emergency operations within the port complex. During off-duty hours, he will coordinate with NDO/ Deputy Incident Controller and if required rush to the site and take control of the situation from the NDO/ Deputy Incident Controller.
- The CEO/ COO will be stationed at the Marine Control room.
- Shall immediately assess the situation and its consequences, formally declare the level of emergency and order appropriate action with minimum extent of casualties.
- If required, he will discuss with Incident Controller, Head-HR and Head – HSE and instruct concerned person to call for help from outside or to Govt. authority for escalation of response action including Offsite emergency declaration.
- Responsible for the overall effective & swift emergency response
- Ensure that information to key partner has been provided.
- Arrange all required facilities through different teams for the necessary medical aid, manpower, money, conveyance etc. Shall direct all emergency operations within the port premises with the following priority:
 - Safety of personnel, property and equipment
 - Pollution and environmental impact control
 - Damage and loss control
 - Minimum curtailment of port activities
 - Oversees the functioning of several subordinate teams
 - Informs to the statutory authorities if necessary
 - After the emergency is over, declares the normal situation and rehabilitate the site activity.
 - Ensure the accounting of personnel.
- COO in absence of CEO should take care of the responsibilities in their respective sites and will be in constant contact with the CEO.

10.2 Night Duty Officer

The NDO is bound to act as the 'Site main controller' during emergencies that happen at night in the absence of CEO and COO. He will station himself at the Marine Control Room. He will be in touch with Deputy Incident Controller at incident site and appraise concerned HODs. He will inform the status and hand over the charge of SMC to CEO/COO once he reaches site.

- Has overall responsibility for the conduct of all emergency operations within the port complex.

- Shall immediately assess the situation and its consequences, will stay in contact with the CEO/ COO and in coordination and consultation with him declare the level of emergency and order appropriate action with minimum extent of casualties.
- If required, he will discuss with Incident Controller, Head-HR and Head – HSE and instruct concerned person to call for help from outside.
- In case of instructions from CEO/COO, NDO will inform Govt. authority for escalation of response action including Offsite declaration.
- Responsible for the overall effective & swift emergency response
- Coordinates at site with the mutual aid team members and effectively utilise their services.
- Arrange all required facilities through different teams for the necessary medical aid, manpower, money, conveyance etc. with consent from the CEO/COO.
- Shall direct all emergency operations within the port premises with the following priority:
- Safety of personnel, property and equipment
- Pollution and environmental impact control
- Damage and loss control
- Minimum curtailment of port activities
- Oversees the functioning of several subordinate teams
- As per instructions from CEO/ COO, he will inform the statutory authorities if necessary.
- After the emergency is over, declares the normal situation and rehabilitate the site activity.
- Ensure the accounting of personnel.

10.3. Site Incident Controller

- The Shift in-charge of the department is bound to act as the 'Site incident controller' during emergencies that happen at night in the absence of the respective HOD. He will be in touch with Site Main Controller at incident site and appraise concerned HODs. He will inform the status and hand over the charge of SIC to HOD/ HOS once he reaches site as required by the CEO/COO.
- He shall take charge of incident and remedial actions.
- Shall ensure that all emergency teams are available at site and necessary resources are available.
- He will remain in constant communication with respective control room and Emergency control centre to update site situation and also render any assistance required.
- He shall keep coordination with all primary support teams at incident site.
- He shall ensure that Rescue, Medical assistance is provided with minimum response time.
- Shall arrange for equipment, resources and personnel to incident location and ensure all measures, action are taken to tackle the emergency in an effectively and timely manner with minimum extent of casualties, damage to equipment, plant, and environment.
- Shall liaise closely with Head- Administration to facilitate the transfer of equipment, resources and personnel to incident location as appropriate.
- Shall carefully evaluate the risks, effects and possible consequences thereof.
- The incident to his area of responsibility and propose further course of action to the Site Main Controller with particular concern about safety of personnel, protection of environment and control of Operation.
- Initiate for transfer and / shutdown of operations if it is safe
- To liaise with respective Govt. Authorities.

10.4. Emergency Support Officers – Area Officers

- Shall immediately assess the scale of emergency and report to Site Main Controller for instructions/directions.
- Shall be responsible for operations in affected area with priorities as under:-
 - Safety of personnel, property and equipment
 - Pollution and environmental impact control
 - Damage and loss control
 - Minimum curtailment of port activities
- Shall liaise with other heads of department for their support and assistance.
- Shall ensure continual reporting of situation to Site Main Controller and shall recommend calling for external resources as appropriate.
- Buildings will have floor coordinators to coordinate emergency evacuation in the floor.

10.5. HOS – Administration (Transport Cell, Welfare & Canteen)

- Shall report to Site Incident Controller immediately and assist him as directed.
- Shall coordinate the activities of administration units.
- Shall arrange for transportation of whatever nature for use in the situation.
- Arrange for hot drinks / snacks / foods as requires at incident location.
- Arrange for transport of higher authorities to the terminal
- Transport vehicles would be provided near emergency control center.

10.6. HOD – Human Resources

- Shall report immediately to Site Incident Controller and assist him as directed.
- Shall ensure Assembly Points are manned and all persons reporting there properly identified.
- Shall ensure that persons reporting are assembled in a manner so that counting is easy.
- Shall arrange to record full details of all persons affected by the incident and to inform next of kin as appropriate.
- Shall inform and liaise with local bodies and authorities in respect of the incident/ emergency.
- Shall arrange for the transfer of all affected persons to suitable places for first aid or further medical attention as appropriate.
- Shall arrange for the evacuation, from the location of incident of all personnel not essential. He should coordinate with the floor coordinators and deputy coordinator of all buildings and ensure that the inhabitants are safely evacuated.
- Shall arrange to depute company personnel to each location where affected persons are being treated or are gathered for whatever reasons, to render assistance.
- Shall arrange to keep regularly informed of status and facts pertaining to incident to the families of company personal in its residential area.
- Shall inform to Government Authorities & Liaise with them

10.7. HOD – Corporate Affairs

- Shall assume the role of Public Relation Officer (PRO) for communication, dissemination of information, status and facts (preparation of communiqués, statements etc.)
- Shall co-ordinate with business related statutory and Government organization.

10.8. HOD – Engineering Services

- Shall ensure immediate electrical isolation of the incident location thereafter; arrange availability of power after ascertaining safety of doing so.
- Shall liaise with the Engineering Services of organizations in close neighborhood for sourcing of supplemental equipment resources and assistance.
- Arrange for emergency lighting / power should the need arise through the shift electrician.
- Organize for evacuation of material inventory should there arise the possibility of fire.
- Ensure that machines such as lifting tools, tackles, pump, torch lights, ropes etc. are available for emergency purposes in good conditions at all times.
- Ensure that water pumps are available in case required and tanks are filled up.
- Ensure that all necessary mechanical drives are available and in working condition for emergency and that the DG set is available for emergency power.

10.9. HOD – Security

- Stop the visitors' entry and he shall ensure for access control and restriction of unauthorized entry at port premises.
- Instruct the security to occupy pre-determined post for controlling security of installation.
- Call up additional help from Barracks.
- Ensure that unauthorized persons / vehicles do not enter the gate.
- Provide security men for firefighting & rescue.
- Shall inform and liaise with local bodies and police department in respect of the incident/ emergency.
- Depute security guards for controlling traffic at scene of disaster.
- Produce a list of port staff on duty in co-ordination with gate office.
- Ensure availability of security men at gates so that they can lead authorities to disaster site.
- Ensure that non-essential persons do not crowd the affected area.

10.10. HOD – Finance & Accounts

- Shall report immediately to Site Incident Controller and assist him as directed.
- Shall ensure availability of funds and cash for all emergent requirements.
- Shall depute all available department personnel to assist HR in their activities.
- Shall ensure that under writers, shareholders, lenders, bankers and other Financial Institutions and statutory bodies are kept advised of the situation as appropriate.

10.11. HOD – Stores / Commercial

- Ensure availability of materials required by the Site Incident Controller.
- Issue materials from central stores round-the-clock (if required).
- Arrange emergency procurements from local dealers/ vendors or from neighboring industries.
- Arrange transportation of materials from central stores to the site of incident in coordination with the Coordinator (Transport Cell).

10.12. HOS – Fire Services

- He will report to Site Incident Controller and has the single motive – concern for safety of personnel during emergency response operations.
- He will lead and guide the fire crew.
- He will ensure that the firefighting, rescue and search operations are carried out in safe manner.
- He will ensure that additional firefighting media, manpower or resources are available and used.
- He will ensure safety of fire crew members and fire fighting vehicles.
- He will update fire control room about the site situation and additional assistance – if required.
- Mobilize off-duty personnel for assistance

10.13. HOD – Safety

- He will normally function as an advisor to the Site Incident Controller.
- Coordinate with Commercial/other resources to mobilize additional resources, viz. spill containment equipment/ firefighting equipment/ personal protective equipment, spare breathing air cylinders etc., as may be required at the site of incident.
- He shall ensure that critical spares and equipment related to safety are identified and minimum stock is available at store.
- He shall ensure that immediate treatment has been given to causality .
- He shall ensure availability of ambulance round the clock

10.14. HOS – Occupational Health Center

- Contact Site Main Controller. Report at Emergency Control Center or at Occupational Health Center as instructed by the Site Main Controller. He shall ensure that ambulance with paramedics/self report to incident site in time.
- Organize first aid arrangements for the affected persons at the site of incident (in cold zone) as may be necessary.
- Ensure that adequate paramedical staff, equipment and medicines are available at the Occupational Health Center. Mobilize additional resources (if necessary).
- Liaise with the local medical authorities and city hospitals, if the casualties are high and situation demands external medical help.
- Coordinate with the Coordinator - Transport for transporting victims to various hospitals.

10.15. HOD – Information Technology

- Shall ensure that internal and external communication systems are available.
- He shall ensure that all IT related infrastructure / resources are available for emergency team in working condition.

10.16. HOD – Marine Services

- Have close coordination and supervision of the marine control to be fully alert day and night to monitor the incident and get the latest input.
- Ensure that close coordination is maintained with other emergency functions, and ensure efficient and timely use of emergency siren and PA systems for communication in the affected area.
- Co-ordinate with HSE and take their advice for health, safety and environmental issues particularly if ships with dangerous or toxic cargoes are present in the port.
- Ensure that applicable implementation procedures are reviewed and are in place.
- Inform master of the ships about the incident if required and ask them to be prepared to move out on short notice and also keep all the tugs and crafts standby for emergency evacuation of ships to roads on short notice.
- Initiate emergency action plan for the safety of Tugs and Speed boat.
- Coordinate with head dredging in the port and ensure emergency action plans are initiated in the dredger vessels.
- Prepare a roster for evacuation of ship, in consultation with HOD of various CT, DC and Liquid.

- Keep all navigational survey equipments in good condition for use after the incident in case they are effected.
- Marine head shall inform the CEO of all actions being undertaken.
- Contingency plan for any of the ships that could not be casted off should be prepared.
- Keep enough stock of equipment, tools & tackles ready for use in case of emergency.
- Coordinate with Marine police & Coast-Guard for patrolling the seafront.
- Ensure proper storage of valuable documents and equipment.
- To liase with Indian Coast Guard.

10.17 Floor Coordinator

Floor wise Emergency Coordinators are identified for various buildings and their responsibilities are as below:

BEFORE emergency-

- Coordinate for training of emergency response to every person of floor.
- Ensure all floor occupants trained in emergency evacuation.
- Ensure the dissemination, implementation of the Emergency Action Plan.
- Ensure awareness about emergency siren in that area.
- Routine checking of the area for any unsafe Act/Condition and combustible material of the floor and report the same to HSEF Dept.
- To make people aware of the emergency exit and exit routes.
- Ensure Smoke/Heat detector in healthy condition.
- To ensure that the first aid firefighting system is provided in the building,
- Location of Electrical power supply switch must be known to Floor coordinator.
- Ensure that no obstacles in emergency exit route.
- Ensure that emergency exit route is illuminated.
- Ensure that no emergency exits are locked and if it is so, then key shall be available nearby.

During emergency:-

- Upon hearing the fire alarm, ask all to leave the workplace and guide for evacuation others.
- Ensure the safe evacuation.
- Guide for assembly point.
- Make sure all personals are reached to assembly location, in case of missing report to incident controller.
- Assist other persons to reach at assembly point.
- Follow closely the instructions of emergency services department.
- Wait for the ALL CLEAR from Incident controller to re-enter the building.
- In the event of a Medical emergency contact to Ambulance (61604/61605)

After emergency:-

- Make sure floor is dried to avoid any slip hazard after firefighting.
- Make sure that no firefighting equipment left at the fire incident site.
- Inform the fire team if any extinguisher used to extinguish the fire at initial moment, so as to get it filled again.
- Participate in meeting after emergency.

- Discuss points of improvement.
- Make sure 100% compliance of points of improvement

11.0. EXTERNAL and MUTUAL AID

11.1. General

AHPPL, Liquid Terminal is a member of the Hazira Area Industrial Association (HAIA) along with other Major industries of the area.

In case of an emergency, which poses threat to human lives or/ and property, within AHPPL, Liquid Terminal as well as in the surrounding neighborhood areas, it may not be possible to control such situations with the resources available at AHPPL, Liquid Terminal. In such situations, additional resources are mobilized from other department, agencies, which include:

- Neighboring Industries (Mutual Aid Members)
- Government Authorities

If it may not be possible to confine the emergency situations within the AHPPL, Liquid Terminal area, in such situations, information will be passed on to Govt. Authorities to activate OffSite Emergency Plan. Information/details of authorities, Telephone no., are mentioned in, Chapter 14, Chapter 18, Annexure 10, 11, 28, 29, and Appendix A, B, G

11.2. Mutual Aid Members

Adani Hazira Port Pvt. Ltd., Liquid Terminal will enter into an agreement for mutual aid with Hazira Port Pvt. Ltd. for help/ assistance in the event of an emergency, AHPPL, Liquid Terminal is also a member of the Hazira Area Industrial Association (HAIA) including other Major industries of the area. The mutual aid members shall:

- Respond promptly to the emergency call as and when communicated.
- Send their fire tenders/ crewmembers along with necessary supplies/ materials at the site of incident (as requested) and report at the AHPPL Liquid Terminal Security Gate and get instructions from security personnel on duty. These resources and personnel shall be deployed as directed by Site Incident Controller.
- The crew in-charges of the mutual aid members shall be responsible for safety of their crew engaged in emergency operations.

11.3. Government Authorities

If the situation demands response from multiple groups / teams,

AHPPL, Liquid Terminal shall report and may seek assistance from various Government Authorities as have been recognized under the District Disaster Management Plan.

These may include:

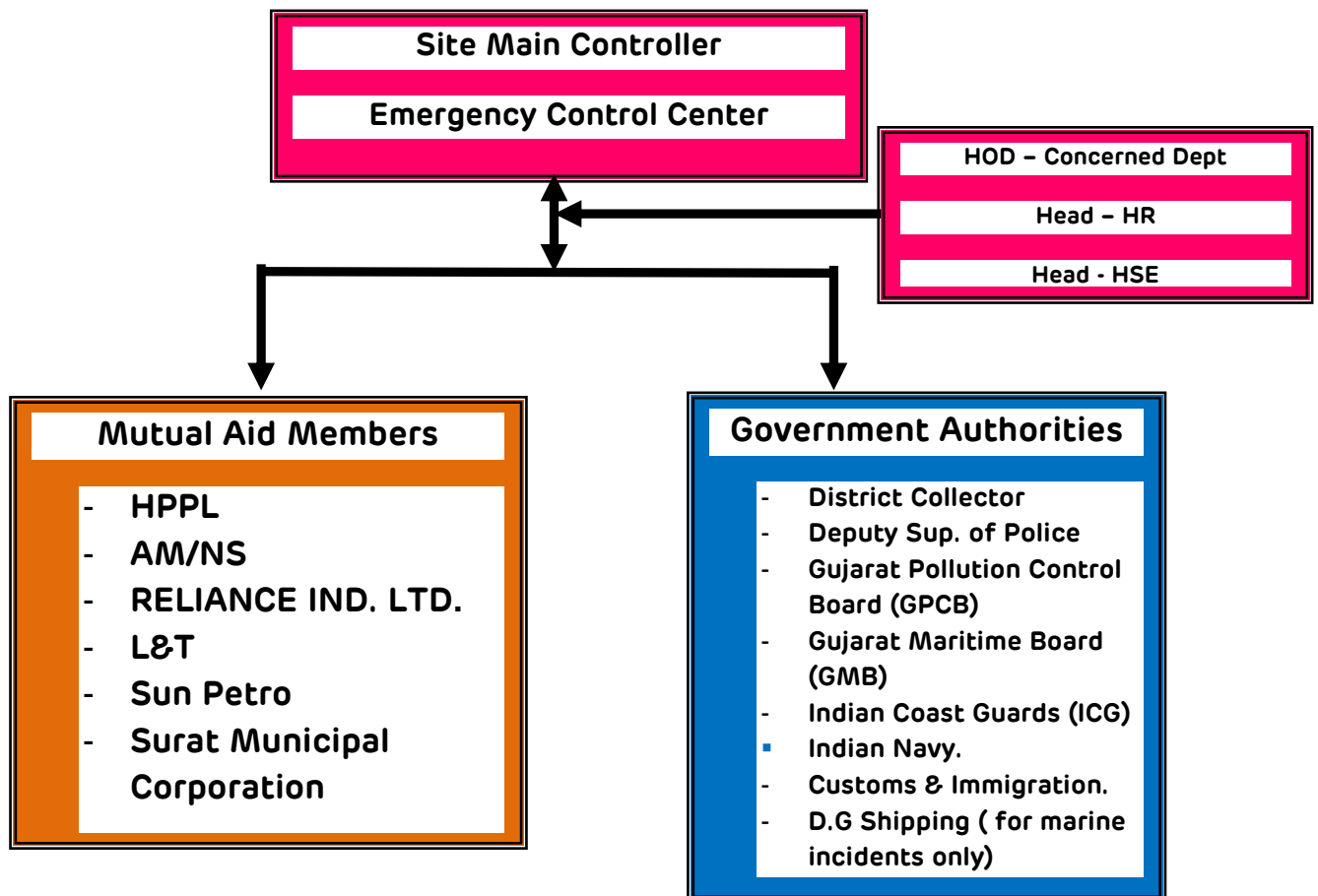
- District Collector
- Fire Brigade – Surat Municipal Corporation
- Police Commissioner
- Gujarat Pollution Control Board (GPCB)
- Gujarat Maritime Board (GMB)
- Indian Coast Guards (ICG)

ADANI HAZIRA PORT PVT. LTD.
LIQUID TERMINAL
EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN
AUTHORIZED BY: HOD (HSEF)

- Indian Navy
- Immigration & Customs
- MMD / Director General Of Shipping

Refer Annexure 28, Appendix A, B

11.4 EXTERNAL AID PROVIDERS



12.0 EMERGENCY TELEPHONE NUMBERS

First Person to be contacted in case of emergency:					
Sr. No	Name	Designation	Mobile No.	Internal Phone No.	
				Office	Res.
1	Mr. Pranav Choudhary	CEO	098494 33377	02612207771	
2	Mr. Labhesh Rathod	BHO	09099938994	02612207780	
3	Mr. Rupesh Jambudi	Head - HSE	08980802504	02612207602	
4	Mr. Ashish Singhal	Head - Marine	98795 89770	02612207525	
5	Capt. Ajith Kottayil	Dry Cargo	09825000985	02612207526	
6	Mr. Houssam Haddad	COO	08980802599	02612207550	
7	Mr. Gaurang Chudasama	Head - Liquid Terminal	089808 02997	02612207539	
8	Mr. Yagnesh Dalal	HSE	7600022109	02612207603	
9	Mr. Jaydipsinh Gohil	HSE	09099002407	02612207633	
10	Mr. Dushyant Javiya	Fire	90999 93445	02612207707	
11	Mr. A Madhu	Head - Container Terminal	8939709979	02612207651	
12	Mr. Hitendra Patel	Liquid Terminal	9687699060	02612207535	
13	Mr. Bhavsingh Barad	Liquid Terminal	089808 02806	02612207795	
14	Mr. Dharmesh Chauhan	Head – Engg. Service	08980015476	02612207757	
15	Mr. Ashish Mehta	Engg. Service	090990 05008	02642207650	
16	Mr. Paresh Ghodasara	Engg. Service	09727784608	02612207644	
17	Mr. Jignesh Chandegara	Engg. Service	09099005212	02612207639	
18	Mr. Ajit Patil	Site Head - Project	6359860342	02612207799	
19	Mr. Prasan Tokas	Head - Security	9988887058	02612207626	

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20	Mr. Suresh Galatagi	Peojects	7752019109		
21	Mr. Tarun Jangu	Security	8980016219	02612207621	
22	Mr. Jeetendra Vyas	Head – HR & Admin	9099991220	02612207511	
23	Mr. Mehul Parmar	HR	8980802253	02612207512	
24	Mr. Piyush patel	Transportation	09727721642	02612207522	
25	Mr. Amit Rathod	Commercial	9099055653	02612207594	
26	Mr. Kamal Saliya	Store	9979855942	02612207543	
27	Marine Control Room	-	09909957115	02612207755	
28	Security Control Room	-	09909957114	0261220700	
29	Fire & Safety Control Room	-	09909957113	02612207633	
30	Occupational health Centre	-	8980802405	02612207605	
31	Ambulance	-	8980802406	02612207605	
32	Krishnanand Mavinkurve	Corporate Head – OH&S	9099900383	02612207600	
33	Bhavesh Donda	Head - Corporate Affairs	9099002016		
34	HPPL Marine Control Room	Marine Control Room	02613051165 9824704947	02613051165	
35	Sun Petro	Control Room	0261-2870019	7878966021	
36	Capt. Sunil Kakkar	HPPL		9824704954	
37	Sun Petro Paramedic	Paramedic		9825070067	
Other important Telephone nos are mentioned in Appendix A & B					

13.0 REPORTING & INVESTIGATION

13.1 Reporting

Any incident (whether minor or major) shall be reported. The main objective of incident reporting is to:

- Provide first-hand information to all the concerned
- Initiate investigation
- Prepare failure analysis report
- Report to the Government authorities (if required)

References

- Procedure for Incident Reporting
- Incident Report Format
- Work Injury Report

13.2. Investigation

All incidents (whether minor or major) shall be investigated. The main objectives of incident investigation are to:

- Identify the root cause(s) of the incident.
- Take immediate Correction and Corrective steps.
- Take appropriate preventive measures to prevent recurrence.
- To comply with the statutory requirements.

References

- Incident Investigation Procedure

14.0 COMMUNICATION & PUBLIC AFFAIRS

14.1. Communication

Communication, an integral part for handling any emergency, helps in taking quick decisions, efficient & effective control of the emergency. Communication between the Emergency Control Center & the Field Command Post is established by means of:

- Siren
- Telephone
- Mobile phone
- Public Announcement System
- Wireless VHF / UHF Radio
- E – Mail
- Emergency Vehicle

Communication, including Offsite declaration between the Emergency Control Center and external authorities will be by:

- Telephone
- E – Mail
- Fax
- Emergency Vehicle

Communication to persons working in the field, other stake holders and general public outside the premises is established by means of:

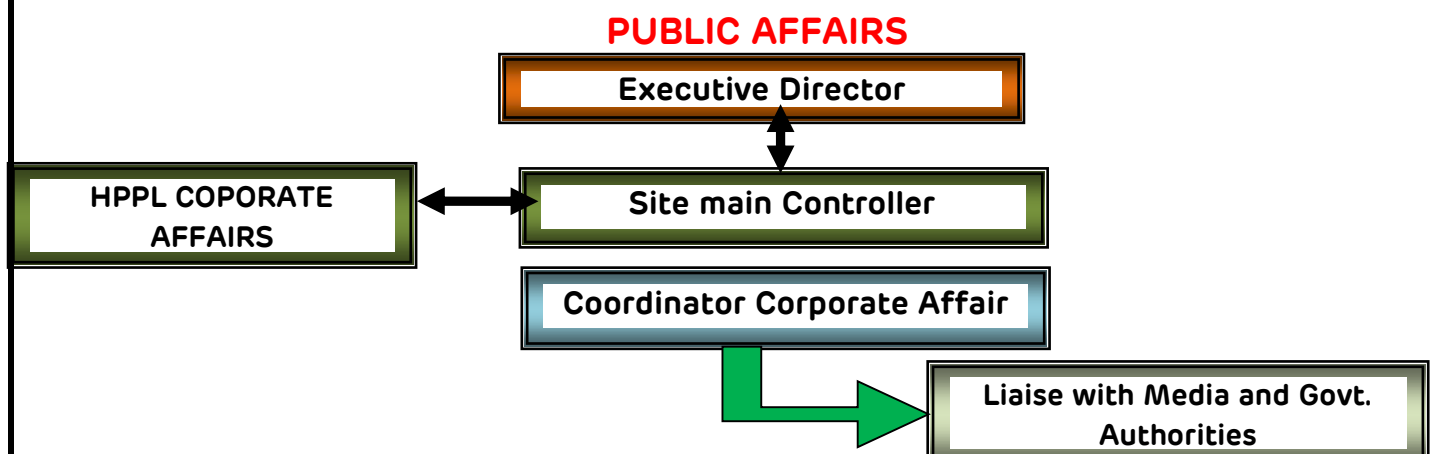
- Public Announcement System
- Siren installed on ER-1 and on SS-1, Hooters are installed on Liquid Terminal Control room, Enclosure, TLF and Pump House
- Vehicle mounted Public Announcing System – 2 nos.
- Mobile hand held Public Announcing System
- Messengers

Communication to Mutual Aid members / Neighboring industries shall be initiated by Site Main Controller.

Concerned Head of the Department where the incident happened will inform Site Main Controller for communication to Govt Authorities and after discussion – SMC will advise concerned agency / Corporate affairs to communicate with Govt. Authorities.

14.2. Public Affairs

ALL PRESS STATEMENTS SHOULD BE DISCUSSED WITH THE HPPL CORPORATE AFFAIR AND AGREED BEFORE RELEASE. THE PRESS STATEMENT WILL BE MADE BY AHPPL CORPORATE AFFAIR.



15.0 DRILLS & TRAINING

15.1 Drills

Emergency response drills are conducted on quarterly basis to ensure effective response by not only the staff within AHPPL, Liquid Terminal, but also by external aid members (as required). The participation & actions will depend on the level of emergency drill planned, as per following table:

Drill	Duration	Port Level	Complex Level (AHPPL LT+ HPPL)	Multi Stakeholder Level	Notes
Siren Testing Drill	2 Minutes	Every Week (Tuesday)	--	--	Test of siren condition.
Emergency Response Drill	1 – 2 hours	Quarterly	Yearly	Yearly	Consists of interactive discussions of a simulated scenario among members of Emergency response team and also involve mobilization of personnel & equipment.
ISPS Drill	1 – 2 hours	Quarterly	Yearly	Yearly	Consists of interactive discussions of a simulated scenario among members of emergency response team but does not involve mobilization of personnel & equipment.
Oil Spill Response Drill	1 – 2 hours	Quarterly	Yearly	Yearly	Consists of interactive discussions of a simulated scenario among members of emergency response team but does not involve mobilization of personnel & equipment.

15.2. Training

The importance of training to personnel involved in responding to any emergency scenario is recognized and acknowledged. The training to employees at AHPPL Liquid Terminal is as per following table:

COURSE	DURATION	NEW RECRUIT	EXISTING STAFF	FREQUENCY	NOTES
Induction Training	One Day	X	--	On joining the organization	All employees on joining shall undergo the training
Fire Fighting Training	Half Day		All new and existing staff	Once in six months	For Basic Fire Fighting and Practical Fire Extinguisher demo
First Aid Training	1 Day		Selected staff	Once in two year	External agency to train staff on First Aid

16.0 ACTION PLAN FOR RESPONDING TO SPECIFIC EMERGENCY

INDIVIDUAL PLANS ARE DEVELOPED AS PER GUIDELINES PROVIDED IN SAMPLE PLANS

16.1 CYCLONIC STORMS / HURRICANE

Cyclonic storms/ hurricanes are intense depressions, which develop in tropical latitudes and are often the cause of very high winds and seas. The wind blows around the center of a tropical storm in a spiral flow inward, anti-clockwise in Northern Hemisphere and clockwise in Southern Hemispheres. Plan for tackling cyclonic storm/ hurricane can be broadly divided in following stages:

Action By	Activity
PLANNING & PREPAREDNESS	
Port Key Person	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer (01), Safety HOD, Security HOD, Fire Team Member (01), Marine HOD , Electrician (01). <p>Note</p> <ul style="list-style-type: none"> ➤ Each member of the team shall have a designated alternate member. <ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary, including but not limited to items specified in Chapter-20 <p>Note</p> <ul style="list-style-type: none"> ▪ Liaise with HOD – ES for Civil & Mechanical Support (including supply of spares). ▪ Liaise with HOD – HR for food stock, water, blankets & bedding and medicine. ▪ Liaise with Port Operation Control. ▪ Liaise with Site Main Controller ▪ Mobilize Emergency Response Team(s). <p>Note</p> <ul style="list-style-type: none"> ➤ Members to be briefed about the emergency. ➤ Members to be informed that they may be required to stay at site during & after the emergency. <ul style="list-style-type: none"> ▪ Release non-essential personnel. <p>ACTION BEFORE EFFECTIVE PERIOD</p>
Port Key	Note

Person	<ul style="list-style-type: none"> ➤ Port key person reserves prerogative on the release of employees. ➤ Personnel to be briefed on the possible time of return to work. <ul style="list-style-type: none"> ▪ Initiate Port shut down based in: <ul style="list-style-type: none"> ● Consultation with Site Main Controller. ▪ Audit Port area(s) for safety measures to ensure that: <ul style="list-style-type: none"> ● Loose items are secured. ● Electric machinery is covered and protected against water ingress. ● Storm water drains are cleared of any obstructions. ▪ Implement preventive & precautionary measures (including but not limited) to ensure: <ul style="list-style-type: none"> ● Inventory of emergency supplies is maintained. ● Material and equipment that can possibly be damaged by water ingress is elevated. ● Windows & doors are weather tight. ● Roof mounted equipment are braced. ● Material & equipment that cannot be moved are covered. ● Sandbags are placed in doorways where flooding from storm water can occur.
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ACTION DURING EFFECTIVE PERIOD

Port Key Person	<p>Stop</p> <ul style="list-style-type: none"> ▪ All field activities. ▪ All permits to work. <p>Note</p> <ul style="list-style-type: none"> ▪ All personnel to be notified against venturing out during effective period.
Emergency Response Team	<ul style="list-style-type: none"> ▪ Ensure all personnel remain indoor, observant and be alert to: <ul style="list-style-type: none"> ● Detect any damage to equipment or buildings. ● Development of unsafe conditions. <p>Note</p> <ul style="list-style-type: none"> ▪ In case of any emergency warranting immediate response, communicate to Site Main Controller ▪ In consultation with Site Main Controller: <ul style="list-style-type: none"> ● Make all possible efforts to reach the site of incident/ damage.
Port Key Person	<ul style="list-style-type: none"> ▪ Act appropriately to control prevalent incident/ damage.

ACTION AFTER EFFECTIVE PERIOD

Port Key Person & Emergency Response Team	<ul style="list-style-type: none"> ▪ Audit Port area(s) for damage assessment & prepare report. ▪ Undertake restorative measures & repairs based on audit report on: <ul style="list-style-type: none"> • Damaged equipment & buildings. • Unsafe conditions. <p>Note</p> <ul style="list-style-type: none"> ▪ Clearance report to be submitted to Site Main Controller through Port Key Person.
Port Process Group	Initiate restart up of the Port.
Department Wise Emergency Action Plan for Cyclone	
Marine Department	<ul style="list-style-type: none"> ▪ Receive forecast from time to time and inform the following:- 1. Marine HOD 2. Pilots 3. Flotilla 4. all concerned dept. ▪ Monitor weather parameters ▪ In coordination with Cargo Operations Department, instruct all ship captains to take the ships anchorage basis wind/swell parameters exceeds. ▪ Stop all activities at jetty area. ▪ Ensure the jetty areas are free from loose and unsecured materials / equipment. ▪ Update all departments about the latest weather conditions. ▪ Ensure TUG's are secured in protected part of basin.
Liquid Terminal	<ul style="list-style-type: none"> ▪ Stop all loading / unloading activities at jetty area. ▪ Arrest all barge / loading arms and support structures at its base to prevent horizontal movement due to wind and secure from its top by arranging guy ropes. ▪ Stop loading / unloading of ship and measure the ship cargo quantities along with clients surveyor and communicate Marine Dept. / shipping agencies to take the ship to anchorage area
Security Department	<ul style="list-style-type: none"> ▪ Close the gate and stop allowing visitors and transport trucks either inward or out ward. ▪ Ensure vehicles are parked at designated parking areas, with wheels are blocked. ▪ Instruct all drivers to take shelter at canteens (concrete buildings).
Fire Department	<ul style="list-style-type: none"> ▪ Equip the fire tenders with rescue equipment, safely park the fire tenders and secure its wheel by providing blocks. ▪ Drainage and stormwater channels checked for clearance
Project Management Cell	<ul style="list-style-type: none"> ▪ Stop all activities, park the cranes and equipment at safe location, lower the booms of cranes and secure them. ▪ Ensure all erected structures are secured with guy ropes and ties are provided. ▪ Remove all loose materials from top of buildings and structures or secure them. ▪ Ensure all workmen are sheltered at safe locations like canteens (concrete buildings). ▪ Secure the Jetty area piling rigs and cranes by tying with guy ropes. ▪ Stop all project vehicle movements and ensure the vehicles are parked at safe location with wheels are blocked. ▪ Ensure all vehicles and cranes are removed from break water embankments.

For further details, pl. refer detailed procedure

16.2 EARTHQUAKE

Earthquake is most likely to occur without pre-warning and so its severity and destructive potential are highly unpredictable. Earthquake can result in collapse of buildings, structures & elevated equipment, heavy casualties apart from fracture of underground pipelines and uprooting of energized wires etc. The plan to deal with earthquake can be divided in following stages:

Action By	Activity
PLANNING & PREPAREDNESS	
Port Key Person	<ul style="list-style-type: none"> Constitute Emergency Response Team(s) comprising of at least: Port Engineer (01), Fire Team Member (01), Port Operators (02), Electrician (01). <p>Note</p> <ul style="list-style-type: none"> Based on total strength of the individual plant, more than one team may be constituted. Each member of the team shall have a designated alternate member. <ul style="list-style-type: none"> Maintain inventory of emergency items (Hardware) & supplies as necessary, including but not limited to items specified in Chapter-20: <p>Liaise with HOD – HR to identify control centers equipped with:</p> <ul style="list-style-type: none"> Communication facilities. Emergency vehicles/ equipment. List of emergency contacts & suppliers. Medical facilities.
ACTION DURING EFFECTIVE PERIOD	
Individuals	<ul style="list-style-type: none"> Do not panic. Avoid standing near windows, external walls. Stand near columns or duck under sturdy furniture. Assemble at emergency assembly point.
ACTION AFTER EFFECTIVE PERIOD	
Site Incident Controller	<ul style="list-style-type: none"> Take head count. Activate Port emergency plan. Liaise with Site Main Controller for shut down of Port(s) if required. Liaise with HOS – Fire Services to initiate search & rescue. Liaise with – Occupational Health Center Services to provide first aid to the victims and remove casualties (if any).
Port Key Person	<ul style="list-style-type: none"> Report at site. Assess damage. Undertake restorative measures & repairs. Liaise with HOS –Occupational Health Centre to follow up on casualties.

For further detail pl. refer detailed procedure

16.3 TSUNAMI

Tsunami is Japanese word for "harbor wave which is a huge ocean wave that can travel at speeds up to 600mil/hr (965 km/hr) can have heights of up to 30 m (98 ft), wavelengths of up to 200km. and long periods, usually between 10 and 60 minutes. Sometimes incorrectly called a tidal wave, a tsunami is usually caused by an underwater earthquake or volcanic eruption and often causes extreme destruction

when it strikes land. It is a series of waves which travel outward on the ocean surface in all directions in a kind of ripple effect. Since the waves can start out hundreds of miles long and only a few feet high, they would not necessarily be noticeable to a passing ship or a plane flying overhead. The plan to deal with Tsunami can be divided in following stages:

Action By	Activity
	PLANNING & PREPAREDNESS
Port Key Person	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer (01), Fire Team Member (01), Port Operators (02), Electrician (01), Marine Control Officer (01), POC Officer (01). <p>Note</p> <ul style="list-style-type: none"> ➢ Based on total strength of the individual plant, more than one team may be constituted. ➢ Each member of the team shall have a designated alternate member. <ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary, including but not limited to items specified in Chapter-20: ▪ Liaise with HOD – Marine to identify control centers equipped with: <ul style="list-style-type: none"> • Communication facilities. • Emergency vehicles/ equipment (tugs, speed/mooring boat). • List of emergency contacts (POC, Marine Control, Deputy PFSO, Port Security) • Occupational Health Facilities.
Marine Department	ACTION BEFORE EFFECTIVE PERIOD AFTER GETTING WEATHER WARNING <ul style="list-style-type: none"> ▪ Receive forecast from time to time and inform the following:- 1. Marine HOD 2. Pilots 3. Flotilla 4. all concerned dept. ▪ Monitor weather parameters ▪ In coordination with dry cargo instruct all ship captains to take the ships to anchorage. ▪ Stop all activities at jetty area. ▪ Ensure the jetty areas are free from loose and unsecured materials / equipment's. ▪ Update all departments about the latest weather conditions. ▪ Ensure TUG's are secured in protected part of basin.
	ACTION DURING EFFECTIVE PERIOD
Individuals	<ul style="list-style-type: none"> ▪ Do not panic. ▪ Avoid standing near to sea side. ▪ Stand near columns or duck under sturdy furniture. ▪ Assemble at emergency assembly point.
	ACTION AFTER EFFECTIVE PERIOD
Site Incident Controller	<ul style="list-style-type: none"> ▪ Liaise with Site Main Controller for shut down of Port(s) if required. ▪ Liaise with HOS – Security and HOS – Fire Services to search & rescue. ▪ Liaise with HOS – Occupational Health Center to provide first aid to the victims and remove casualties (if any).
Port Key Person	<ul style="list-style-type: none"> ▪ Report at site. ▪ Assess damage. ▪ Undertake restorative measures & repairs. ▪ Liaise with HOD – Human Resources & Administration.

For further details, pl. refer detailed procedure

16.4 EXCESSIVE RAINS, FLOOD

Excessive rains may be caused due to a low pressure developed in the nearby areas or any other natural phenomenon. The excessive rains may continue for days. A flood tide is an abundant flow or outpouring. It is a temporary rise of the water level, as in a river or lake or along a seacoast, resulting in its spilling over and out of its natural or artificial confines onto land that is normally dry. Floods are usually caused by excessive runoff from precipitation or snowmelt, or by coastal storm surges or other tidal phenomena. Floods are sometimes described according to their statistical occurrence. A fifty-year flood is a flood having a magnitude that is reached in a particular location on average once every fifty years. In any given year there is a two percent statistical chance of the occurrence of a fifty-year flood and a one percent chance of a hundred-year flood.

Action By	Activity
Port Key Person	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer (01), Fire Team Member (01), Port Operators (02), Electrician (01). Note <ul style="list-style-type: none"> ➤ Based on total strength of the individual plant, more than one team may be constituted. ➤ Each member of the team shall have a designated alternate member ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary and to ensure that the supplies reach the people if stranded in the premises. ▪ Liaise with HOD – HR to identify control centers equipped with: <ul style="list-style-type: none"> • Communication facilities. • Emergency vehicles/ equipment. • List of emergency contacts & suppliers. • Medical facilities.
	ACTION DURING EFFECTIVE PERIOD
Individuals	<ul style="list-style-type: none"> ▪ Do not panic. ▪ Avoid standing near to sea side. ▪ Stand near columns ▪ During excessive rains and imminent flood, move to the safest topmost point of the building and communicate for help.
	ACTION AFTER EFFECTIVE PERIOD
Site Incident Controller	<ul style="list-style-type: none"> ▪ Liaise with Site Main Controller for shut down of Port(s) if required. ▪ Liaise with HOS – Security, HOS - Marine and HOS – Fire Services for search & rescue. ▪ Liaise with HOS – Occupational Health Center Services to provide first aid to the victims and remove casualties (if any). ▪ Report at site.
Port Key Person	<ul style="list-style-type: none"> ▪ Assess damage. ▪ Undertake restorative measures & repairs.

	<ul style="list-style-type: none"> ▪ Liaise with HOD – Human Resources & Administration.
	Department Wise Emergency Action Plan for Flood
Marine Department	<ul style="list-style-type: none"> ▪ Receive forecast from time to time and inform the following:- 1. Marine HOD 2. Pilots 3. Flotilla 4. all concerned dept. ▪ Monitor weather parameters ▪ In coordination with dry cargo instruct all ship captains to take the ships to anchorage. ▪ Stop all activities at jetty area. ▪ Ensure the jetty areas are free from loose and unsecured materials / equipment. ▪ Update all departments about the latest weather conditions. ▪ Ensure TUG's are secured in protected part of basin.
Liquid Terminal	<ul style="list-style-type: none"> ▪ Stop all loading / unloading activities at jetty area. ▪ Close drain valves of all tanks' dyke area ▪ Ensure that the tanks should be filled up in case of area flooding to avoid lifting. ▪ Arrest all barge / loading arms and support structures at its base to prevent horizontal movement due to water flow and secure from its top by arranging guy ropes. ▪ Stop loading / unloading of ship and measure the ship cargo quantities along with clients surveyor and communicate Marine Dept. / shipping agencies to take the ship to anchorage area
Information Technology	<ul style="list-style-type: none"> ▪ Maintain all communication devices operational during emergency. Arrange for back up communication system.

For further details, pl. refer detailed procedure

16.5 INDUSTRIAL UNREST/ RIOTS / CIVIL DISORDER / MOB ATTACK /

Industrial relation between personnel within or outside the premises and management may deteriorate because of any reason.

Problems, which may arise due to industrial unrest, include:

- Dharna / Strike/ Hunger strike
- Unofficial gatherings/ Gate meetings/ Forceful entry
- Work to rule/ Go slow/ Disobedience
- Gherao / Rasta roko
- Intimidation & Use of force
- Support from local & criminal elements
- Sabotage

In such a scenario, to ensure protection of lives, property and smooth operation of Port, , well-coordinated effort is needed from all concerned. Plan to deal with industrial unrest can be broadly divided in following stages:

Action By	Activity
PLANNING & PREPAREDNESS	
Port Key Person	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Security Officer (01), Port Engineer (01), Fire Team Member (01), Port

	<p>Operators (02)</p> <p>Note</p> <ul style="list-style-type: none"> ➤ Based on total strength of the individual plant, more than one team may be constituted. ➤ Each member of the team shall have a designated alternate member. ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary, including but not limited to items specified in Chapter-20 ▪ Plan shift manning. ▪ Liaise with HOD – HR for food stock, water, blankets & bedding and medicine.
	ACTION BEFORE EFFECTIVE PERIOD
Port Key Person	<ul style="list-style-type: none"> ▪ Liaise with Site Main Controller ▪ Liaise with HOD – Security for security & vigilance requirements. ▪ Liaise with HOD – HR for planning of accommodation of additional personnel and transport for additional requirements of vehicle (if any).
	ACTION DURING EFFECTIVE PERIOD
Port Key Person	<ul style="list-style-type: none"> ▪ Liaise with HOD – Security for <ul style="list-style-type: none"> • Strengthening security at sensitive points. • Ensuring protection of lives & property. • Vigilance & patrolling. • Maintaining law & order. ▪ Liaise with Site Main Controller for <ul style="list-style-type: none"> • Updates on the situation.
	ACTION AFTER EFFECTIVE PERIOD
Port Key Person	<ul style="list-style-type: none"> ▪ Assess damage (if any). ▪ Liaise with Site Main Controller for restoring normalcy.

16.6 BOMB THREAT / Hijacking of merchant vessel within port limits

Bombs can have devastating effect not only on the Adani Hazira Port but also on neighboring areas. Hence any threat received regarding plantation of the bomb shall be viewed seriously.

Plan to deal with bomb threat can be divided in following stages:

Bomb scare / Terrorist Attack / Hijacking

Objective: The primary objective during any bomb threat or security threat is to minimize loss of life, minimize injury, minimize damage to assets and prevent any pollution. Hence the area under threat to be evacuated and cordoned.

Key Person	Action
Receiver of threat call	Inform AHPPL control Room Try to remember/write the information received verbatim
AHPPL control	Inform PFSO & Dy. PFSO (AHPPL) Inform Security Control Room and pass the information received Inform Fire and Safety Dept. Inform Medical Team
Security	Isolate the area/port Evacuate the suspected area Care would be exercised to distribute the staff in small groups preferably away from known assembly points. This is required as terrorists may send bomb scare at site and then explode devices by remote at assembly points to inflict greater damage. Bomb snuffing and diffusing squad would be requested from the police. All transport vehicles incoming and outgoing would be checked for unidentified objects. No personnel would be allowed to remain at site until site is declared safe In case of any terrorist attack on terminal/jetty area, efforts would be made to protect life of the people. No firearms are allowed in the terminal. No action should be taken in haste by anyone as it could be misread by the terrorists. Police and other agencies would be informed and all support would be extended to them. In case of any terrorist attack or hijacking of a merchant vessel on terminal/jetty area, efforts would be made to protect life of the people. No firearms are allowed in the terminal. No action should be taken in haste by anyone as it could be misread by the terrorists. Police and other agencies would be informed and all support would be extended to them. Refer more details in SOP of Hijacking Situation in case of hijacking of a merchant vessel within the port limits.
Medical team	Stand by for any casualty at safe distance
Fire team	Stand by for any blast and fire out break at safe distance
Dy. PFSO (AHPPL)	Act in consultation with the PFSO Report to Coast Guard Report to Marine Police Report to DG Shipping

16.7 WAR/ HIT BY MISSILES

During an outbreak of war, bombarding by enemy planes at Hazira site can have devastating effects. Plan to deal with bomb threat can be divided in following stages:

	PLANNING & PREPAREDNESS
Port Key Person	<ul style="list-style-type: none"> Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> Port Engineer (01), Fire Team Member (01), Port Operators (02),

	Electrician (01).
	<p>Note</p> <ul style="list-style-type: none"> ➤ Based on total strength of the individual plant, more than one team may be constituted. ➤ Each member of the team shall have a designated alternate member. <ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary, including but not limited to items specified in Chapter-20 ▪ Make arrangements for camouflage the flares. ▪ Liaise with HOD – Security to increase awareness in the Port personnel regarding war.
	ACTION BEFORE EFFECTIVE PERIOD
Port Key Person	<ul style="list-style-type: none"> ▪ Liaise with Port Operation Centre. ▪ Liaise with HOD – Security for <ul style="list-style-type: none"> • Intensifying vigilance & patrolling.
	ACTION DURING EFFECTIVE PERIOD
Port Key Person	<ul style="list-style-type: none"> ▪ Liaise with Site Main Controller for minimizing light (during night) & obtaining updated information. ▪ Liaise with HOD – Security for evacuation of non-essential personnel.
	ACTION AFTER EFFECTIVE PERIOD
Port Key Person	<ul style="list-style-type: none"> ▪ Assess damage (if any). ▪ Liaise with Site Main Controller to restore normalcy.

16.8 FOOD/WATER POISONING

Plan to deal with food / water poisoning can be divided in following stages:

Action By	Activity
PLANNING & PREPAREDNESS	
Port key person	<ul style="list-style-type: none"> ▪ Liaise with HOS – Occupational Health Services: <ul style="list-style-type: none"> • To impart training regarding food/ water poisoning. • For supply of medicines, saline water etc.
ACTION DURING EFFECTIVE PERIOD	
Port Key Person	<ul style="list-style-type: none"> ▪ Liaise with Site Main Controller & HOS – Occupational Health Services to: <ul style="list-style-type: none"> • Identify the contaminant source.

	<ul style="list-style-type: none"> • Seize contaminated material. • Take preventive measures to avoid recurrence. • Inform all concerned. • Arrange sample analysis & alternate supplies. • Arrange medical assistance to the victims.
ACTION AFTER EFFECTIVE PERIOD	
Port Key Person	<ul style="list-style-type: none"> ▪ Liaise with Site Main Controller & HOS – Occupational Health Services to: <ul style="list-style-type: none"> • Conduct epidemiological investigation to identify the cause. • Take preventive measures to avoid recurrence. • Follow up on casualties.

16.9 FIRE / EXPLOSION

A complete fire protection system that includes fire extinguishers, fire hydrant system and communication facilities, has been installed. AHPPL is having a system for maintaining all fire protection systems and training employees for emergency preparedness. The fire extinguishers and Fire Fighting Systems are being checked / inspected periodically by a trained staff. Telephones provided at all control rooms to communicate in case of any fire situation.

Plan to deal with fire can be divided in following stages:

Action By	Activity
	PLANNING & PREPAREDNESS
Port Key Person	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer (01), Fire Team Member (01), Port Operators (02), Electrician (01). Note <ul style="list-style-type: none"> ➤ Based on total strength of the individual plant, more than one team may be constituted. ➤ Each member of the team shall have a designated alternate member. ➤ Disconnect the affected area's electric supply. ➤ Attempt to extinguish fire with the help of appropriate type of fire extinguishers. ➤ If fire is not extinguished, extinguish by spraying water with fog nozzle after ensuring complete isolation of electric circuit. ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary ▪ Liaise with HOS – Fire Services to: <ul style="list-style-type: none"> • Maintain adequate fleet of fire tenders & firefighting equipment. • Maintain patrolling to eliminate potential sources of fire hazard.

	<ul style="list-style-type: none"> Impart regular refresher training to auxiliary fire squad members.
	ACTION DURING EFFECTIVE PERIOD
Emergency Response Team	<ul style="list-style-type: none"> ▪ Activate / Raise an alarm. Try to contain fire. ▪ Liaise with Site Main Controller, HOS – Fire and HOS – Occupational Health Services to: <ul style="list-style-type: none"> • Evacuate non-essential personnel • Ensure all action, material, equipment are in place to tackle the emergency in a shortest possible time. • Ensure that the fire spread should be within minimum area and all possibilities of escalation to be checked and corrective action should be in place. • Ensure search & rescue • Ensure casualties receive attention. ▪ Liaise with HOD – Security to restrict movement in affected area.
	ACTION AFTER EFFECTIVE PERIOD
Emergency Response Team	<ul style="list-style-type: none"> ▪ Assess damage. ▪ Implement fire preventive measures. ▪ Undertake restorative measures & repairs. ▪ Liaise with HOS – Occupational Health Services to follow up on casualties

16.10 TRANSPORTATION / STORAGE INCIDENTS INVOLVING HAZARDOUS MATERIAL / TRANSPORT INCIDENT

Various material including hazardous materials are transported to and from Adani Hazira Port by tank lorries, containers. These hazardous materials are stored in Tanks or containers of suitable material and design in Liquid Terminal, container terminal or in Dry Cargo area. These containers / tank lorries have the potential to mechanical failures & road incidents (within and/ or outside the complex) and tanks in tank farm having potential to mechanical failures, operational failures resulting in the possible scenarios viz. spillage, leakage, fire & explosion that might pose an imminent danger to surrounding populations/area and vehicular traffic (in case of tank lorries) apart from threat to an environment. The plan to deal with such type of emergencies involving hazardous material may be divided in following stages:

Besides involvement of hazardous goods, the vehicular incidents can also lead to serious consequence. This also can lead to serious injuries, traffic issues. The emergency handling during Vehicular incident also requires to deal with Medical emergencies and rescue operations.

16.10.1 For Tank Lorry Incident due to unsafe acts or other reasons

PLANNING & PREPAREDNESS	
Port Key Person – HOD of Liquid Terminal – till the vehicle is	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer / Liquid Terminal (01), Fire Team Member (01), Port Operators (02), Electrician (01). <p>Note</p> <ul style="list-style-type: none"> ➤ Based on total strength of the individual plant, more than one team may be constituted. ➤ Each member of the team shall have a designated alternate member.

inside	<ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary ▪ Collect information about the product and specification/ design of the tanker for the product/vehicle. ▪ Material Safety Data Sheet to be referred. ▪ Liaise with HOD – Security for: <ul style="list-style-type: none"> • Ensuring safety equipment & fitness certificates are valid. • Auditing the tankers. • Awareness program for transporters, drivers etc.
ACTION DURING EFFECTIVE PERIOD	
Emergency Response Team	<ul style="list-style-type: none"> ▪ Liaise with HOD – Security/ Driver/ Transporter to: <p>During an emergency of particular nature Fire, Leak, Explosion, Medical emergency– refer the plan above</p> <ul style="list-style-type: none"> • Ascertain extent of damage and impact. • Control, block or contain leakage. • Inform various agencies. • Request for assistance. • Restrict movement in the affected area.
ACTION AFTER EFFECTIVE PERIOD	
Emergency Response Team	<ul style="list-style-type: none"> ▪ Assess damage. ▪ Undertake restorative measures & repairs. ▪ Liaise with HOS – Occupational Health Services to follow up on casualties

16.10.2 For Pipe Line / Tank in Tank Farm Incident including failure of control system, design deficiency, inadequate maintenance or any other incidents due to unsafe acts by personnel

PLANNING & PREPAREDNESS	
Port Key Person – HOD of Liquid Terminal	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer (01), Fire Team Member (01), Port Operators (02), Electrician (01). <p>Note</p> <ul style="list-style-type: none"> ➤ Based on total strength of the individual plant, more than one team may be constituted. ➤ Each member of the team shall have a designated alternate member. <ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary ▪ Collect information about the product and specification/ design of the tanker for the product. ▪ Material Safety Data sheet of particular substance to be referred. ▪ Awareness / Drill / Training sessions for operational personnel ▪ Liaise with HOD – Engg. for: <ul style="list-style-type: none"> • Ensuring availability of sufficient spares and equipment • Ensuring skilled and experienced manpower availability to tackle

	<p>emergency.</p> <ul style="list-style-type: none"> • Periodic checks / Inspection and Auditing of the equipment / pipe lines/ maintenance procedure. • Awareness program for Engg. Personnel. ▪ Liaise with HOD – HSEF. for: <ul style="list-style-type: none"> • Ensuring availability of sufficient Fire fighting / leak handling spares and equipment • Awareness program for HSEF Personnel.
	ACTION DURING EFFECTIVE PERIOD
Emergency Response Team	<ul style="list-style-type: none"> ▪ Liaise with HOD – HSEF/ Security/ Occupational Health Centre / Govt. Agencies to: Liaise with HOD – Security to restrict movement in affected area <ul style="list-style-type: none"> • Evacuate non-essential personnel • Ensure all action, material, equipment are in place to tackle the emergency in a shortest possible time. • Ensure that the emergency spread should be within minimum area and all possibilities of escalation to be checked and corrective action should be in place. • Ensure search & rescue • Ensure casualties receive attention. • Ascertain that the emergency action plan put into action • Ascertain extent of damage and impact. • Control, block or contain leakage. • Inform various agencies. • Request for assistance. • Restrict movement in the affected area.
	ACTION AFTER EFFECTIVE PERIOD
Emergency Response Team	<ul style="list-style-type: none"> ▪ Assess damage. ▪ Undertake restorative measures & repairs. ▪ Investigate / analysis the incident to prevent reoccurrence. ▪ Liaise with HOS – Occupational Health Services to follow up on casualties

16.11 MEDICAL EMERGENCIES & RESPONSE

MEDICAL FACILITIES

- Ambulance service shall be provided within the port premises round the clock to provide medical assistance and help to the employees and contractors workmen receiving major injuries at work or illness that cannot move and need assistance to reach site OHC or to the hospital for medical attention.
- However, first aid facilities (first aid box) are available to each of the Terminals as well as in the Marine Control Room for providing immediate first aid by a trained person for minor injuries.

- A well-equipped Occupational Health Center (OHC) is established centrally inside the AHPPL premises at Hazira to provide first aid, medical assistance and implementing occupational health programs for employees and the contractors. The OHC is managed by a qualified medical officer and paramedical staff. An Ambulance is available at AHPPL for emergency, on call (Intercom No. 61605; Firefighting services at site available on call at Intercom No. 61633 or 61604.

INCIDENT REPORTING

- As per the Port policy all disease outbreak, injuries/dangerous occurrences/incident are to be reported and recorded. An incident investigation procedure will be followed and training will be delivered to the site supervision in support of it. The procedure and protocol developed shall include the following:-
- Marine Control, Security Control, Concerned Engineer, Safety Department must be informed immediately (by telephone) in the event of an incident/ emergency.
- In case of an injured person is unable to move, the site medical centre should be contacted for ambulance and on the spot Medical Assistance.
- First aid training will be given on site and a register of training maintained, personnel trained in first aid will be available throughout the site for any emergency purposes.
- All injuries including disease outbreak, medical treatments and first aid cases will be recorded and detailed records will be sent to the Management (weekly /monthly reports).
- Government regulations concerning notification of any disease outbreak, serious incident/fatality etc. should be followed as per the statutory requirement/ local regulations and will be dealt with as per the AHPPL policy/procedure.

PLANNING & PREPAREDNESS

Port Key Person	<ul style="list-style-type: none"> ▪ Constitute Emergency Response Team(s) comprising of at least: <ul style="list-style-type: none"> • Port Engineer (01), First Aider (01), Fire Team Member (01), Safety Personnel (01), Security Personnel (01). <p>Note</p> <ul style="list-style-type: none"> ➤ Each member of the team shall have a designated alternate member. <ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary
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ACTION DURING EFFECTIVE PERIOD

Emergency Response Team – HOD/ Area personnel	<ul style="list-style-type: none"> ▪ Liaise with Occupational Health personnel / Doctor /Male Nurse, Area personnel and HOD – Security/ HSEF: • Get the information on extent of injury and action taken for First Aid to injured person. • Ensure that the injured person gets immediate Medical attention. • If required, ensure that the injured person sent to hospital for further treatment. • Ensure that the affected area is barricaded and hazards are well taken care of to avoid further injuries • Inform concerned department to initiate the repair / restoration. • Request for assistance. • Restrict movement in the affected area.
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Individual	<p>Incident: If you witness an incident or dangerous occurrence (Major Injury due to fall from height, Physical contact with moving machineries / vehicle, Burn, Electrocution, Drowning or Occupational & Personnel Disease etc.):</p> <ul style="list-style-type: none"> • Contact Occupational Health Centre (OHC) on Intercom No.61605 Telephone No. 8980802405 or Marine Control Room on Intercom 61577, Tel. No. 9909957115 • Contact Security Control Room on Telephone No. 61700 / 9909957114 and Fire Control Room on 61633 or 9909957113 for any help. • Give your Location, Name and ID No./ E.C. No. when giving some information. • State the nature of the incident. It is important to report even when there are no injuries or damage. • Provide relevant First Aid if competent to do so /or Rush the victim to the Occupational Health Centre at site • Stay with the injured person until Medical Assistance arrive and a report of the circumstances has been taken
ACTION AFTER EFFECTIVE PERIOD	
Emergency Response Team	<ul style="list-style-type: none"> ▪ Assess / investigate the incident. ▪ Undertake restorative measures & repairs. ▪ Investigate / analysis the incident to prevent reoccurrence. ▪ Liaise with HOS – Occupational Health Services to follow up on casualties

16.11.2. OUTBREAK OF DISEASE (Epidemic or Pandemic)

Outbreak of disease (epidemic or pandemic) is a type of medical emergency. It may occur outside the port premises and cause threat of spread to inside or the disease may be identified in anybody working inside the port.

PLANNING & PREPAREDNESS	
Port Key Person	<ul style="list-style-type: none"> ▪ Maintain inventory of emergency items (Hardware) & supplies as necessary ▪ Educate & train the people against the spread of disease (Epidemic or Pandemic) i.e. COVID-19 ▪ Provide the adequate resources and guidelines to tackle the emergency. ▪ Pass on the information regarding the outbreak of the disease in the surrounding areas to the Emergency response team. ▪ Arrange for external medical help.
ACTION DURING EFFECTIVE PERIOD	

Emergency Response Team – HOD/ Area personnel	<ul style="list-style-type: none"> ▪ Liaise with Occupational Health personnel / Doctor /Male Nurse, Area personnel and HOD – Security/ HSEF: • Get the information on extent of spread of disease and arrange for adequate medical attention to the effected and the vulnerable. • Ensure that the affected area if within the company premises is isolated and fumigation, pest control or other required steps are taken care to stop spread of disease. • Request for external medical assistance if required. • Management of manpower that comes from a disease prone area.
Individual	<ul style="list-style-type: none"> • If you witness any disease outbreak in the premises or in the surrounding areas, inform the Occupational Health Centre (OHC) on Intercom No.61605 Telephone No. 8980802405 or Marine Control Room on Intercom 61577, Tel. No. 9909957115 • Contact Security Control Room on Telephone No. 61700 / 9909957114 and Fire Control Room on 61633 or 9909957113for any help. • Give your Location, Name and ID No./ E.C. No. when giving some information.
ACTION AFTER EFFECTIVE PERIOD	
Emergency Response Team	<ul style="list-style-type: none"> ▪ Assess / investigate the incident. ▪ Undertake restorative measures & repairs. ▪ Investigate / analysis the incident to prevent reoccurrence. ▪ Liaise with HOS – Occupational Health Services to follow up on casualties

16.12 MARINE EMERGENCY

Marine- HOD is the **Site Incident Controller** and will be leading the response team until the emergency is totally brought under control or he is substituted under ERC instruction. This is irrespective of the time taken to control the emergency. The following action plans for emergencies are defined in this plan.

16.12.01. Emergency Alert Ship's Engine Failure

Ship Master is always in-charge of his vessel.

Objective: Prevent vessel grounding or damage to ship/port assets and environment.

Key Person	Action
Master of vessel	Inform Port Control room on VHF Inform Pilot Activate Ship Emergency Response Plan
Pilot	Inform AHPPL control Room Review Vessel's position Tugs/Mooring boats standby for use If engine failure during approach, ready anchors and consider using anchors <ul style="list-style-type: none">- Use tugs- Abort approach, turn to sea- Tow the vessel to safety If engine failure after abort point, ready anchors and consider using anchors <ul style="list-style-type: none">- Use tugs- Enter turning basin and drop anchor If engine failure at berth ,while unberthing <ul style="list-style-type: none">- Stay at berth
AHPPL Control Room	Inform HPPL Control Inform Marine HOD Inform Port tugs/ crafts and activate other tugs Navigational warnings Monitor and log communications
HOD –Marine(Site Incident Controller)	Standby on VHF and maintain contact pilot. Assess damage caused to port property and notify the agent accordingly for damage claims

16.12.02. Vessel's Grounding in Approaches to Port

Ship Master is always in-charge of his vessel.

Objective : Restrict damage to ship, protect port assets and environment, rescue/evacuation

Key Person	Action
Master of vessel	Inform Port Control room on VHF Inform Pilot Activate Ship Emergency Response Plan Assess situation and damage/possibility of damage to environment; render damage control assistance as required. Consider re-floating options
Pilot	Inform Port control Room Review Vessel's position Call additional Tugs/Mooring boats for use Assess damage to ship. Do not attempt immediate re-floating using ships engines Arrange tugs/mooring boats/ firefighting assistance as required Ensure personnel are safe/ consider evacuation Activate oil spill response (if required) Consider re-floating options -
AHPPL Control Room	Inform HPPL Control Inform Marine HOD Inform Port tugs/ crafts and activate other tugs Navigational warnings Monitor and log communications
HOD -Marine(<u>Site Incident Controller</u>)	Standby on VHF and maintain contact pilot. Assess damage caused to port property and notify the agent accordingly for damage claims

For further details, pl. refer detailed procedure

16.12.03. Collision Between Ships In Approaches To Hazira Port Channel

Ship Master is always in-charge of his vessel.

Objective : Minimize damage to vessels / environment. Rescue personnel

Key Person	Action
Master of vessel	Inform Port Control room on VHF Activate Ship Emergency Response Plan Activate Ship Damage Control Plans Activate Oil Spill Response, as required
Pilot	Inform HPPL Port control Room Review ship position Tugs/mooring boats Liaise with Masters, monitor situation

	Abort approach, turn to sea Tow the vessel to safety, if required Evacuation, if require
AHPPL Control Room	Inform HPPL Control Inform Marine HOD Inform Port tugs/ crafts/ diving support Issue Navigational warnings Inform medical / Clinic Monitor and log communication
HOD –Marine (<u>Site Incident Controller</u>)	Standby on VHF and maintain contact pilot. Assess damage caused to port property and notify the agent accordingly for damage claims

16.12.04. Vessel contact with Jetty structure

Ship Master is always in-charge of his vessel

Objective: Minimize damage to vessels / environment. Rescue personnel

Key Person	Action
Master of vessel	Inform Port Control room on VHF Inform Pilot Activate Ship Emergency Response Plan Activate Ship Damage Control Plans Activate Oil Spill Response, as required
Pilot	Inform AHPPL Port control Room Pull Ship away from the berth Assess damage to ship and jetty Consider re-berthing or abort approach and proceed to sea
AHPPL Control Room	Inform HPPL Control Inform Marine HOD Inform Engineering Services In charge to make assessment of Jetty damage Monitor and log communications Take photographic evidence
HOD -Marine(<u>Site Incident Controller</u>)	Standby on VHF and maintain contact pilot. Assess damage caused to port property and notify the agent accordingly for damage claims
Security	Isolate Jetty

16.12.05. Ship at berth mooring failure

Ship Master is always in-charge of his vessel.

Objective: Prevent damage to ship/ protect port assets and environment

Key Person	Action
Master of vessel	Stop all cargo operations Commence heaving ship's gangway or assist Inform Port Control room on VHF Inform Pilot Activate Ship Emergency Response Plan
AHPPL Control Room	Inform Port tugs to start engines and approach the vessel Instruct Jetty Supervisor to reach the berth, see the possibility of receiving mooring lines. Call Pilot Inform HPPL Control Inform Marine HOD Inform Engineering Services In charge to make assessment of Jetty damage Monitor and log communications
Pilot	Approach the vessel on tug Establish contact with the Master for planning and boarding Ships engines to immediate readiness Use stand by tug Arrange tugs/mooring boats/ firefighting assistance as required Analyze cause
HOD -Marine(<u>Site Incident Controller</u>)	Standby on VHF and maintain contact pilot Consider re-berthing option or proceed to sea Assess damage caused to port property and notify the agent accordingly for damage claims

16.12.06. Fire/Explosion on board any vessel in port

Ship Master is always in-charge of his vessel.

Objective: Minimize damage to ship/port assets and environment / rescue

Key Person	Action
Master of vessel	Stop all cargo operations Inform Port Control room on VHF Activate Ship Emergency Response Plan
AHPPL Control Room	Inform Port tugs to start engines and approach the vessel, with fire pumps and Fi Fi on stand by and assist if required. Inform Fire Dept. Inform Marine HOD Call Pilot

	Inform HPPL Control Inform Safety Dept Inform Medical Cell Inform Security Monitor and log communications
HOD -Marine(<u>Site Incident Controller</u>)	Standby on VHF and maintain contact pilot Ensure safety of all personnel / treatment to injured/ evacuation Consider, pulling out the vessel to safe berth / anchorage Proceed to safe position/anchorage off port Assess damage caused to port property and notify the agent accordingly for damage claims
Pilot	Approach the vessel on tug incase planned to remove to safe berth/anchorage Establish contact with the Master for planning and boarding Ships engines to immediate readiness Use stand by tug
Medical Team	Stand by on Jetty
Fire Squad	Stand by on Jetty
Security Team	Isolate Jetty and remove unnecessary personnel

16.12.07. Man over board from ships / tug / Jetty

Ship/tug Master is always in-charge of his vessel.

Objective: Retrieve missing person

Key Person	Action
Master of vessel/Observer	Inform Port Control room on VHF Activate Ship Emergency Response Plan
AHPPL Control Room	Inform HOD Marine Inform Pilot / Port tugs/ crafts Mobilize Rescue Boats, Life Saving Appliances, Lights, Lookout Monitor and log Communications Confirm Navigational Warning issued by Port Control
HOD -Marine(<u>Site Incident Controller</u>)	Standby on VHF and maintain contact with Master / Pilot Assemble Emergency Response Team Assess situation
Medical Team	Stand by on Jetty for Medical Assistance

16.12.08. Oil Spill during re-fueling of port tugs / crafts

Ship Master is always in-charge of his vessel.

Objective: Minimize spill quantity, contain, collect and clean

Key Person	Action
Master of vessel	Inform AHPPL Port Control room on VHF Stop bunkering & close all valves Activate Ship Emergency Response Plan

AHPPL Control Room	Inform HPPL control room Inform Harbor tugs/ crafts Monitor and log communications Ensure Oil Spill Gear Readiness and shifting to site
HOD -Marine(<u>Site Incident Controller</u>)	Maintain VHF contact with re-fueling tug / craft Maintain VHF contact with Port Control Assess situation Activate Oil Spill Response Plan (see section 6,7 & 8) Inform Coast Guard Inform DG Shipping Assess damage caused to port property and notify the agent accordingly for damage claims
Fire Team	Stand by for any fire outbreak
Medical Team	Stand by on Jetty

16.12.09. Medical Emergency offshore (Ship / Harbour craft)

Ship Master is always in-charge of his vessel.

Objective: Evacuation / medical attention.

Key Person	Action
Master of vessel/harbor craft	Inform Port Control room on VHF Request nature of assistance required
AHPPL Control Room	Inform Port Medical Inform HPPL control Room Inform Marine HOD Port tug / craft standby for evacuation Monitor / log communication
HOD -Marine(<u>Site Incident Controller</u>)	To be in VHF contact with Ship / Craft Assess situation Assess damage caused to port property and notify the agent accordingly for damage claims
Medical Team	Standby for Medical Assistance Call Company doctor for advise Provide Advanced First Aid Evacuation to Hospital

16.12.10. Ship's Security Alert System Activation

Ship Master is always in-charge of his vessel.

Objective: Minimize damage to ship/port assets and environment / rescue.

Actions to be taken in case of activation of ship security alert system when the vessel is at berth.

Key Person	Action
Master of vessel	Stop all cargo operations Inform Port Control room on VHF Activate Ship Security Plan
AHPPL Control Room	Inform PFSO/ DY PFSO Inform Security Inform Port tugs to start engines and approach the vessel, with fire pumps and Fi Fi on stand by and assist if required. & patrol on the sea side Inform Fire Dept. Inform Marine HOD Call Pilot Inform HPPL Control Inform Safety Dept Inform Medical Cell Monitor and log communications
HOD –Marine/ Dy PFSO(<u>Site Incident Controller</u>)	Standby on VHF and maintain contact pilot Ensure safety of all personnel / treatment to injured/ evacuation Consider, pulling out the vessel to safe berth / anchorage Inform DG Comm centre in consultation with the PFSO
Security Team	Isolate Jetty / vessel and remove unnecessary personnel Remove gangway
	Approach the vessel on tug incase planned to remove to safe berth/anchorage Establish contact with the Master for planning and boarding Ships engines to immediate readiness Use stand by tug
Medical Team	Stand by on Jetty
Fire Squad	Stand by on Jetty

16.12.11. Hostage Situation

Objective: Minimize damage to ship/port assets and environment / rescue.

Key Person	Action
AHPPL Control Room	Inform PFSO/ DY PFSO Inform Security Inform Fire Dept. Inform Marine HOD Call Pilot Inform HPPL Control Inform Safety Dept Inform Medical Cell Monitor and log communications
Security Team	Isolate Jetty / vessel and remove unnecessary personnel Stand by for any escalation Inform Police

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HOD –Marine/ Dy PFSO(<u>Site Incident Controller</u>)	Plan out means to contact the belligerent parties for understanding reason for hostage situation Ensure safety of all personnel / treatment to injured/ evacuation Consider, pulling out the vessel to safe berth / anchorage Inform DG Comm centre in consultation with the PFSO
Medical Team	Stand by
Fire Squad	Stand by

17.0 EMERGENCY KIT, FIRE FIGHTING FACILITIES, SAFETY ARRANGMENT

The following items of hazard / emergency kits are under procurement/have been procured.

17.1 Protective Clothing

- Proximity suit – 2 nos.
- High voltage lineman's gloves – 2 nos.
- Overalls – 10 nos.
- Goggles (polycarbonate lens) – 5 nos.
- Hardhats – 10 nos.
- Boots (steel toe) – 2 nos.
- Safety harness – 5 nos.

17.2 Breathing Apparatus

- Positive pressure self-contained breathing apparatus – 2 nos.
- Spare cylinders – 1 nos.

17.3 First Aid Equipment

- Extinguishers capable for handling Class A, B, C fires. – 463 nos.
- First aid kit – 15 nos.
- Resuscitator– 2 nos.
- Well equipped ambulance – 1 no.
- First Aid Trained personnel

Refer Appendix D List of First Aid Trained Persons

17.4 Spill Care Kit

- Heavy Duty Sorbent pads (15"X19") – 12 nos.
- Sorbent Booms (5" X 10") – 03 nos.
- Polypropylene sorbent Pillows (18" X 18") – 03 nos.
- Sorbent roll (30" X 150')- 02 nos.
- Nitrile Gloves – 02 pairs
- Safety Goggles – 01 nos.
- Disposable bags – 01 nos.
- Disposal Coveralls – 4 nos.
- Barricading Tap – 01 nos
- Instruction Book – 01 Nos
- Chemical Gum boots – 01 Nos
- ABEK Mask – 01 Nos

17.5 Monitoring Devices

- pH paper strips
- Indication wind system – Wind Sock - 18 nos
- Hand held Multi Gas Detector – 5 no.
- Gas Detection pump – 1 No.

17.6 Adequate number of fire tender

Fire Tenders - 2 nos (having capacities of 12000 liters of water & 9000 water + 3000 foam) with adequate numbers of other firefighting equipment.

17.7 Personal Protective Equipment

Sufficient nos. of PPEs viz. Safety Helmets, Safety Shoes, Safety Goggles, Hand Gloves, Ear Plugs / Muffs, Dust Masks, Life Jackets, Hi visibility jackets, Full Body Harness etc. considering the work strength as well as buffer stock will be kept ready for routine consumption and to deal with any emergency.

Refer Appendix C List of PPEs

17.8 FOLLOWING FIRE FIGHTING FACILITIES / SYSTEMS ARE AVAILABLE AT AHPPL Liquid Terminal

■ GENERAL

Adequate firefighting systems are provided for protection of berths, buildings and facilities of the port.

The firefighting facilities are based upon OISD guidelines.

The pumps and fire water pipe network system are provided to serve hydrants suitably located around the entire premises with Extinguishers, Hydrants, Hose boxes and Monitors. The Fire & Safety staff of the AHPPL Liquid Terminal covers the entire premise and provides suitable fire protection coverage with mobile equipment, personnel, etc.

The capacity of the fire water system is sized to fight a fire hazard at Liquid Terminal and at Jetty. A general guidelines for the fire hydrant system is as given below:

■ FIRE FIGHTING SYSTEM AT THE JETTY

The firefighting systems at the berths are designed to combat minor & major fires as well. Foam cum Water monitors are installed on the three berths, so that the area of the maximum vessel size (including the vessel draft movements) is included in their throw pattern.

- The firefighting systems are designed in accordance with the OISD standards.
- The system follows the minimum design criteria as stipulated in the Guidelines, which are summarized hereunder:
 - a. In case of fire, the ship will be towed to the open sea and the firewater protection for the ship will be treated as first aid until towing is done.
 - b. One single largest risk is considered for providing fire protection facilities.
 - c. Sea water, which is available at the location, will be conveniently used.
 - d. The firewater pressure system is designed for a minimum residual pressure of 7 kg/m² at the hydraulically remotest point of application in the terminal.
 - e. Fire water flow rate will be the aggregate of the following:
 - Water flow for water/foam monitors for protection of loading /unloading hoses/piping manifold and ship;
 - Water flow for areas segregation through water curtains between ship and loading arms and hydrant service.
 - f. The water network lay to ensure multi-directional flow wherever possible. Isolation valves are provided in the network to enable isolation of any section of the network.

▪ **The major components of the firefighting system for the berths are as follows:**

1. MONITORS:

Monitors with an adequate capacity (2850 & 3030 lpm) with suitable horizontal throw. The positions of the monitors are so designed to cover the entire area of any tank and of largest tanker berthed at Jetty.

2. WATER HYDRANTS:

Water hydrants are stand post type and are single headed. One hydrant post is provided for every 45 meters length on the jetty. These are located alongside berths for easy accessibility. 4" hydrant heads with standard 63 mm valves are used.

3. FOAM CONCENTRATE:

Foam-concentrate in Tanks – 2 no's (17000 Lit each) are provided on Multipurpose Jetty. These are provided for using foam concentrate with Water cum Foam Monitors which are provided 2 nos. on every berth. A total of 31800 liters of AR - AFFF and 2000 liters of AFFF concentrate are stored in easily cartable Jerry cans of 20/35-ltrs and 200 liters capacity drum are kept at Liquid Terminal.

4. FIRE NETWORK:

Firewater network ring main is of 225 mm diameter GRP pipe at jetty & 80 mm at berth area to achieve the discharge capacity of both monitors.

▪ **LIQUID STORAGE AREA**

The Firefighting systems at the Liquid Terminal area are as per OISD & Petroleum rules. It is designed to meet the demand of two major fires at distinct locations. The essence of the systems is quick knock down of fire at the earliest instance. The firefighting systems consists of eight diesel pumps and two Jockey pump and ring main of 500 mm/ 400 mm/350 mm /300 mm & 250 mm mm dia. each tank is protected with dedicated foam/ water protection system. All the loading bays and enclosure are suitably covered with Water Monitors and Hydrants. The major components of the firefighting system for the Liquid Terminal is as follows:

● **Water Spray Rings:**

All the tanks are protected by medium velocity water spray nozzles all around the tanks. The discharge rate of water spray is 3 lpm/m² for the effective cooling against radiation heat. The water sprays are also operated by quick opening type butterfly valves.

● **Water Monitors:**

All the Loading Bays, Tank enclosures are adequately covered by the Water Monitors. The water monitors are strategically positioned to cover maximum area. The monitors are manually operated by the valves placed near each monitor.

● **Foam cum Water Monitors:**

Monitors with an adequate capacity (2850 lpm) with suitable horizontal throw. The positions of the monitors are so designed to cover the entire area of tank (in Enclosure no. 2) and placed so as it can cover tanks of other enclosures.

● **Hydrants:**

Double headed Hydrants are evenly positioned all over the Terminal area in accordance with OISD guidelines.

● **Foam Concentrate:**

Foam-concentrate in Tanks – 2 no's (5000 Lit each) are provided on back side Enclosure 2, Foam-concentrate in Tanks – 2 no's (4000 Lit each) are provided on back side Enclosure 4A.

Foam concentrate in Tanks – 02 Nos (4000 Lit each) are provided for the Enclosure I 10 These are provided for using foam concentrate with Water cum Foam Monitors and Foam Pourers which are provided around Enclosure 2 and Enclosure 4B respectively.

Wind Socks are located at:

- a. Jetty area - at berth no.1
- b. Liquid terminal
 - Fire water Tank
 - Phase 1 – 04 Nos
 - Phase 2 – 07 Nos
 - Canteen
- c. SS1 building
- d. NDC building
- e. HSE building
- f. SS3 building
- g. ER1 building

▪ **FIRE STATION**

The Fire station is the Control Centre of the Fire & Safety concerned matters. The Fire Station Control Room is active continuously 24 hours a day, 365 days a year. The control room is equipped with modern communication gadgets like, Wireless set, internal telephone & Mobile phones. Apart from the communication systems, the Fire fighting vehicle - Water Tender is stationed there. All sorts of firefighting equipment and appliances are stowed in the Fire Station.

The below given is the list of some of the equipment stowed at Fire Station.

- Spare fire extinguishers and foam compound drums (25% of distribution quantity) – 25 nos.
- Delivery Hose pipe – 10 nos.
- Branch Pipes & Foam making equipment. – 10 nos.
- Fire suits – 2 nos. (Foam tender)
- First aid kit – 02 nos. (Foam tender and Water tender)
- Safety Harness – 5 nos.
- Ropes – 5 nos.
- SCBA – 08 no's (Foam tender & Water tender)
- PPEs - goggles, Apron, shoes, gloves, nose mask, gumboots – Sufficient in spare qty.

18.0 ACTION PLAN FOR OFF SITE EMERGENCY

18.1. OFF – SITE EMERGENCY When the industrial disaster cannot be controlled by using unit's own resources, then it is necessary to involve outside resources to control such emergency. Even when Industrial disaster spread outside its premises and likely to affect or affect surrounding population, other industries, etc. then also outside resources needed to control it. This emergency called as Off Site Emergency & it will be controlled by either local or district authority.

The emergency location will not change but the line of actions will govern by crisis group instead of units' authorities. The unit own Authority has to extend facilities, liaison, and coordination to the local crisis group or district crisis group as per requirement or situation.

18.2. PROBABILITY FOR OFF-SITE EMERGENCY

The Fire/Explosion incidents at Tank farm may not create situation which requires Off Site Emergency from On Site Emergency. The spread of emergency situation created at Liquid Terminal by handling and storing activities in the premise would be within AHPPL Liquid Terminal Premises and can be tackled by own resources. But transportation of hazardous material by Tanker or Transportation through pipe line may create situation requires Off Site Emergency.

18.3. OUTSIDE PARTICIPATION

The emergency operations outside the factory premises are not different in character from those applicable to on sites. Hence the approach to and preparation for on-site emergency detailed in previous chapters will be applicable in case of Off-Site action also. However, the following points should be kept in mind:

- ❖ The groups involved are not as enlightened and responsible as those within the factory.
- ❖ In off-site actions, the local participants particularly the administration, fire & police play the dominant role. Industrial management has a limited and comparatively submissive role.
- ❖ The diversities of the problems and response are bigger.
- ❖ Humanitarian work assumes more importance.

The correct management strategy in this situation will be to involve the local participants' fully in emergency operation and provide technical and financial support to them to manage the emergency. This task is more difficult than managing the on-site emergency operation in many ways and call for elaborate and consistent efforts.

18.4. MUTUAL AID AND INTERACTION

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At present unit is having interaction for Mutual Aid arrangement with M/s. HPPL, Sun Petro, Reliance Industries Ltd., Hazira. However, necessary vehicles / equipment can be made available from nearby Industries like M/s. AM/NS. M/s. CAIRN, M/s. L&T, Surat Municipal Corporation, M/s. Kribhco, M/s. NTPC etc.

The benefits from mutual help will in term of: -

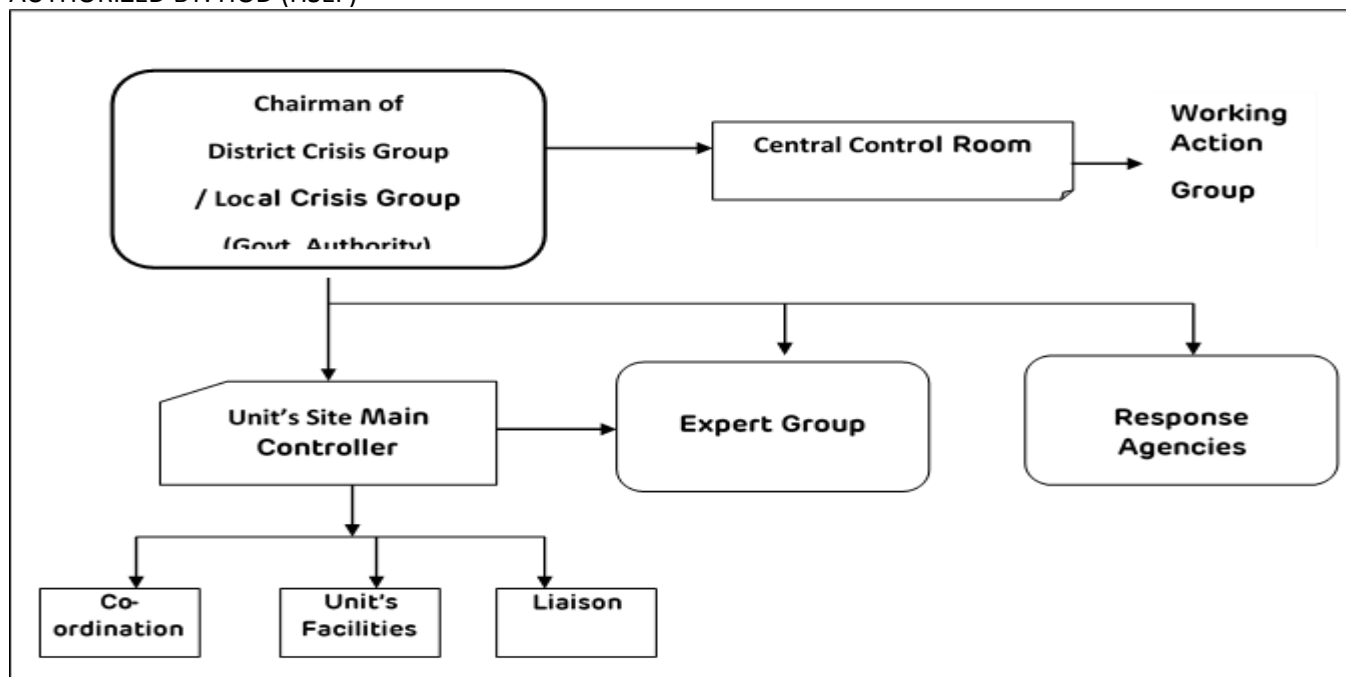
- ⊕ Availability of more numbers of technical persons in time of need.
- ⊕ Gains from sharing of experience.
- ⊕ Resources like cars, rescue equipments, protective equipments and tools to meet the emergency can be pooled.
- ⊕ Facilities of first aid, and services of medical officers and para-medical staff in all units available for use for the unit in distress.
- ⊕ In drafting the Off-Site Program all units can work together and evolve a common plan with participation of all units.
- ⊕ In terms of communication with other local participants and giving information to public, a joint approach will be more successful.
- ⊕ In case of emergencies involving the community, the workload in connection with rescue, relief and medical aid can be shared.

In order to derive maximum benefit from mutual help it will be necessary for all the participating units to interact with each other, share information and experience and also establish reliable communication links. Apart from facilities like communication facilities and codes for priority in calling during emergencies, methods of contact and nodal persons for contact should be decided in advance.

18.5. Action by SMC & IC during OFFSITE EMERGENCY in brief

During off site emergency, Duties and responsibility of unit's Site Main Controller and Incident Controller will be different from onsite emergency plan. In offsite emergency plan, Government Authority (Chairman of District Crisis Group/Local Crisis Group) will take charge of disaster and now he will be site main controller for Off Site Emergency plan.

Now Unit's site main controller became Site Co-ordinator & Liaison Man, while, as Incident controller will become incident coordinator, which is highlighted in chart as shown below.



A. DUTIES OF (CHIEF EXECUTIVE OFFICER / CHIEF OPERATING OFFICER) AS SITE MAIN CONTROLLER

(NOW Co-ordinator & Liaison Man)

During Off Site Emergency, Unit's Site Main Controller becomes Co-ordinator & Liaison Man and his duties are as follows:

1. He has to extend liaison, co-ordination and facility to the Chairman of local crisis group or Chairman of district crisis group.
2. He has to explain about disaster, his efforts and what type of help is needed in brief to Chairman of Local Crisis group (Govt. Authority) and Central Control Room.
3. He has to communicate about available resources, fatality/injury to his own employees and probable affected surrounding area with maximum credible scenario.
4. He has to keep ready with maps, layout of unit, records, documents, On Site Emergency Plan, M.S.D.S., Details of Process Hazards, Safe Handling procedure on specific hazardous chemicals etc.
5. He has to advise for special medical treatment and availability of antidotes.
6. He has to divert Communication system for Off site emergency.
7. He has to divert all available resource for Off site emergency.
8. He has to provide aid and assistance for Off Site Emergency.

9. Shutdown plant safely, if hazards is not involved.
10. He has to reorganize the work of Key personal & essential worker.
11. Arrangement of food, water, rest etc. for the person engaged in the duty.
12. Arrangement of disposal of contaminated water, effluent, solid waste, etc.

B. DUTIES OF UNIT'S INCIDENT CONTROLLER(HOD)

(NOW INCIDENT COORDINATOR)

1. He has to show the actual incident place to off site action group.
2. He has to provide proper information to all incoming off site action group.
3. He has to also explain safe route for off site team members, fire crew members, etc.
4. He has to describe available resources, other hazardous material near disaster, available PPE, Neutralizing Media, etc.
5. He has to show safe & proper parking arrangement for off site action group members.

18.6. WITHDRAWAL OF EMERGENCY (CALLING OFF EMERGENCY)

The emergency declared both within the works and the community should be called off only after making sure that the incident is brought under control and that no further dangers are possible to property or life. The Site Main controller, Govt. Authority in consultation with the work groups concerned, should take a decision to this effect. The decision has to be based on prudence and actual information of assessment by work groups and should not be one based or hearsay or speculation. A system of documentation recording the recommendations of work groups, opinion of senior officers and endorsement by the works main controller – will be a check against hurried decisions.

Once the decision to call off the emergency is taken, the concerned persons should be informed. The coordinator of the off-site emergency operation and local participants have to be informed. The coordinator in turn will give information to the other local participants and members of the public.

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Even after calling off the emergency certain operations may need to continue. Hence the work groups should be released only after ensuring that the jobs attended to by them are over. The works main controller should take the decision. Also after the cessation of emergency the plant involved should not be left unmanned for quite some time and should be watched.

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IDENTIFICATION OF THE FACTORY

Full Name of Company Adani Hazira Port Pvt. Ltd – Liquid Terminal., At & PO Hazira, Choryashi, Tal: Choriyashi Dist. Surat Surat 394 270
Phone Factory : 0261 2207510
Tel Fax : 0261 2207777

Full Name & Address of the Occupier:	Phone No.		
	Office / Factory	Residence	Mobile
Capt. Sandeep Mehta Flat No. 304, Wing - A, Chaitanya Towers, Appa Saheb Marathe Marg, Prabhadevi, Mumbai - 400025	0226688 1116	-	098676 71700
Full Name & Address of the Factory Manager:	Phone No.		
	Office / Factory	Residence	Mobile
Mr Gaurang Chudasama C-203 Shreepad Panorama, Palanpor, Surat - 395009.	0261- 220753 9	-	89808029 97

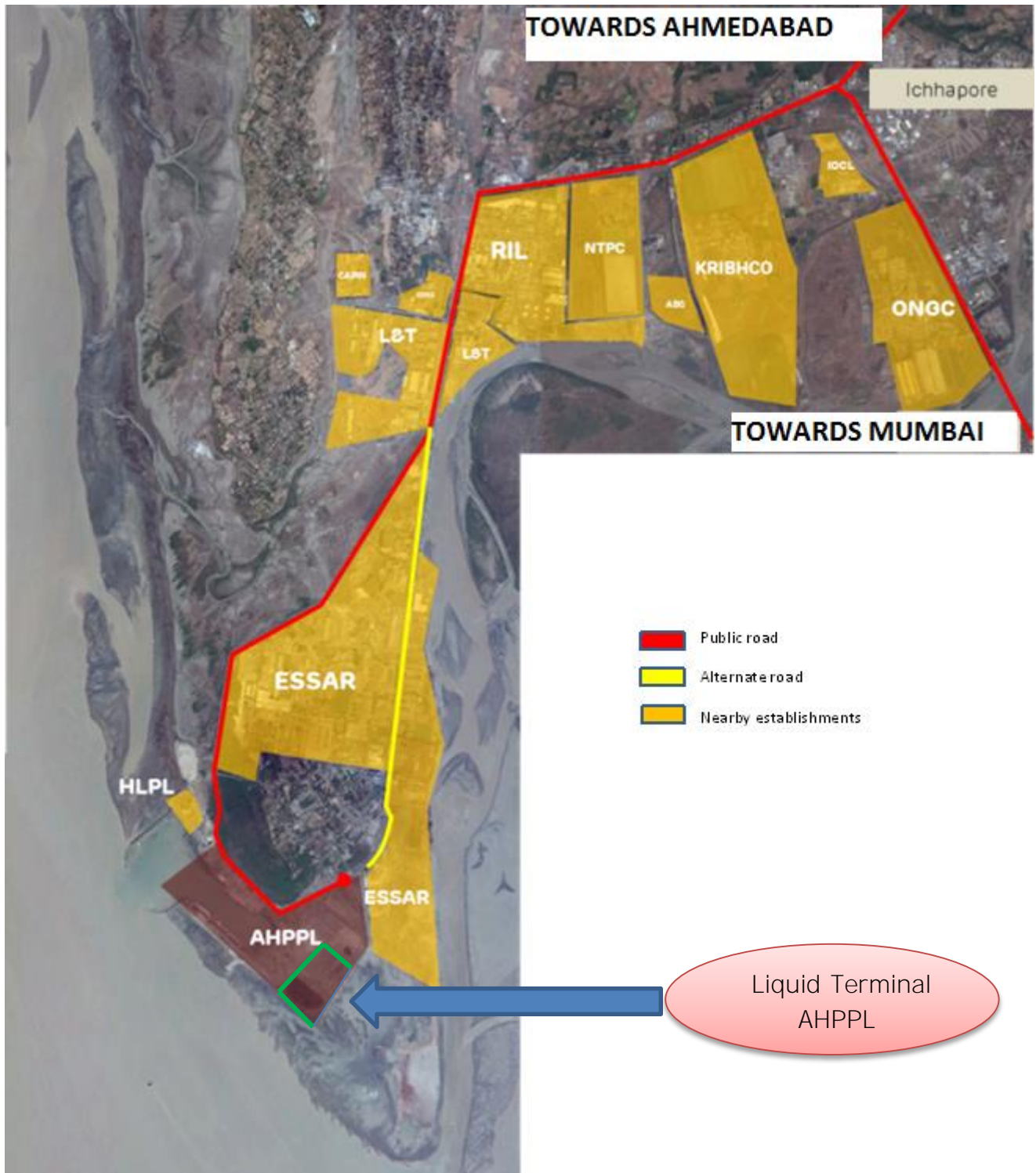
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First Person to be contacted in case of emergency : Mr. Pranav Choudhary (CEO), Mr. Gaurang Chudasama (Liquid Terminal), Ashish Singhal (Marine), Mr. Dharmesh Chauhan (Engg. Services), Mr. Rupesh Jambudi (HSEF)

Sr.No	Name	Department	Mobile No.	Internal Phone No.	
				Office	Res.
General Shift					
1	Mr. Gaurang Chudasama	Liquid Terminal	089808 02997	61539 +912612207539	
2	Mr. Dharmesh Chauhan	Engg. Services	0909900512 0	61651 +912612207651	
3	Ashish Singhal	Marine	098795 89770	61525 +912612207525	
4	Mr. Rupesh Jambudi	HSEF	89808 02504	61602 +912612207602	
Shift (A, B, C)	Fire & Safety Control Room DUTY OFFICER	HSEF	990995711 3	61633 +912612207633	
Shift (A, B, C)	Marine Control Room	Marine Control Room	099099571 15	61755 +912612207755	
Shift (A, B, C)	Security Control Room	Security Control Room	099099571 14	61700 +912612207700	
Shift (A, B, C)	Occupational health Centre	Occupationa l health Centre	08980802 405	61605 +912612207605	
Shift (A, B, C)	Ambulance	Ambulance	08980802 406	61605 +912612207605	

[CONTENT](#)

MAP OF THE AREA



GENERAL PLANT LAYOUT - EMERGENCY ESCAPE ROUTE & ASSEMBLY POINTS

CONTENT



STORAGE HAZARDS AND CONTROLS

Name of Hazardous substance	Quantity Maximum that can be stored	Type of Package	Type of Hazard / Aspect	Control Measures Provided	Name	Contact
2EH	11173	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
2-EHA	1097	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Acetic Acid	7522	Tank, Pipe Line	Fire, Explosion, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Acetone	5000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Acrylonitrile	3228	Tank, Pipe Line	Fire, Explosion, Toxic, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
ALPHA OLEFIN C 14 C18	5659	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Amyl Alcohol	3000	Tank, Pipe Line	Fire, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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Aniline	3316	Tank, Pipe Line	Fire, Explosion, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
BAM, VAM	12419	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
BASE OIL	34982	Tank, Pipe Line	Fire	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Benzene	5600	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
CHLOROFORM	1101	Tank, Pipe Line	Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Caustic Soda	9666	Tank, Pipe Line	Fire, Explosion, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
CMDI	5000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Crude Oil	3000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
CRYSTAL PHENOL	3000	Tank, Pipe Line	Corrosive, Fire	Barricading, Dyke wall, PPE, Fire fighting	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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				equipment provided		
Cumenes	3000	Tank, Pipe Line	Fire, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Cyclohexane	5655	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Cyclohexanol,	2000	Tank, Pipe Line	Fire, Explosion, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Diesel,	3000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
DOP	2155	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
D-SOL	1583	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
EDC	5000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Ethanol	3000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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FUEL OIL	11317	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
HA	19142	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
H-Phenol	2000	Tank, Pipe Line	Fire, Explosion, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
HNP	1857	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
HSD	3000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
IBA	2477	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
INA	14788	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Kerosene	3000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
LCO	40435	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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				equipment provided		
MEG	36582	Tank, Pipe Line	Leakage	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
MEK	2824	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Methanol	38986	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
META CRESOL	1100	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Methyl Isobutyl Ketone	1957	Tank, Pipe Line	Fire, Toxic,	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
MTBE	5000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
MIX XYLENE	1583	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
N Paraffin	11415	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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N PROPANOL	637	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
NBA	3223	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
N-HEXENE	3739	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Nitric Acid	5000	Tank, Pipe Line	Corrosive, Toxic,	Barricading, Dyke wall, PPE,	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Octane	3000	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
OCTENE-1	1100	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
PENTYLOL	1100	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
PHENOL	9072	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
PO	3200	Tank, Pipe Line	Fire, Explosion, Toxic	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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Propylene Glycol	3000	Tank, Pipe Line	Fire, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
PROP BH	1857	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
SABUTOL	1100	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Styrene	24784	Tank, Pipe Line	Fire, Explosion, Corrosive	Barricading, Dyke wall, Internal Epoxy coating, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
SOLVENT C9	3163	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Toluene	9654	Tank, Pipe Line	Fire, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
VAM	6484	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Wax	3000	Tank, Pipe Line	Fire	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

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Wax, Vegetable Oil, Edible Oil, Base Oils, Rubber Process Oil etc.	3200	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
WAKSOL 9-11 A	3738	Tank, Pipe Line	Fire, Explosion	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539
Xylene	3000	Tank, Pipe Line	Fire, Explosive, Corrosive	Barricading, Dyke wall, PPE, Fire fighting equipment provided	Mr. Gaurang Chudasama	89808 02997, 61539, 912612207539

MATERIAL SAFETY DATA SHEET (For Detailed MSDS Refer Separate MSDS file)

SR NO	PRODUCT NAME
1	2 ETHYLHEXYL ACRYLATE(2EHA)
2	2 PROPYLHEPTANOL(2PH)
3	2-ETHYL HEXANOL(2-EH)
4	ACETIC ACID
5	ACETONE
6	ACRYLO NITRILE
7	ALPHA OLIFIN C-14
8	ALPHA PLUS C-16
9	ANILINE OIL
10	BASE OIL
11	BASE OIL 110N
12	BASE OIL 1200
13	BASE OIL 225N
14	BASE OIL 4 CST
15	BASE OIL 6 CST
16	BASE OIL 600N
17	BASE OIL 8CST
18	BASE OIL HYDROSOL 100
19	BASE OIL HYDROSOL 2000
20	BASE OIL HYDROSOL 250
21	BASE OIL HYDROSOL 55
22	BASE OIL T-110
23	BASE OIL T-22
24	BENZENE
25	BUTYL ACRYLATE MONOMER(BAM)
26	CAUSTIC SODA LYE
27	CHLOROFORM
28	CYCLO HEXANONE
29	CYCLOHEXENE
30	DEAROMATIC SOLVENT(D-SOL)
31	DI OCTYL PHTHALTE
32	DIETHYLENE GYLCOL(DEG)
33	DEAROMATIC SOLVENT- 200 (D-SOL 200)
34	ETHYLENE DI CHLORIDE(EDC)
35	ETHYL ACRYLATE
36	ETHYLOL 95
37	EXXAL 9S (Iso nonyl Alcohol)
38	FUEL OIL
39	HEAVY AROMATICS

40	ISO BUTANOL(ISO BUTYL ALCOHOL)
41	ISO Octanol
42	ISO PROPYL ALCOHOL (IPA)
43	LIGHT CRUDE OIL(LCO)
44	LINEAR ALPHA OLEFIN C14-18
45	META CRESOL -99(MC-99)
46	MONO ETHYLENE GLYCOL(MEG)
47	METHYL ETHYL KETONE(MEK)
48	META XYLENE
49	MIXED XYLENE
50	METHANOL
51	METHYL ISO BUTYL KETONE(MIBK)
52	METHYL METHACRYLATE(MMA)
53	METHYL TERT BUTYL ETHER(MTBE)
54	METHYLENE CHLORIDE (MEC)
55	N HEXANE
56	N PARAFFIN
57	N PARAFFIN-HNP
58	N PARAFFIN C 14-17
59	N PARAFFIN C 9-11
60	n-BUTANOL(N-BUTYL ALCOHOL)
61	n-BUTYL ACETATE(NBA)
62	NITRIC ACID
63	NORMAL PARAFFIN C 10-13
64	N-PROPANOL
65	OCTENE-1
66	ORTHO XYLENE
67	PARA XYLENE
68	PENTYLOL
69	PHENOL
70	PROP BH(PBH)
71	PROPYLENE OXIDE(PO)
72	PROPYLOL
73	REFINED BLEACHED DEODORIZED PALM Oil (RBDPO)
74	SABUTOL
75	SOLVENT C9
76	STYRENE MONOMER
77	SULPHURIC ACID
78	SUPER OLIEN
79	TECHSOL-100
80	TOLUENE
81	VINYLACETATE MONOMER(VAM)
82	WAKSOL 9-11 A
83	EPICHLORO HYDRIN(ECH)
84	BASE OIL BT-150
85	CUMENE(ISO PROPYL BENZENE)

86	LINEAR ALKYL BENZENE
87	ALPHAPLUS® 1-TETRADECENE (C14H28)
88	BASE OIL HYDROSOL 150
89	BASE OIL AP 70
90	BASE OIL AP 110
91	DI ISO NONYL PHTHALATES (DINP)
92	Alpha Methyl Styrene (AMS)
93	ETRO 3 (Base Oil 70 N)
94	BASE OIL AD 2CST
95	BASE OIL AD 3CST
96	BASE OIL AD 4CST
97	BASE OIL SN 500
98	BASE OIL SN850
99	BASE OIL SN700
100	BASE OIL SN 165
101	SPINDLE OIL
102	BASE OIL M 500
103	Linear Alpha Olefin - C10 (LAO-C10)
104	BITUMEN
105	NORMAL PARAFFIN C 14 (NPC14)
106	BASE OIL 80N (BO80N)
107	BBT-28
108	CRUDE SOYA BEAN OIL (CSBO)
109	ALPHAPLUS® 1-HEXADECENE (C16H32) (APH)
110	ALPHAPLUS® 1-HEXADECENE (C16H32) (APH)
111	GTL PARAFFIN (GTLP85)
112	ANYSOL 150 E (SLOVENT C-10)
113	CRUDE METHYLE PHYNEYL DI ISO CYANAT Roh(CMDI)
114	OLEFIN C12 (ALC12)
115	CRUDE BENZOL (CBO)
116	CRUDE PALM OIL(CPO)
117	CRUDE SUNFLOWER SEEDS OIL(CSCO)
118	HEAVY CUT METHYL ESTER(HCME)
119	BO SN 350
120	BOB 150
121	HNPC14

PROCESS & HAZARDS & CONTROLS

No process is being carried out in the premises. Only materials being handled and stored in the premises.

SR.No	Name of Place	Name of Hazard	Material in the process	Operating parameters pressure	Control Measures
1	Liquid Terminal – Tank Farm area	Fire	2 Ethylhexyl Acrylate(2EHA), 2 Propylheptanol,2-ETHYL HEXANOL(2-EH), ACETIC ACID, ACETONE, ACRYLO NITRILE, ALPHA Olifin C-14, ALPHA PLUS C-16, ANILINE OIL, BASE OIL, BENZENE, BUTYL ACRYLATE, CAUSTIC LYE,	Loading, Unloading, Storage	Dyke area, Isolated storage, barrication, PPEs, Fire Hydrant Provided, competent operators, SOP
2		Explosion	CHLOROFORM,CYCLO HEXANONE, CYCLOHEXENE, DEAROMATIC SOLVENT, DI ETHYLENE GLYCOL, DI OCTYL PHTHALTE, D-SOL, D-SOL 200, EDC,ETHYL ACRYLATE, ETHYLOL 95,	Loading, Unloading, Storage	Dyke area, Isolated storage, barrication, PPEs, Fire Hydrant Provided, competent operators, SOP
3		Corrosive	EXXAL 9S (Iso nonyl Alcohol), FUEL OIL, HEAVY AROMATICS, ISO BUTANOL, ISO Octanol, ISO PROPYL ALCOHOL [IPA], LCO, LINEAR ALPHA OLEFIN C14-18, MC-99 (Meta Cresol), MEG, MEK(Methyl Ethyl Ketone), META XYLENE, METHANOL, Methyl Iso butyl Keton (MIBK), METHYL METHACRYLATE, METHYLENE CHLORIDE [MEC], MIX XYLENE,	Loading, Unloading, Storage	Dyke area, Isolated storage, barrication, PPEs, Fire Hydrant Provided, competent operators, SOP
4		Toxic	MTBE, N HEXANE, N Paraffiin, N Paraffin C 14-17, N Paraffin C	Loading, Unloading, Storage	Dyke area, Isolated storage, barrication, PPEs, Fire Hydrant Provided,

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			9-11, N-butanol (NBA) , n-Butyl Acetate, NITRIC ACID, NORMAL PARAFFIN C 10-13, N-PROPANOL, OCTENE-1, ORTHO XYLENE, PARA XYLENE, PENTYLOL, PHENOL, PROP BH, PROPYELENE OXIDE, Propylol, RBDPO, SABUTOL, SOLVENT C9, STYRENE MONOMER, SULPHURIC ACID, SUPER OLIEN, TECHSOL- 100, TOLUENE, VAM, Waksol 9- 11 ANORMAL PARAFFIN C 14 (NPC14) BASE OIL 80N (BO80N) BBT-28 CRUDE SOYA BEAN OIL (CSBO) ALPHAPLUS® 1-HEXADECENE (C16H32) (APH) ALPHAPLUS® 1-HEXADECENE (C16H32) (APH) GTL PARAFFIN (GTLP85) ANYSOL 150 E (SLOVENT C-10) CRUDE METHYLE PHYNEYL DI ISO CYANAT Roh(CMDI) OLEFIN C12 (ALC12) CRUDE BENZOL (CB0) CRUDE PALM OIL(CPO) CRUDE SUNFLOWER SEEDS OIL(CSCO) HEAVY CUT METHYL ESTER (HCME), BO SN 350, BOB 150 ,HNPC14		competent operators, SOP
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OTHER HAZARDS AND CONTROLS

Sr. no.	Name of The Possible Hazard or Emergency	Its Source & Resource	Its effect on persons, property & environment	Place of Effect	Control Measures Provide	In Charge Person	
						Name Designation	Phone
1	Collapse/fall of crane / Failure of crane/ falling of material	Crane operation	Injury to person Damage to property	Each Shop	Preventive Maintenance & routine check up	HOD	
2	Fall of hydra crane	Crane operation	Injury to person Damage to property	Each Shop	Preventive Maintenance & routine check up	HOD	
3	Gas release from HPPL	Leakage	Injury to person & environment	Full Premises	Emergency Plan	Mr. Pranav Choudhary	
4	Fall of person	Fall	Injury to person Damage to property	Particular area	Preventive Maintenance & routine check up, PPEs, Permit	HOD	
5	Drowning	Fall from Jetty	Injury to person	Particular berth	Routine check up, PPEs, Permit	HOD	
6	Vehicular Hazards	Vehicles	Injury to person Damage to property	Full Premises	Preventive Maintenance & routine check up, Speed limits	HOD	

TRADE WASTE DISPOSAL

S. No	Name of Trade Wastage	Generati on per Day or per Year	Place of disposable Site	Terminate method of disposable	Alarm indica ting	Monitoring
Effluents						
1	Industrial Effluent	10190 m3/Day	Recycle/Reuse	Effluent treatment Plant	Sampl e analys is	Monitoring of key characteristics
2	Domestic Efflu ent	950 m3/Day	Recycle/Reuse	Sewage treatment Plant		
Hazardous Waste						
1	Oil containing cargo residue, washing water & sludge	6000 MT / Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
2	Chemical containing cargo residue & sludge	240 MT / Year	CHWIF / CHWTSDF	Collection Storage and transport	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
3	ETP Sludge	60 MT / Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
4	Used Oil	120 MT / Year	Selling to Registered recycler	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
5	Discarded Containers	30 MT/Year	Decontaminati on	Collection Storage, Decontaminati on	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
6	Process waste, residues & sludge (Paint)	18 MT / Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual

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7	Contaminated Cotton and Foam Pig Waste	180 MT / Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
8.	Sludge & filter contaminated with oil	18 MT/Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
9.	Ballast/Bllidge/Slop water containing with oil from ship/tag	60 MT/Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
10.	Contaminated cotton rags or other cleaning materials	180 MT/Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
11.	Exhaust air or gas cleaning residue	5 MT/Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
12.	Chemical sludge from waste water treatment	60 MT/Year	CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual
13.	Oil and grease skimming	12 MT/Year	Recycler/CHWIF / CHWTSDF	Collection Storage, transport and disposal	Form-4	Maintain Form-3 & Handling As per Waste Management Manual

RECORD OF PAST INCIDENTS

(Accident data related to LT)

Sr. No.	Description	2013	2014	2015	2016	2017	2018	2019
1	No. of Employees	Operation start from Dec 2013	75	145	215	229	317	139
2	Total No. of Man-hours worked		230464	508960	736184	754420	1236984	1044846
3	No. of Fatal injuries		0	0	0	0	0	0
4	No. of Reportable Accidents		0	0	0	01	0	0
5	No. of Danger Occurrences		0	0	0	0	0	0
6	Total Mandays lost due to Incidents		0	0	0	27	0	0
7	No. of Occupational Diseases		0	0	0	0	0	0
8	Fire Incident		0	1	0	1	0	1
9	Loss due to Fire		0	0	0	0	0	0
10	Frequency Rate of Accidents		0	0	0	1.32	0	0
11	Severity Rate of Accidents		0	0	0	35.79	0	0
12	Incidents Rate		0	0	0	4.36	0	14.48

GAS DISPERSION CONCENTRATION

The gas dispersion concentration due to liquid system failure are as per Emergency Response Planning guidelines – ERPG-2 Level is considered – “ is the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hours without experiencing or developing irreversible or other serious health effect or symptoms which could impair an individual's ability to take protective action. ”

EFFECT DISTANCE (METRES)FOR ACRYLONITRILE				
DESCRIPTION		WEATHER CONDITIONS (STABILITY; WIND SPEED)		
Ship Unloading Hose Dia 8 Inch, Length of Hose 25 Meters (Rupture)				
Parameter	Value	D; 1 m/s	D; 3 m/s	D; 5 m/s
Distance to ERPG-1	10 ppm	1027	495	380
Distance to ERPG-2	35 ppm	265	256	217
Distance to ERPG-3	75 ppm	122	116	130
Distance to IDLH	85 ppm	185	188	176

EFFECT DISTANCE (METRES)FOR TOLUENE				
DESCRIPTION		WEATHER CONDITIONS (STABILITY; WIND SPEED)		
Ship Unloading Hose Dia 8 Inch, Length of Hose 25 Meters (Rupture)				
Parameter	Value	D; 1 m/s	D; 3 m/s	D; 5 m/s
Distance to ERPG-1	50 ppm	294	97	81
Distance to ERPG-2	300 ppm	107	35	31
Distance to ERPG-3	1000 ppm	57	21	17

EFFECT DISTANCE (METRES)FOR METHANOL				
DESCRIPTION		WEATHER CONDITIONS (STABILITY; WIND SPEED)		
Ship Unloading Hose Dia 8 Inch, Length of Hose 25 Meters (Rupture)				
Parameter	Value	D; 1 m/s	D; 3 m/s	D; 5 m/s
Distance to ERPG-1	200 ppm	126	81	67
Distance to ERPG-2	1000 ppm	54	38	35
Distance to ERPG-3	5000 ppm	32	No Hazard	No Hazard
Distance to IDLH	6000 ppm	37	25	22

EFFECT DISTANCE (METRES)FOR BENZENE				
DESCRIPTION		WEATHER CONDITIONS (STABILITY; WIND SPEED)		
Ship Unloading Hose Dia 8 Inch, Length of Hose 25 Meters (Rupture)				
Parameter	Value	D; 1 m/s	D; 3 m/s	D; 5 m/s
Distance to ERPG-1	50 ppm	414	165	122
Distance to ERPG-2	150 ppm	216	89	70
Distance to ERPG-3	1000 ppm	75	35	32
Distance to IDLH	500 ppm	132	58	47

Refer : Risk Analysis Report For M/s. Adani Hazira Port (P) Ltd, Liquid Terminal, at Hazira
Prepared by M/s. Telos Consultancy Services (P) Ltd.,*Note : The above distances have been calculated using various software. However these distances are only indicative distances which could be considered for planning purposes. The actual damage distances may be higher or lower based on the actual initial response and control at the time of actual disaster situation*

EVACUATION TABLE

Based on prevailing wind speed 3.0 to 5.0 m/s and The critical distance is for 12.5kw/m² radiation and 0.1379 (bar g) in case of over pressure explosion..

Ship Unloading Hose Dia 8 Inch, Length of Hose 25 Meters (Rupture)

***Jetty to Storage Tank Pipe line Dia 12 Inch, Length 3200 Meters (Large Leak)**

Material	Shock wave 0.1379 barg 3m/s	Dimension of Evacuation area	
		Downwind . Horizontal X-axis 3 m/s	Downwind Horizontal X-axis 5 m/s
Acetone	575*	277	255
Acrylonitrile	570*	216	199
Benzene	641*	219	210
Ethanol	228*	178	170
Ethylene	162	93	95
Methanol	196*	208	192
Motor Spirit (N Heptane)	631	224	213
N-Hexane	833*	328	300
Diesel (N-Nonane)	208*	101	100
Kerosene (N Octane)	424*	146	142
Styrene	126*	93	81
Toluene	416*	154	145
Xylene	162*	103	99

ENVIRONMENTAL IMPACT ASSESSMENT

Sr. No.	Distance (Radius) from the factory	Environment (employees, hutment, neighbouring factory, residential colony etc.)	Population with Composition						Possible Consequence & Assessment					Type of Control Measures necessary	
			Day Time			Night Time			Type of risk & effect possible	Duration of risk	Risk Assessment			Available in the factory	Required from Outside
			Healthy	Vulnerable	Total	Healthy	Vulnerable	Total			No. of people, name & amount (Rs.) of property & other environment that may be affected	Frequency of the hazard (i.e. on such incident in what time)	Acceptable criteria		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	250	Own Premises	200	10	210	30	1	31	Radiation Heat / Shock wave/Fumes	Types of Fire/ Explosion	-	-	-	Fire Fighting Equipments, Fire Crew, Fire Tender, etc.	Fire Tender, PPE., etc.
2	500	Owner Premises/ Hutment	350	25	375	60	5	65	Radiation Heat / Shock wave/fumes	Types of Fire/ Explosion	-	-	-	SBA sets PPE Vehicles etc	

WEATHER CONDITIONS

METEOROLOGICAL DETAILS

Sr. No.	Period of Year		Max. Temp °C (Avg.)	Min. Temp °C (Avg.)	Wind Velocity	Wind Direction	Weather Conditions
	From	To					
1	1st January	15th January	28	12	4.2	NE/N	Cold
2	16th January	31st January			5.1	NW/W	Cold
3	1st February	15th February	30.0	14.0	3.7	NE/N	Calm (25%)
4	16th February	31st February			4.7	NW/SW	Cold
5	1st March	15th March	36.0	19.0	4.2	NE/SE	Calm (23%)
6	16th March	31st March			5.1	NW/SW	Dry
7	1st April	15th April	39.0	23.0	4.2	S/SW	Calm (18%)
8	16th April	31st April			5.1	SW/NW	Hot
9	1st May	15th May	41.0	26.0	4.75	SW/S	Dry/Hot
10	16th May	31st May			4.75	SW/S	Dry/Hot
11	1st June	15th June	38.0	27.0	4.7	SW/S	Moist
12	16th June	31st June			4.2	SW/S	Moist
13	1st July	15th July	33.0	26.0	4.75	SW/S	Rainy
14	16th July	31st July			4.57	SW/S	Rainy
15	1st August	15th August	32.0	24.0	4.93	SW/W	Moist
16	16th August	31st August			4.75	SW/S	Moist

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17	1st September	15 th September	34.0	24.0	4.1	SW/W	Calm (21%)
18	16th September	31 st September			4.75	SW/W	Cool
19	1st October	15th October	36.0	21.0	4.4	NE/E	Calm (21%)
20	16th October	31st October			5.1	SW/NW/NE	Cool
21	1st November	15th November	33.0	16.0	4.57	E/NE	Cool
22	16th November	31st November			4.75	NE/NW	Cool
23	1st December	15th December	29.0	13.0	4.57	NE/E	Cold
24	16th December	31st December			4.93	NW/NE	Cold

INCIDENT CONTROLLERS

Shift / Area	INCIDENT CONTROLLER						RUNNERS			
	Sr. No.	Name	Designation	Place of availability		Phone number		Name and Designation	Place of availability	
				In Factory	Residence	In Factory	Residence		In Factory	Mobile
General / Marine	1	Ashish Singhal	Head - Marine	-SS1 Building	Surat	0261220 7525	09979 855911	Capt. Virdhee	Marine Control Room	09909957115
General / Dry Cargo	2	Capt. Ajith Kottai	Head-Dry Cargo	Amenities	Surat	0261220 7733	09825 000985	Mr. Prashant Naik – Dry Cargo	SS3 building	96389 72327
General / Container Terminal	3	Madhu A	Head-Container Terminal	SS1 Building	Surat	0261220 7550	893970 9979	Mr. Ashwajit Patil	SS1 Building	8980802291
General / Liquid Terminal	4	Mr. Gaurang Chudasama	Head – Liquid Terminal	LT operation Building	Surat	0261220 7539	89808 02997	Mr. Bhavsinh Barad	LT operation Building	08980802806
General/ Engg. Service	5	Mr. Dharmesh Chauhan	Head – Engg. Services	-ES Building	Surat	0261220 7651	09099 005120	Mr. Rajesh Baria	LT-ES Building	8980802340

DEPUTY INCIDENT CONTROLLERS

Sr N o	Department	Deputy Incident Controllers							Person to be called, if IC & Dy. IC, both are not available		
		Name	Designation	Place of Availability		Phone No.			Name & Designation	Place of availability	Phone No.
				In Factory	Residence	Internal	Residence	Mobile			
1	2	3	4	5	6	7	8	9	10	11	12
1	Marine	Mr. Sukhendu	DGM	Admin Office	Surat	0261220752 6	Surat	0898080276 3	Shift Marine Officer	Marine Control Room	09909957115
2	Liquid Terminal	Mr. Bhavsinh Barad	Dy.Manager	LT operation Building	Surat	0261220779 5	Surat	089808 02806	Mr. Hitendra Patel – Dy. Manager	LT Operation Building	09687699060

SITE MAIN CONTROLLERS

Sr. No.	SITE MAIN CONTROLLER						RUNNER'S		
	Name in priority order	Designation	Place of Availability		Phone Number		Name & designation	Place of Availability	Phone
			In the factory	Residence address	In the factory	Residence			
1	Mr. Pranav Choudhary	CEO	SS1 Building	Surat	02612207771	9849433377	Mr. Houssam Haddad, Chief Operating Officer	SS-1 Building	08980802599
2	Gaurang Chudasama	Head, LT	Liquid Terminal	Surat	02612207539	8980802997	Bhavsinh Barad	LT Building	89808 02806

KEY PERSONNEL

Sr . N o.	Key Person's								Next Person's					
	Dept.	Name	Designation	Place of Availability		Phone No.			Name & Designation	Place of Availability		Phone No.		
				In the Factory	Res.	In the Factory	Res.	Mobile No.		In the Factory	Res.	In the Factory	Res.	Mobile No.
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
1	Overall	Mr. Pranav Choudhary	CEO	-SS1 Building	Surat	02612 20777 1	-	9849 4 33377	Mr. Houssam Haddad,	SS-01 Building	Surat	026122 07550		89808 02599
2	Liquid Terminal	Mr Gaurang Chudasma	Head Liquid Terminal	LT Operation Building	Surat	02612 20753 9	-	8980 8029 97	Mr. Bhavsinh Barad	LT Opern Building	Surat	261 220779 5		89808 02806

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3	Engineering Service	Mr. Dharmesh Chauhan	Head Engineering Service	- ES building	Surat	02612 20765 1		0909 90051 20	Mr. Rajesh Baria	ES building	Surat	026122 07652		89808 02340
4	Marine	Ashish Singhal	Head Marine	- S1 Building	Surat	02612 20752 5		98795 89770	Capt. Virdee	Marine Control Room	Surat	026122 07526		9909957115
5	HSEF	Mr. Rupesh Jambudi	Head – HSEF	-HSE Building	Surat	02612 2076 02		0898 0802 504	Mr. Yagnesh Dalal	HSE Building	Surat	026122 07603		760002210 9
6	Security	Mr. Prasan Tokas	Head Security	- SS1 Building	Surat	02612 20762 6		9988 87058	Mr. Tarun Jangu	Port Gate - 1	Surat	026122 07621		898001621 9
7	HR & Admin.	Mr. Jeetendra Vyas	Head – HR & Admin.	S1 Building	Surat	02612 20751 1		0909 90012 20	Mr. Ramkrishna Purohit	Admin Office - 1	Surat	026122 07514		90999008 64

ESSENTIAL WORKERS

Sr. No.	Department	Name	Place of Availability	Phone No.		
			Department	Internal	Resident	Mobile
1	2	3	4	5	6	7
1.	Fire	Mr. Dushyant Javiya	Fire	61707		90999 93445
2.	HSE	Shift Safety Officer	HSE Building	61726		089808028 96
3.	OHC	Male Nurse	OHC	61605		089808024 05
4.	Admin	Mr. Piyush Patel	Admin Office – 1	61522		09727721642
5.	Security	Tarun Jangu	Security Control Room	61621		898001621 9
6.	Finance	Mr. Viresh Chauhan	Admin Office - 1	61762		0909900121 2
7.	IT	Mr. Bhagirath Gohil	NDC Building	61607		0990994977 3
8.	Store	Mr. Kamal Saliya	Store Area	61543		99798 55942

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9.	Container Terminal	Mr. A Madhu	CT	61651		8939709979
10.	Marine	Mr. Sukhendu	Marine	61529		0898080276 3
11.	Dry Cargo	Mr. Prashant Naik	Dry Cargo	61729		96389 72327
12.	Liquid Terminal	Mr. Gaurang Chudasama	Liquid Terminal	61539		089808029 97
13.	Engg. Services	Mr. Rajesh Baria	Engg. Services	61652		898080234 0
14.	Engg. Services – Elect.	Mr. Paresh Ghodasara	Engg. Services	61644		0972778460 8
15.	Corporate Affairs	Mr. Bhavesh Donda	Surat Office			9099002016

ASSEMBLY POINTS

ASSEMBLY POINT	AREA
ASSEMBLY POINT - 1	Infront of Site office – Near Office Gate
ASSEMBLY POINT – 2	Near East Entry Gate – Container Yard
ASSEMBLY POINT – 3	Near Custom Office Crossing
ASSEMBLY POINT – 4	Near Port Gate No - 1
ASSEMBLY POINT – 5	Near CFS junction (Nr. Old petcoke yad)
ASSEMBLY POINT – 6	Infront of SS-3 Building
ASSEMBLY POINT - 7	Near ISPS Gate – MP Jetty
ASSEMBLY POINT - 8	End of MP Jetty

The safe escape route map and Assembly Point map is in Annexure 3 and Shelters en-route are mentioned in Appendix F

EMERGENCY CONTROL CENTRE

Location of the Centre:		Marine Control Room near Admin office - 1		Security Control Room at NDC building	
Telephone Nos. of the Centre:		Mobile : 09909957115		Mobile : 09909957114	
		1.1 Internal : 61755, 61754		Internal : 61700, 61701	
ITEMS AVAILABLE AT EMERGENCY CONTROL ROOM		Quantity	Person who will operate this item		Notes
1	Walkie Talkie	8	On Duty Marine Officer		
2	Landline Phone	1	On Duty Marine Officer		(0261) 2207755
3	Mobile Phone	1	On Duty Marine Officer		09909957115
4	Site lay out	1	On Duty Marine Officer		Displayed
5	Emergency Escape Route	1	On Duty Marine Officer		Displayed
Fire Tenders & Water browsers are stationed at Liquid Terminal and near SS-3 Building Near Coal Yard area respectively with all necessary Emergency Equipment					
Medical Centre & Ambulance services are available round the clock. The Ambulance is stationed at OHC, near Liquid Control room.					

FIRE AND TOXICITY CONTROL ARRANGEMENTS

Water Sources & Capacity	Nos.	No. of Fire Pumps, Type & Capacity		No. of Hose Reels & Total Length	No. of Fire Tenders and Capacity	Hydrant		Monitor/HVLR		Alternative Power arrangement	Nos. of CO2 Extinguishers	
						Type	Nos	Type	Nos.		Cap.	Qty.
1	2	3		4	5	6	7	8	9	10	11	
Above ground storage	03	Types		3	1) Foam Tender Water: 9000 Lt Foam: 3000 Lt 2)Water Tender Water: 12000Lit 3)Foam tender-02 Water: 4000 Lt Foam: 6000 Lt 4)Water bowser-03= 8000ltr 5)water bowser-02=7500ltr	Double Headed	176	Fixed Type	178	Diesel Generating Set & Diesel Pump Set (100% stand by)	Cap.	Qty.
		Diesel pump, m3/hr at 07 Bar	610								8/9	219
		Elect. pump, m3/hr at 07 Bar	273								Kg	
		Diesel pump, m3/hr at 07 Bar	720									
		Jockey pump M ³ /Hr 7 Bar	92									
		Jockey pump M ³ /Hr 7 Bar	20									
		Jockey pump M ³ /Hr 7 Bar	75									
		Jockey pump M ³ /Hr 7 Bar	183									
		Elect. pump, m3/hr at 07 Bar	273									

MEDICAL ARRANGEMENTS

1	Name	AHPPL Occupational Health Centre (OHC)
2	Location	Near AHPPL Admin Office – 1
3	Telephone number	0261 – 2207605
4	In charge Person Name and Designation	Incharge Doctor – Dr. Sajid S. Saiyad
5	Qualification	MBBS, PGCIH
7	Resident Phone Number	Mobile No. : 08980802405
8	Address	AHPPL OHC
Facilities and equipment		
9	Existing medical facility	Pre-employment check-up /Periodic medical check-up, Treatment for the sickness cases, First aid kit , All Medicines , Trained First Aiders, Nebulizer, ECG machine, Emergency Medicines, gluco Meter, Pulse oximeter, ambu bag, Fully Equipped Ambulance.
10	Equipment	Well- equipped emergency / dressing room
11	Antidotes Available	YES (Anti Snake Venom – 08 nos.) (Exp. Dec. 2019) Burn injury – Water gel, Eye injury – Eye Shower, Ointment, Gas/Respiration – Oxygen Cylinder
12	First-aiders available	Yes
13	Accommodation	No Bed
Ambulance van or alternative arrangement		
14	Place of availability	Near OHC
15	Capacity	2
16	Facility in Van	First aid kit, Oxygen cylinder, All medicines, Nebulizer, ECG machine.
17	Doctors all near by	Mentioned below

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19	Name	Address and contact :
20	CMO	Reliance medical centre ,CMO
21	CMO	AM/NS medical centre ,CMO
22	CMO	NTPC medical centre, CMO
23	CMO	Kribhco medical centre, CMO
Residential Phone of Medical Staff Ambulance Room		
24	On duty male nurse	08980802406
25	On duty male nurse	02612207605
Outside Hospital arrangement Name Address of the factory hospital		
28	BAPS Pramukh swami Hospital , near Adjan circle	Phone 2781000
29	SDA Mission Hospital	Phone 2669615
30	Mahvir, general Hospital	Phone 2332828
31	Pt. general ,Hospital	Phone 2592040/41
32	Approximate Distance	25kM
Facilities Available		
33	Doctor	08 HRS
34	Other Staff	24 HRS
35	Antidotes	YES
36	Ambulance Van	YES

TRANSPORT & EVACUATION ARRANGEMENTS

For Key Personnel & Essential Workers See Annexure-17 & 18 and for Assembly Points See Annexure-19

Type of Siren: Electrically Operated Double mounting siren of 11 km radius					Located at SS3 and SS1 buildings				
Own Transport Centre					Own Vehicles				
Name of Location	Phone No.	In-Charge Person			Sr. No.	Type & No.	Capacity	No. & Type of Public Warning Instruments	Driver's Name & Address
		Name & Designation	Residence						
			Phone	Address					
1	2	3	4	5	6	7	8	9	10
Port gate – 2	02612207522	Mr. Alpesh Patil Mr. Piyush Patel	09099005414 09727721642	Surat Surat	1	Bus	28	---	Pravin
					2	Bus	40	---	Chandrakant
					3	Bus	44	---	Jentibhai
					4	4 Wheeler	8	PA System	Security
					5	Ambulance	2	PA System	Driver

Details of Shelters and facilities

Outside Shelters for Evacuated Persons are mentioned in Annexure 28 and alternate Shelters are mentioned in Appendix F

Sr · N o.	Name, Address & Distance	Phone No.	In-Charge Person			Accommodation Capacity	Facilities Available
			Name & Designation	Residence			
				Phone	Address		
1	2	3	4	5	6	7	8
1	Port Gate – 1	02612207 629	On duty Officer	089800 42704	Surat	100	Emergency Vehicle
2	Port Gate – 2	02612207 621	Mr. Tarun Jangu	0 898001 6219	Surat	100	Emergency Vehicle Ambulance
3	Administration Building		Mr. Alpesh Patil	090990 05414	Surat	200	Emergency Vehicle Ambulance

POLLUTION CONTROL ARRANGEMENTS

For Key Personnel & Essential Workers see Annexure-17 & 18 and For Trade Waste Disposal see Annexure-8

Water Pollution Control					Ambient Air Quality & Noise Level Monitoring					
Type & Capacity of effluent treatment plant	No. of sample monitoring centers & its frequency	Other Control Measures	Log Book & Records	In-Charge Person's Name, Address & Phone No.	No. & Places of sample monitoring centers	Type, parameters & frequency of tests	Wind direction & velocity meters	Instrument Available	Log Book & Records	In-Charge Person's Name & Address & Phone No.
1	2	3	4	5	6	7	8	9	10	11
Advance MBBR Technology based Effluent & Sewage Treatment Plant	Weekly 2 Samples	Sampling	Results	Mr. Rupesh Jambudi HSE Department 61602	5 Locations	Twice in a Week Ambient Air Quality all 12 parameters	Yes	Monitoring by MoEF&CC and NABL Approved Laboratory	Results	Mr. Rupesh Jambudi HSE Department 61602
Sea Water and Sea Sediment	Monthly 1 Sample at 3 locations for sea water and sea sediments	Sampling	Results	Mr. Rupesh Jambudi HSE Department 61602	5 Locations	Once in a month Ambient Noise Level Monitoring	Yes	Monitoring by MoEF&CC and NABL Approved Laboratory	Results	Mr. Rupesh Jambudi HSE Department 61602

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Stack Emission Monitoring						Land Pollution Controls				GPCB	
No. of Location of sample places	Type, Parameters & frequency of tests	Control Measures provided	Instrument available	Log Book & Records	In-charge person's Name, address & phone No.	No. of sample monitoring centers & its frequency	Other control measures	Log Book & Records	In-Charge Person's Name, Address & Phone No.	Permission Obtained?	Conditions fulfilled?
DG Sets	Quarterly PM, SO ₂ , NO _x	Adequate stack height & acoustic enclosure	Stack Monitoring	Results	Mr. Rupesh Jambudi HSE Department 61602	2 Nos. of Samples Quarterly	--	Results	Mr. Rupesh Jambudi HSE Department 61602	Yes	Yes

OTHER ARRANGEMENTS

For Key Personnel and Essential Workers see Annexure-17 & 18													
Sr. No	Type & Name of Arrangements available	Qty	Place of Availability	Phone No.	In-Charge Person's			Mutual Aid Arrangement					
					Name & Designation	Residence		Place from where the same thing is available	Quantity Available	In-Charge Person's			
						Phone	Addresses			Name & Designation	Phone		Addresses
											Office	Res	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Dumpers	01	DC	61729	Prashant Naik			We have Mutual arrangement with nearby Industries for vehicles, personnel					
2	Trailers	02	CT	61651	A Madhu								
3	Hydra	01	Store	61543	Kamal Saliya								
4	Utility Vehicles	02	Across site	61741	Rajesh Baria								
5	DG Sets - LT	02	Across site	61648	Paresh Ghodasara								
5	DG Sets - HT	03	DG Room	61648	Paresh Ghodasara								

Availability of Heavy Vehicles, will be from Project, Dry Cargo and small vehicle, Car, etc will be from Transport Dept.

ALARMS & SIRENS

Sr. No.	Plant wise Alarm Points (Manual Fire Call Point)						The Alarm (signal) is heard (seen) at	Sound difference if any			
	Plant / Dept. / Location		Sr. No. of the Alarm point	Its place of location (with floor No. if any)	Type of the Alarm or Siren	Its Period of checking		Type of Emergency	Type of Alarm or Siren	Duration of Sounding	Type of sound of alarm / siren
	Name & Location	No. of Points									
1	At ER – 1 Building (Near MP Jetty)	-	-	On the Top of the ER - 1 Building and on top of SS-1 Building	Double mounding, motor driven	Weekly (Tuesday 11.00 hr. and 11:30 respectively)	All Places (Range of the siren is 11 km)	Liquid spillage / Gas leakage	Wailing	2 minutes	Wailing Sound
	Fire							Wailing	2 times – 2 minutes		
	On LT Control room (hooters)									Continuous sound for one minutes	Continuous (02 minutes)
2	Vehicle mounted sirens	2	-	Mobile	Mobile, Battery operated	Weekly	500 mts	Need based	Need based	Need based	Need based

INTERNAL PHONE NUMBERS

Area	Name of Person	Office	Mobile
CEO	Mr. Pranav Choudhary	98494 33377	02612207771
Head – Liquid Terminal	Mr. Gaurang Chudasama	02612207539	089808 02997
NDO			9099991011
Head – Dry Cargo	Capt. Ajith Kottai	02612207733	09825000985
COO	Mr. Houssam Haddad	02612207550	08980802599
Head - Marine	Mr. Ashish Singhal	02612207525	98795 89770
Head – Engg. Services	Mr. Dharmesh Chauhan	02612207757	89800 15476
Head – Security	Mr. Prasan Tokas	02612207626	9988887058
Head – HR & Admin	Mr Jeetendra Vyas	02612207511	09099991220
Head – IT	Mr. Devendra Singh	02612207616	09099900345
Head - HSE	Mr. Rupesh Jambudi	02612207602	08980802504
Head - Commercial	Mr. Prashant Salgia	08980015164	02612207591
Fire	Mr. Dushyant Javiya	02612207707	90999 93445
Commercial	Mr. Amit	02612207688	09099055653

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	Rathod		
BHO	Mr. Labhesh Rathod	09099938994	02612207780
HSE	Mr. Yagnesh Dalal	7600022109	02612207632
HSE	Mr. Jaydipsinh Gohil	09099002407	02612207632
DC	Capt. Ajith Kottyl	09825000985	02612207526
Liquid Terminal	Mr. Gaurang Chudasama	08980802997	02612207782
Liquid Terminal	Mr. Hitendra Patel	09687699060	02612207782
Engg. Service – CT	Mr. Ashis Mansukhlal Mehta	090990 05008	02612207650
Engg. Service	Mr. Paresh Ghodasara	09727784608	02612207644
Engg. Service	Mr. Jignesh Chandegara	09099005212	02612207639
Site Dy. Head – Project	Mr. Ajit Patil	6359860342	02612207777
Security	Mr. Tarun Jangu	08980016219	02612207621
HR	Mr. Mehul Parmar	08980802253	02612207512
Admin	Mr. Alpesh Patil	09099005414	02612207520
Transportation	Mr. Piyush patel	009727721642	02612207522

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Store	Mr. Kamal Saliya	09979855942	02612207543
	Liquid Control Room	8980802656	02612207283
-	Marine Control Room	09909957115	02612207755
-	Security Control Room	09909957114	0261220700
-	Fire & Safety Control Room	09909957113	02612207633
-	Occupational health Centre	08980802405	02612207605
-	Ambulance	08980802406	02612207605
Corporate Head – OH&S	Krishnanand Mavin Kurve	09099900383	
Head - Corporate Affairs	Bhavesh Donda	09099002016	
	HPPL Marine Control Room	9824704947	02613051165
	Mr. Rajesh Shah - HPPL	6359975110	

EXTERNAL PHONE NUMBERS

Sr. No.	Name	OFFICE	Resident
A.	OTHERS, EXTERNAL		
1.	Collector, Surat	2471121 / 2472471	2669080
2.	Dy Director of Industrial Safety & Health – Surat	2472422, 2473501	2667692
3.	Controller of Explosive	(0265) 2420512	
4.	GPCB Surat	2442696/2429733	
5.	Boiler Inspector, Surat	2472427	
6.	FIRE SERVICES		
	1. HPPL Fire Control Room	0261- 3051239	
	1. SMC, Fire Control Room	101, 2414195, 2414196, 2414139	
	2. Chief Fire Officer, SMC	2436636, 2414195-96	2451724, 9724345234
	3. Reliance Fire Emergency number	0261 – 4135555	
	4. Reliance Fire Station	0261 – 4135068	
	5. Reliance Fire Shift Officer	0261 – 4135067	
	6. KRIBHCO Fire Station	2802122	
	7. ONGC Fire Station	2840026	
	8. NTPC Fire Service (Kawas)	2860374, 2860445, 2877705	
	9. AM/NS Fire Control Room	0261 - 6682222	
7.	POLICE		

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	1. Police Commissioner (Surat)	2463939	2667322, 9978406271
	2. Police Control Room	2462100 / 2462600 2474488 / 100	-
	3. Add. Police Commissioner -1	2463737	
	4. Add. Police Commissioner -2	2463838	
Sr. No.	<i>Name of Emergency Services</i>		
	Police Station (Marine)	02612870404	-
	Police Station (Hazira)	02612912711, 12NO	-
	1. Police Station (Ichhapore)	2860197, 9925143737	-
	2. Police Station(Rander)	2766152	-
8.	MEDICAL (HOSPITAL)-		
	1. HPPL Medical Centre		
	1. Civil Hospital (New)	2244456 / 57/ 58 / 59	
	2. Mahavir General Hospital, Sagarampura	2332828/ 2330180/ 2331181/ 2330274	
	3. Mission (7 th day) Hospital	2667591/2669615	
	4. Maskti Hospital, Surat	2420412	
	5. Lokhat Hospital	2422080-81	
	6. SDA Hospital, Athwa lines, Surat	2669615	2667591 to 95
	7. Ashakttashram	2422060/ 9998270463	2422061
	8. BAPS	2781000	
	9. Ridhi Sidhdhi	2599234/ 2599294	
	10. Sanjivani Hospital, Chalthan	2433076	271267
9.	BLOOD BANK		
	Surat Raktdan Kendra	2594594/ 2597754	

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	Samarpan Raktadan Kendra	2547575/ 2553020	
10.	OTHERS		
	1. Municipal Water Supply	2422285-86	
	2. Gujarat Gas Co.	2736333 / 2736388	
11.	SOCIAL SERVICES		
	Akhil Hind Mahila Parisad, Bruhad Surat Branch	2470413 / 2462930	
Sr. No.	<i>Name of Emergency Services</i>	<i>OFFICE</i>	<i>Resident</i>
	Nav Sargen Manav Vikas Kendra	2475683	
12.	EDUCATIONAL INSTITUTES FOR SHELTER		
	Navyug Arts College, Rander Road	2784293	
	Navyug Commerce College, Rander Road	2784102	
	Navyug Science College, Rander Road	2734103	
	V. D. Desai Vadiwala High School, Adajan Road	2734941	
	Daliya High School, Adajan Gam	2734002	
13.	MEDICAL FACILITIES		
	Reliance Industries Ltd. Mora	4135060	
	KRIBHCO	2802707	
	ONGC	2875531	
	NTPC	2877095	
14.	PRESS MEDIA FOR INFORMATION.		
	1. Dy. Director Information	2465541	2422233
	2. All India Radio	2233416	2440033
	3. Gujarat Mitra, Surat	2599991-92-93-94	
	4. Sandesh	2543000/ 2544000	

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	5. Gujarat Samachar	2324545	
	8. Times of India	2256161-62	
	9. Indian Express	2473016	
15.	MEDIA		
	1. Doordarshan	2781179/ 2784700	

	2. Akashwani (All India Rasdio)	2233416/ 2236209	
	3. Pariwar Video Magagine (Surat Channel)	9825472908/ 6533700	
16.	EXPERTS (INDUSTRIAL SAFETY & HEALTH)		
	1. Shri. S. G. Patel,	9998011604	
	2. Head , Safety, Reliance Industries Ltd. Mora.	2835066	4135064-66
	3. Manager (F&S), KRIBHCO Ltd. Surat	2802789	2802789
	4. Head (HSE), ONGC Ltd. Surat	9426613904	---
	5. Mr. Rajesh Shah - HPPL	6359975110	
17.	ELECTRICITY		
	1. South Gujarat Electricity	2804203	
	2. SGVCL, Ichchapor (GEB)	2254390	
	3. SGVCL, RANDER (GEB)	2776122	
	4. Gujarat Gas Co.	2736333/388	
18.	Marine		
	1. Gujarat Maritime Board (GMB)	(0261) 3051155	
	2. Indian Coast Guard (ICG)	(011)23384934	
	1. HPPL Marine Control Room	02613051165	9824704947

NOMINATED PERSONS TO DECLARED MAJOR EMERGENCY

Sr. No.	Name of the plant, department or location	Name & Designation of the nominated person to declare major emergency	Duty of designation given, if any, under the on-site / off-site emergency plan	Phone			Residence Address
				Mobile	Office	Res.	
1	2	3		4	5	6	7
1	Entire Port	Mr. Pranav Choudhary - CEO	Site Main Controller	098494 33377	61771	-	Surat
	Port	Mr. Jeetendra Vyas – HR - GM	Incident Controller	09099005899	61511	-	Surat
	Container Terminal	Mr. A Madhu – Head CT	Incident Controller	8939709979	61651	-	Surat
	Marine Area	Mr. Ashish Singhal– Head Marine	Incident Controller	98795 89770	61525	-	Surat
	Dry Cargo Area	Capt. Ajith Kottyl – Head Dry Cargo	Incident Controller	09825000985	61733	-	Surat
	Liquid Operation	Mr. Gaurang Chudasama – Head Liquid Terminal	Incident Controller	0 89808 02997	61539	-	Surat

A FORM TO RECORD EMERGENCY TELEPHONE CALLS

Details of call as reported					
Caller' s Name		Caller's Phone No.		Date	
Designation				Time	
Part A: Essential Information					
Brief Description of Incident					
Fire / Explosion / Liquid Spill / Gas Release					
Location of Incident					
Name of Chemicals To be spelt out clearly					
Quantity (Rough Estimate)					
Packaging / Storing / Handling / Using details					
Cause, if known, if brief					
Part B : Essential to be obtained if readily available					
Has any one been injured?		Yes/No (If yes, how many)			
Affected by Chemicals?		Yes/No (If yes, how many)			
What First-Aid has been given?					

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Has any one been taken to hospital?	Yes/No If yes, address of the Hospital
Is the road Approach blocked?	Yes/No
Closed to traffic?	Yes/No
Who owns the Chemicals? Has the owner been informed?	Yes/No
If caused by Vehicle, Vehicle Number	
Name & Address of the Owner	
Has the owner been informed?	Yes/No
To whom was the load consigned?	

STATUTORY COMMUNICATION

Sr. No.	Statutory Information to be given to :	Periodicity of such information to be given. (statutory or self decided)	Date of last information given	To how many person	Suggestions received if any	Last date of implementation of useful suggestions
1	2	3	4	5	6	7
1	The Workers:				68-K should be prepared in Gujarati	02.03.2018
	a. Disclosure of Information (68-K)	Once & Update	Training as per TNI and also to contractor workers	All level of employees		
	b. Hazards of Chemicals and safety aspect (68-K)	Once & Update	Training as per TNI and also to contractor workers			

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	c. Emergency action sequence (68-K)	Once & Update	Training as per TNI and also to contractor workers			
2	The general public and neighbouring units:				41-B should be prepared in Gujarati	02.03.2018
	a. Disclosure of Information (41-B)	Once & Update	02.03.2016	All the neighbouring Units & public in vicinity		
	b. Emergency action sequence (41-B)	Once & Update	02.03.2016			
3	Local Crisis Group					
	a. M.S.D.S.	Once & Update	27.06.2017	SDM, Emergency Control Room, Police Station, Fire Brigade, Mutual Aiders.		
	b. On-site emergency plan	Once & Update	27.06.2017			
	c. Emergency action sequence	Once & Update	27.06.2017			
	d. Disclosure of Information	Once & Update	27.06.2017			
3	District Crisis Group:					
	a. M.S.D.S.	Once & Update	27.06.2017	Dist. Collector		
	b. On-site emergency plan	Once & Update	27.06.2017	Dy. Collector,		

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	c. Emergency action sequence	Once & Update	27.06.2017	Central Control Room, DSP, Fire Brigade.		
	d. Disclosure of Information	Once & Update	27.06.2017			
4	<i>Office of Director Industrial Safety & Health</i>					
	a. On Site Emergency Plan	Once & Update	27.06.2017	Office of Director, Industrial Safety & Health		
	a. M.S.D.S.	Once & Update	27.06.2017			
	c. Emergency Action Sequence	Once & Update	27.06.2017	Joint Director, Industrial Safety & Health		
	d. Disclosure of Information (68-L)	Once & Update	27.06.2017	Dy. Director Industrial Safety & Health		

SEPERATION DISTANCE

Tank No.	Substance	Tanks		Separation distance (m)
		Capacity	Nos.	
1	2	3	4	5
1	2 Ethylhexyl Acrylate(2EHA), 2 Propylheptanol' 2-ETHYL HEXANOL(2-EH), ACETIC ACID ACETONE, ACRYLO NITRILE ALPHA Olifin C-14,ALPHA PLUS C-16, ANILINE OIL, BASE OIL, BENZENE, BUTYL ACRYLATE, CAUSTIC LYE, CHLOROFORM, CYCLO HEXANONE, CYCLOHEXENE, DEAROMATIC SOLVENT, DI ETHYLENE GLYCOL, DI OCTYL PHTHALTE, D-SOL, D-SOL 200, EDC, ETHYL ACRYLATE, ETHYLOL 95,EXXAL 9S (Iso nonyl Alcohol), FUEL OIL, HEAVY AROMATICS, ISO BUTANOL, ISO Octanol, ISO PROPYL ALCOHOL [IPA], LCO, LINEAR ALPHA OLEFIN C14-18, MC-99 (Meta Cresol), MEG, MEK(Methyl Ethyl Ketone), META XYLENE, METHANOL, Methyl Iso butyl Keton (MIBK), METHYL METHACRYLATE, METHYLENE CHLORIDE [MEC], MIX XYLENE, MTBE, N HEXANE, N Paraffiin, N Paraffin C 14-17, N Paraffin C 9-11, N-butanol (NBA), n-Butyl Acetate, NITRIC ACID, NORMAL PARAFFIN C 10-13, N-PROPANOL, OCTENE-1, ORTHO XYLENE, PARA XYLENE, PENTYLOL, PHENOL, PROP BH, PROPYELENE OXIDE, Propylol, RBDPO, SABUTOL, SOLVENT C9, STYRENE MONOMER, SULPHURIC ACID, SUPER OLIEN, TECHSOL-100, TOLUENE, VAM, Waksol 9-11 A	500 kl TO 6800 kl	169	As per statutory y provision Enclosure, Dyke wall, Separation distance

EMERGENCY INSTRUCTION BOOKLET

Sr. No.	Role to be played as (Name emergency designation)	His emergency duties / Function	Also refer (other relevant document of the factory)	He should report at (the incident place or control room)
1	2	3	4	5
1	Site Main Controller (SMC)	<ol style="list-style-type: none"> 1. He will reach to the incident place. 2. He will assess the situation in consultation with Incident controller (HOD), HEAD (FIRE & SAFETY), Head- Security, and categorised the level of emergency and declare emergency accordingly. 3. He will ensure the mobilization of emergency response according to scale of emergency. 4. He will ensure the constant availability of HOD, section head and other required persons at the site of incident. 5. He will ensure that the information will reach to the Head Office. 6. He will ensure necessary shut down of other related plants to control the emergency situation. 7. He will ensure adequacy of fire fighting and rescue aid at site to control the incident. 8. He will ensure that all statutory authorities (such as District collector, local crisis group, Director, Industrial Safety & Health, Explosive department, GPCB, Boiler, Electric Inspector, as applicable are kept informed about the incident. 9. He will ensure that in case of scale of emergency turn to level - 2 or level - 3, mutual members, local crisis group/ District crisis group called upon at the scene of site. 10. He will ensure that injured or casualties are receiving adequate attention for medical treatment and their relatives are kept informed. 11. He will continuously review the possible development of emergency and rescue operation. 12. He will ensure the counting of total number of persons at site, list of missing/trapped person, injured person and fatality. Further, he will ensure to convey the message to the relatives of injured or death. 13. He will ensure press release about the incident for information to the public. 14. If the scale of emergency escalates to level-2, he will ensure that information is passed on to the public likely to be affected in the area. 15. He will ensure that victims are get rehabilitation, if required. 16. Arrange chronological records on the emergency to be maintained. 17. On controlling situation and attending the normalcy, he reviews the situation with IC and HEAD (FIRE & SAFETY) then he will declare the withdrawal of emergency. 	<p>M.S.D.S., On-site E-Plan, Operational Manual</p>	<p>Emergency Control Centre, Central Control Room, District Crisis Group.</p>

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Sr. No.	Role to be played as (Name emergency designation)	His emergency duties / Function	Also refer (other relevant document of the factory)	He should report at (the incident place or control room)
1	2	18. He will constitute the internal investigation committee to investigate the incident, recommendations, and corrective measures to prevent reoccurrence of incident.	4	5
		19. Before restarting the plant, he ensures environment clearance from the Environment expert for safe restarting and from Director, Industrial Safety & Health as required.		
		20. He will ensure reporting to the statutory authorities in the format as prescribed.		
1	Incident Controller (I. C.)	1. Immediately rush to emergency site.	M.S.D.S., On-site E-Plan, Operational Manual	Emergency Control Centre, Site Main Controller, Local Crisis Group.
		2. He will ensure that emergency information passed to the all emergency services i.e Fire Control Room, Security Control Room, Medical Centre, for responding action at incident site.		
		3. He ensures that all steps are taken for mechanical and electrical isolation to control the situation.		
		4. He ensures that all key personals will informed and available at site.		
		5. He ensures co-ordination among all working agencies on the site.		
		6. He ensures that persons available at site are deployed for emergency handling such as Fire Fighting, Causality searching, rescue and first aid.		
		7. He ensures the availability of equipments, machineries and devices available in the complex is mobilized at site for lifting and shifting of material from the scene of emergency site.		
		8. He passes on the information about emergency to HR Department, Administration Department, Chief Security Officer and Site Main Controller.		
		9. He will ensure that affected area is barricaded and evidences of incident are retained at site.		
		10. He will take all appropriate decision for the operation / running of the plant.		
		11. He will ensure to post the person at strategic location to guide the route of incident to the out-side agencies/authority.		
		12. He will keep update about the happening on site to SMC.		
		13. On withdrawal of emergency and getting clearance from SMC, he will initiate the start-up procedure of plant.		
		14. He will ensure to preserve all documents, relevant evidence etc. for subsequent investigation & inquiry.		
		15. Minimize damage to property, environment and material loss by taking necessary action within control.		

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3	Key Personnel (K. P.)	1. Rush to the site, with required equipments & gadgets and act as assigned their respective duties for handling emergency in consultation with IC & SMC.	On-site E-Plan M.S.D.S.	Incident Place Emergency Control Centre, Incident Controller, Site Main Controller
		2. Will take other directives from IC & SMC.		
		3. Direct and help the mutual aiders, outside agencies, traffic vehicles etc. according to the instruction.		
		4. Do not leave the place of incident unless permitted.		
		5. Do not take any decision on your own. If any self generated idea for control measures first consult with IC/SMC then put in action, as per discussion.		
		6. Keep proper and exact all records of relevant matters pertaining to emergency / incident.		
4	Essential Workers (E. W.)	1. On hearing siren, immediately rush to the scene of incident and act according to directives given by IC/SMC or assigned duties role of emergency plans.	On-site E-Plan M.S.D.S.	Incident Place Emergency Control Center, Incident Controller, Site Main Controller
		2. Assist & help fire fighting, leak control, first aid, closing valves or supply or other work.		
		3. Do not take any decision on your own. However, any good idea pertaining to handle emergency effectively, get consulted with IC/SMC & do accordingly.		
		4. Do not act which will duplicate the same work & without wasting of time & delay, carryout your assigned function with personal protective equipments.		
		5. Do not leave the place of incident without permission.		
		6. Report all matters pertaining to emergency to IC / SMC.		
		1. On hearing emergency siren take instructions from shift in charge or supervisor and act accordingly.	Disclosure of Information	Supervisor Safe Assembly Point
		2. Assemble at safe assemble points if situation demand or check wind direction and rush to the safe place. They shall assemble in a manner as directed by Assembly point incharge so that counting is easy – preferably 6X4 format.		

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5	Non-Essential Workers	3. Do not get panicky.		
		4. Do not obstruct any activity being done for controlling emergency.		
		5. Do not engage any phone to know about emergency.		
		6. Be alert to hear clear instruction from authority.		
		7. Ensure your presence and help to count numbers.		

Appendix No. A to G

APPENDIX	SUBJECT
A	Local Crisis Group Important Phone Nos.
B	Important Phone Nos. of District Crisis Group
C	List of PPEs
D	List of First Aid Trained Persons
E	Procedure for Spillage Control & Clean up
F	Details of Alternate Shelters
G	Neighboring Industries , Mutual Aid Members

APPENDIX -A

LOCAL CRISIS GROUP

HAZIRA

TELEPHONE NUMBERS

Sr. No.	Name	OFFICE	RESIDENCE
1	Chair Person, Sub Divisional Magistrate, Hazira Area, Tal- Olpad, Dist-Surat	2464261	2465116
2	Dy. Director of Industrial, Safety and Health, (Factory Inspector), Surat	2472422	2667692 M-9825058741
3	Mamlatdar, Olpad	02621-221245	02621-221259
4	Police Inspector, Ichchapore Police Station, Ichchapore	2860197 / 2840040	9925143737
	Police Station (Marine)	02612870404	-
	Police Station (Hazira)	02612912711, 12NO	-
5	Certifying Surgeon, Surat	2472422	9825085231
6	CMO, Community Health Centre, OLPAD	02621-222048	
7	VP- Fire , RIL- Hazira	3035069	2835061 / 9898876565
8	Sarpanch, Oldpad Group Grampanchayat, Oldpad	02621-222086	9825499735
9	Factory Medical Officer, Cyanides and Chemicals Co., GIDC Ind. Estate, Oldpad- 394540	221681-2-3-4 Ext. 214	Ext. 240
10	Secretary, Kamal Club (Social Service Organisation), Olpad	2802022	9925240218
11	Sr. Manager(Fire & Safety), Kribhco	2862766/2862770/2802012	2802552
12	Chief Manager, ONGC, Bhatpore. Surat	2875500	2210270

APPENDIX - B

DISTRICT CRISIS GROUP,

SURAT

TELEPHONE NUMBERS

Sr. No.	Name	<i>OFFICE</i>	<i>RESIDENCE</i>
1	District Magistrate & Collector, Dist-Surat	0261-2471121, 2472471	2669080, 2669580
2	Additional Collector, Surat	0261-2471121, 2463819, 2651060, 9978405520	
3	Disaster Management Cell, Collector Office	0261-2465112, 2465118	
4	Emergency Control Room, SMC	0261-2423750-55, 2451765/55, 2422285-87 Ext. 318, 9724346021	
5	Police Control Room	0261-100, 2462100, 2462318b Fax 2462200, 2462600	
6	Emergency - Ambulance	108	
7	Mamlatdar City	0261-2650335, 9924022688	
8	Mamlatdar Choryashi	0261-2465270, 2778733, 9825083294	
9	Commissioner, Surat Municipal Corporation	9825144800 / 0261- 2422244	0261-2611560
10	District Development Officer, Surat	0261-24322154	0261-2667453
11	Police Commissioner, Surat	9978406271 / 2463939	2667322, 2668373 Mo.9978406271
12	District Sup.dt of Police	2479164	2667458
13	Residence Dy. Collector, Surat	02621-2472211,2472082- 3-4	2650390,2652915
14	Jt. Director, Industrial Safety & Health,(Surat Region), Surat	2473501, 2472422	2667692
15	Dy. Director, Industrial Safety & Health, Surat	0261-2472422	2667692 M-9825188753
16	Chief Fire officer, Surat, Municipal Corporation, Surat	2414195-96, 2414139, 2436636/ 9724345234	2428904

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17	Executive Engineer, Public Health & Mechanical Division, Gujarat Water Supply & Several Board, Surat	2687376	2687975
18	Executive Engineer, (R & B), Surat	2464162	2660411
19	Regional Manager, GIDC, Surat	2667257, 2668443	
20	District Agriculture Officer, Surat	2425751	
21	Supdt. Engineer, S. G. E. B. SURAT	2573729, 2571292	
22	Dy. Director of Information, District Information Office, Surat	2479172	2422233, 2440033
23	Chief Civil Defence, Surat	2472043	2669218, 2669077
24	Medical Superintendent, New Civil Hospital, Surat	2244456, 2244459	2653900
25	District Health Officer, Surat	9428509526 / 2430589	2669810
26	Regional Transport Officer, Surat	2472436, 2472185	2669064
27	State Manager Transport Office, Surat	2543365	
28	Dy. Controller of Explosive, Vadodara	(0265) 2420512	

APPENDIX - C

List of PPEs

Sr. No.	Hazards / Job	Recommended specification for PPE
Head Protection		
A.	Fall of Materials on head	Helmet – conforming to IS:2925 & DGMS
B.		
Eye & Face Protection		
D.	Chemical Contact	Panorama goggles/ Face Shield
E.	Contact with liquid / cold vapour of Argon / Nitrogen / Oxygen	Face Shield
F.	Gas cutting	Gas cutting goggles
G.	Welding	Face Shield
H.	Flying body - e.g. Grinding, chipping, de-dusting etc.	Panorama Goggles/ Safety spectacles with side shield / goggles
Protective Clothing		
I.	Handling of Chemicals	Apron or suit suitable for Acid & Alkali
J.	Welding and Gas cutting operations	Leather apron / leather hand sleeve,
L.	Electrical Work	Electrical Flash Protection Suit
Hand Protection		
M.	Handling of Cryogenic Liquid	Hand Gloves for cryogenic purpose
N.	Handling of Chemicals	Rubber gloves suitable of acid * Alkaloid, IS:4149
O.	Welding & Gas cutting operation	Leather hand gloves, IS:6994
P.	Electrical work	Electrical hand gloves conforming, IS: 4770
Q.	Material Handling	Leather cum canvas hand gloves
Feet Protection		
R.	Fall of material	Safety shoes with Steel Toe Cap, IS:11226
S.	Electrical Hazard	-
T.	Chemical Hazard	Gum boots
Leg Protection		
V.	Handling of Cryogenic liquid	Leg guards of suitable material same as of hand gloves

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W	Welding & Gas cutting operation	Leg guard of leather
Protection of Lungs		
X	Chemical / Fumes	Respirator suitable for chemical; IS:8522 or Breathing apparatus conforming to IS:10245
Y	Rust / Paint / Dust removal from material / Wall	Respirator, Canister type (gas mask), IS 8523 or Dust mask of Dusters as per the need.
Z	Confined space	Breathing apparatus IS:10245
AA	Fire / Rescue	Close circuit breathing apparatus,
Ear Protection		
AB	Noise	Ear Muff / Ear Plug; IS:3521
Protection to fall from heights		
AC	Fall from heights	Full body harness with components permitting 2200 Kg. tensile strength and to limit wearers free fall to 1.8 m

APPENDIX - D

LIST OF FIRST AID TRAINED PERSONS

Sr. No.	Batch	Name of Participant	Company	Department
1	29-03-2012 Dr. Mukesh Jagiwala	Mahavirsinh D Zala	AHPPL	ES
2		Gangadhar Naik	Global	Dredging
3		Vinay Sing	Global	Marine
4		Dharamveer kumar	Global	Marine
5		Suresh Chand Sharma	Global	Marine
6		Dillip kumar Pati	Global	Marine
7		Nitin Parmar	Global	HSE
8		Jaydip Gohil	AHPPL	HSE
9	11.12.2012 Dr. G.B.Dodiya	Santosh Chauhan	Global	CT
10		Mahesh Patel	Global	HSE
11		Patel Jigenesh B	Global	CT
12		Jignes T Patel	Global	CT
13		Vagh Ankur	AHPPL	LT
14		Prashnta Chakrboti	Global	Admin
15		Ketan Patel	AHPPL	ES
16		Piyush Patel	AHPPL	HOWE (I)
17		Viresh Chouhan	AHPPL	Finance
18		Aashish L Morker	Global	Marine
19	28-02-2014 Dr. Mukesh Jagiwala	Rayomand Elavia	Global	Marine
20		Dharmitsinh Solanki	Global	Marine
21		Dileep Singh	Global	HSE
22		Hardik Desai	AHPPL	ES
23		Prashant Figiwala	AHPPL	ES
24		Mukesh Kumar Pandey	Global	LT
25		Ronak Shah	Global	LT
26		Rushi Raval	AHPPL	ES
27		Manoj Chomal	AHPPL	Commercial
28		P. Anthony	Global	CT
29	09.03.2015 Dr. Mukesh Jagiwala	Variya Milankumar V	AHPPL	ES
30		Patel Vivek j	Global	LT
31		Kumar Kanabar	Global	DC
32		Mari Mathialagan G	Global	DC
33		Saini Jagvinder singh	Ingerem	HOWE (I)
34		Kukadiya Sumitkumar M	AHPPL	ES
35		Prajapati Bhavesh B	AHPPL	Exim Yard
36		Sapariya Nilesh S	AHPPL	ES
37		Mukesh singh kunvarpal	Global	DC
38		Barad Vijaykumar A	Indra Sec,	HSE
39		Pramod singh P	Harshal	ES
40		Patel Kartikkumar R	Indra Sec,	HSE

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41		Patel Jigar M	Global	Marine
42		Sailor Hemant	Global	Marine
43		Patel Janakkumar C	Global	CT
44		Patel Jignesh B	Global	CT
45		Parmar Jaimin J	Global	CT
46		Vaishnani Sanketkumar N	AHPPL	ES
47		Patel Sanjaykumar T	Contractor	Exim Yard
48	23.12.2015 Dr. Mukesh Jagiwala	DHANNARAM DEVASI S/o UGAMARAM	AHPPL	Security
49		PANCHAL PARESHKUMAR GOPALBHAI	AHPPL	Security
50		PATEL SHEETAL S/o HASMUKHBHAI	GLOBAL	DC
51		PATEL JAYESH MANILAL	AHPPL	ES
52		GOHIL SHAILENDRASINH ABHESINH	GLOBAL	LT
53		SURENDRA YADAV S/o RAM KRISHNA YADAV	GLOBAL	DC
54		BATIYA HARI S/o VISHRAMBHAI	GLOBAL	CT
55		PATEL PRITESHKUMAR MAHENDRABHAI	AHPPL	ES
56		KAMLESH KESAVBHAI AHIR	CONTRACTOR	HSE
57		PADIYA CHANDRESH BHANUBHAI	GLOBAL	DC
58		PIPLIYA BHARATKUMAR HAMABHAI	GLOBAL	Exim Yard
59		DAVE PRADIP BHARATBHAI	AHPPL	Commercial
60		GIRI ANIL KAILASH	AHPPL	ES
61		PATEL HEMANT S/o CHHAGANBHAI	GLOBAL	CT
62		PATEL ANKITKUMAR SHAILESHBHAI	GLOBAL	Exim Yard
63	02.03.2016 Dr. Mukesh Jagiwala	KARAN NATVARBHAI VALA	GLOBAL	LT
64		HARSHAD MADHUSUDAN THAKKAR	AHPPL	ES
65		HIREN PRAVINBHAI PATEL	GLOBAL	LT
66		ALPESH BHAGWANBHAI PATEL	GLOBAL	LT
67		SAVAN BHARATBHAI PATEL	CONTRACTOR	ES
68		MAYURKUMAR DAYABHAI RUPARELIYA	GLOBAL	DC
69		BIPLAB BYOMKESH KAYAL	GLOBAL	DC
70		VALAND KISHAN BHIKHABHAI	GLOBAL	CT
71		RAJEE SHIV MANGAL MISHRA	AHPPL	HOWE (I)
72		SOLOMAN RAJA	GLOBAL	CT
73		MAHESHBHAI THAKORBHAI PATEL	GLOBAL	HSE
74		DIVYESHKUMAR NAGINBHAI PATEL	CONTRACTOR	ES
75		KINJALKUMAR MANHARBHAI PATEL	GLOBAL	HSE
76	16.08.2016 Dr. Mukesh Jagiwala	DINESH A PRAJAPATI	GLOBAL	LT
77		RAHUL GUJJAR	AHPPL	LT
78		DHARMENDRA PARMAR	AHPPL	LT
79		TEJRAJ D NIKUMBHE	CONTRACTOR	Exim Yard

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80		MERJA CHIRAG	CONTRACTOR	Exim Yard
81		VANKAR ANIL M	GLOBAL	LT
82		JITESH K PATEL	GLOBAL	LT
83		RAJ K GHOSH	GLOBAL	LT
84		BASUDEB MANNA	GLOBAL	Marine
85		ASHISH MEHTA	AHPPL	ES
86		SANJEEV UPADHYAY	GLOBAL	DC
87		JAYDEEP H PANDYA	GLOBAL	DC
88		ASHISH P VYAS	GLOBAL	DC
89		IQBAL RAYMA	GLOBAL	DC
90		JAGANNATH NAHAK	CONTRACTOR	Exim Yard
91		SATISH AHIR	CONTRACTOR	HSE
92		HARDIK LAXMANBHAI PATEL	HOWE (I)	HOWE (I)
93		JAYDIP BHARATKUMAR PANDAV	GLOBAL	Marine
94		KANANI CHANDRAKANT MAVJIBHAI	AHPPL	ES
95		JADEJA NARENDRASINH KESUBHA	GLOBAL	DC
96		ALPESH RAMESHBHAI CHAUHAN	GLOBAL	DC
97		DHRUVISHKUMAR NITESHBHAI PATEL	GLOBAL	LT
98		RAZAK MAHMADBHAI CHAVADA	GLOBAL	DC
99		NAKRANI BHARAT VITHALBHAI	GLOBAL	DC
100		VIJAY BARAD	M/s. CFDS	HSE
101		NIKHIL RAMESHBHAI PUROHIT	GLOBAL	DC
102		ARVIND RAMCHANDRA NAYAK	GLOBAL	DC
103		VAGHELA MAYUR GIRDHARBHAI	GLOBAL	DC
104		BARAD PIYUSHKUMAR DUDABHAI	M/s. CFDS	HSE
105		DAS PRADIP KAMAL	GLOBAL	CT
106		SINGH RAJKUMAR SURENDRA	HOWE (I)	HOWE (I)
107		SAROJ NIRAJKUMAR JAGDISH	GLOBAL	DC
108		LIMBACHIYA DAXESH	M/s. SGT	LT
109		SHARMA BRIJESHKUMAR RAMESHBHAI	GLOBAL	LT
110		TOHSIB HASANBHAI GHANCHI	GLOBAL	LT
111		LENKA DEBANAND NRUSINGH CHARAN	GLOBAL	DC
112		MUKUND KUMAR	GLOBAL	Marine
113		MAURYA PARASNATH BHAGIRATHI	GLOBAL	DC
114		KARN MUKESHKUMAR SHYAMNARAYAN	GLOBAL	CT
115		VADHER VIJAY MANDANBHAI	GLOBAL	DC
116		Rakesh Jangada	AHPPL	LT
117		Nitesh Shah	AHPPL	LT
118		Shyamlal Nai	AHPPL	LT
119		Mayur Manani	AHPPL	LT
120		Mayur Kachhadiya	Global	LT

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121	07.03.2018 Dr. Mukesh Jagiwala	Ketan Khalashi	Global	LT
122		Siddharth Singh Chauhan	AHPPL	LT
123		Dharmesh Savaliya	Global	LT
124		Afroz Bhatti	Global	LT
125		Dileep Singh	Global	HSE
126		Sanket Khalshi	Global	DC
127		Yogesh Patel	Global	DC
128		Divyesh Mistry	Contractor	ES
129		Milind Joshi	Contractor	ES
130		Amit Hirapara	Contractor	ES
131		Mahamadmubin Y Kaji	Global	DC
132		Manoj Patel	Global	Exim Yard
133		Pratik Bhikadiya	AHPPL	ES
134		Yagnesh Vala	Contractor	ES
135		Bhaves L Ram	Contractor	ES
136		Chirag Shingala	Contractor	ES
137		Arpit Sobti	AHPPL	ES
138		Karni Singh Rathore	Contractor	HSE
139		Keyur Patel	Global	DC
140		Shashi Bhushan Kumar	Global	DC
141		Ketan Patel	Global	Exim Yard
142		Chiranjeev Sahoo	AHPPL	DC
143		Renish Adani	AHPPL	DC
144		Appil Ora	AHPPL	HSE
145		Anshuman Sharma	AHPPL	HSE
146		BHAVSINH N BARAD	AHPPL	LT
147		BHARAT DESAI	AHPPL	CT
148		RAHUL B RATHOD	CONTRACTOR	ES
149		HARSHI DHAKATE	GLOBAL	LT
150		RAVI RANJAN	AHPPL	LT
151		SNEHAL PATEL	CONTRACTOR	EXIM YARD
152		PIYUSH PATEL	GLOBAL	CT
153		PRASHANT R SARSARIYA	AHPPL	ES
154		DARSHAN G MOTA	GLOBAL	CT
155		RAVIRAJ SINGH JADEJA	GLOBAL	CT
156		MAGAL GELVA	GLOBAL	CT
157		DILEEP I VALAMIYA	GLOBAL	CT
158		NIKUNJ KUMAR S PATEL	CONTRACTOR	IT
159		HEMANT KUMAR D PATEL	GLOBAL	CT
160		VISHAL M PARAB	GLOBAL	HSE
161		VISHNU KUMAR	CONTRACTOR	HSE
162		BIPIN KUMAR	CONTRACTOR	HSE

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163		PATHAN MO. JAVID ANJUM N	AHPPL	HSE
164		VIJAY VADHER	AHPPL	LT
165		VIJAYANT SINGH	AHPPL	LT
166		AMMAR BASTAWALA	AHPPL	ES
167		AMITKUMAR MEHTA	AHPPL	ES
168		DUSHYANT JAVIYA	AHPPL	HSE
169		ATUL KHAMKAR	AHPPL	HSE
170		YOGENDRA SOLANKI	AHPPL	HSE
171		JIGNESH VADHER	GLOBAL	HSE
172		TEJRAJ D NIKUMBHE	Contractor	Exim Yard
173		SHIVANG B BHARUCH	GLOBAL	LT
174		KULDEEP R SAHU	AHPPL	LT
175		MAYUR B KACHHADIYA	GLOBAL	LT
176		KAMLESH S JAIN	HOWE (I)	HOWE (I)
177		GAUTAM G GOHEL	Contractor	IT
178		AMIT KUMAR PANDEY	HOWE (I)	HOWE (I)
179		YEERUBHUPLA SAI MANIKANTA	HOWE (I)	HOWE (I)
180		BHARATKUMAR MALLMPATI	HOWE (I)	HOWE (I)
181		JIGNESH B PATEL	GLOBAL	CT
182		BASUDEB MANNA	GLOBAL	Marine
183		BHUDEV MANDAL	GLOBAL	DC
184		JAGUBHAI KARETA	GLOBAL	DC
185	26.02.2019 Dr. Mukesh Jagiwala	JAYESH N ZALA	Contractor	HOWE (I)
186		VISHAL P CHAVDA	Contractor	HOWE (I)
187		VINOTH KUMAR	GLOBAL	DC
188		FENIL R ASMANI	AHPPL	CT
189		YOGESH R PATEL	GLOBAL	CT
190		BHERUDAS M VAISHNAV	Contractor	HSE
191		RAJNIK P MORI	GLOBAL	Exim Yard
192		DENISH G KORDIYA	Contractor	HSE
193		UMESH D PATEL	AHPPL	ES
194		ANSHU PRASAD	HOWE (I)	HOWE (I)
195		PARTH J KAMANI	GLOBAL	HSE
196		KIRTIKUMAR K DABHI	GLOBAL	DC
197		PARESH G PANCHAL	AHPPL	Security
198		NALIN SINHA	AHPPL	Security
199		HARVINDER SINGH RUHIL	AHPPL	Security
200		MAHENDRA B GAVALI	GLOBAL	HSE
201		JAYDIPSINH G GOHIL	AHPPL	HSE
202	27.02.2020 Dr. Mukesh Jagiwala	Jagu Kareta	GLOBAL	DC
203		Amit Mistry	CONTRACTOR	ES
204		MUKUND KUMAR	GLOBAL	Marine
205		Mukesh Kumar	GLOBAL	LT
206		Pravin Gami	GLOBAL	LT
207		Swapnil Parab	AHPPL	LT

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208		Gopinath J.	AHPPL	LT
209		Maunik Pancholi	GLOBAL	LT
210		Dhrumit Pithva	GLOBAL	HSE
211		Vrushabh Mistry	GLOBAL	LT
212		Keyur Mehta	GLOBAL	LT
213		Ravi D Chand	GLOBAL	LT
214		Naitik Solanki	AHPPL	LT
215		Sanjit Mali	Contractor	LT
216		Jitendra Yadav	Contractor	IT
217		Sharanabasappia Kinagi	Contractor	IT
218		Anurodh yadav	Contractor	IT
219		Akash Pawar	GLOBAL	LT
220		Harsh Kumar Bhrahmbhatt	AHPPL	LT
221		Abhijeet Kumar	AHPPL	ES
222		Rajesh N Chothani	GLOBAL	DC
223		Prashant Chakrabarti	GLOBAL	Admin
224		Mayur Kalkani	AHPPL	ES
225		Santosh Chauhan	GLOBAL	CT
226		Pradip Das	AHPPL	CT
227		Nasir Khan	GLOBAL	CT
228		Jignesh T Patel	GLOBAL	CT
229		Jay Shah	GLOBAL	Exim Yard
230		Karan Patel	GLOBAL	HSE
231		Pratik Smart	AHPPL	HSE

APPENDIX - E

Procedure for On Shore Chemical / Oil Spillage Control & Clean up
Information of "Emergency Handling Plan for Spill Control" is given in the training program/demonstration at site/table top exercise to the participants as per the procedure.
Minor Emergency: To inform the area in-charge & HSE department through mail/ register or NC report.
Shift in-charge to initiate procedure for the emergency/ Non-conformance.
Handle the Emergency/Non Conformance as per instruction of shift in-charge.
Properties of spilled item (Chemical, Oil etc.) must be known before handling the spillage. Refer the MSDS, before handling the spillage.
Barrication of the area must be done in spillage area with mandatory signage.
Curb the spillage with the help of soil curbing or absorbent material.
After curbing, Collect spilled hazardous chemical with absorbent, scarp out the contaminated soil & put in to separate drums/HDPE bags. Use appropriate PPE.
Collect the spilled material, with the help of pump from sump if any and take them in appropriate container. Dilute the spillage with water if needed.
Provide firefighting equipment at the side as standby.
Provide information about Emergency/Non Conformance to government authority if required.
Collected spilled material must be sent to waste storage yard with identification tags mentioning the contents.
Proper storage of spilled material received from respective area & update records of receipts.
Arrange disposal of wastes either to GPCB-approved CHWTSD/CHWIF or to the SPCB /CPCB/MoEF-approved vendor with proper MANIFEST system as per the HW (MH&TM) Rules, 2008.
Handover drums containing oil sludge to GPCB/CPCB/MoEF-approved vendors for disposal & update the records of issue. The vendors should have a valid Authorization from SPCB/CPCB/MoEF.

The off-shore leak should be handled as per the Marine Oil / Chemical Spill Response Plan

APPENDIX F

DETAILS OF ALTERNATE SHELTER

Sr. No. of Assembly point	Location	Accommodation Capacity	At the time of emergency	
			Person in charge	Phone number
1	Infront of Site office – Near Office Gate	100 nos.	Mr. Prasan Tokas Head - Security	9988887058
2	Near East Entry Gate – Container Yard	100 nos.	Incharge – Container operations	09909927227
3	Near Custom Office Crossing	100 nos.	Incharge – Container operations	09909927227
4	Near Port Gate No – 1	100 nos.	Mr. Prasan Tokas Head - Security	9988887058
5	Between Godown & LT Control Building	150 nos.	Mr. Sunil Kumar CFS – Exim Yard	089808 07829
6	Infront of SS-3 Building	100 nos.	Capt. Ajit Kottyl – Dry Cargo	9825000985
7	Near ISPS Gate – MP Jetty	100 nos.		

The shelters and facilities available in Annexure 23

The Safe Escape Route to Shelters are marked in Escape Route Map in Annexure 3

NEIGHBORING INDUSTRIES, MUTUAL AID MEMBERS

AHPPL Liquid Terminal is situated in Hazira closed to HPPL, Hazira and AM/NS. The following industries / organization are helping each other during time of crisis.

Sr.	Name of Organization	Equipment / Facility available with the Industry
1	Adani Hazira Port	Fire Tender -2nos. Fire water Browsers – 2 nos. Ambulance – 1 no Fire Crew BA Sets
2	HPPL	Fire Tender -1nos. Fire Crew BA Sets
3	AM/NS	Fire Tender -3nos. Ambulance – 2 no Fire Crew BA Sets
4	L&T	Fire Tender -1nos. Ambulance – 2 no Fire Crew BA Sets Al. Suits Arc Flash protection Suit
5	RIL	Fire Tender –04 Ambulance – 1 no Fire Crew BA Sets
6	Surat Municipal Corp.	Fire Tender Fire water Browsers Ambulance BA Sets

The procedure for communication to External agencies is mentioned in Chapter 14 and Chapter 11.

The Telephone no. of above Industries / Organizations are mentioned Chapter 11 and in Annexure 26, Appendix A & B

FIRE FIGHTING FACILITIES

1.0 Fire Hydrant System for Liquid Terminal

Water Storage

Above Ground Water Storage Tanks – 2 nos. Tanks

Capacity of each compartment: 8000 m³

Details of Fire Water Pump House Phase-I

Sr.No.	Type of Pump	Quantity	Capacity	RPM	Head	Make	Details
1	Jockey	02	92 m ³ /hr	2960	105 mtr	Mather & Platt	Make: - ABB Co Squirrel cage induction motor
2	Main (Diesel)	05	610 m ³ /hr	1800	105 mtr	Mather & Platt	Greaves Engine Model No. : 1325121205126

Details of Fire Water Pump House Phase-II

Sr.No.	Type of Pump	Quantity	Capacity	RPM	Head	Make	Details
1	Jockey	02	183 m ³ /hr	2975	105 mtr	Mather & Platt	3PH Induction motor Crompton Greaves
2	Main (Diesel)	03	610 m ³ /hr	1800	105 mtr	Mather & Platt	Greaves Engine Model : E130186

2.0 Fire Hydrant System for Coal Yard, Container Terminal

Water Storage One RCC Tank above Ground storage Tanks having 3 Compartments

Storage 1: Tanks 2800 M³, Storage 2 & 3: 550 M³ each

Details of Fire Water Pump House

Sr.No.	Type of Pump	Quantity	Capacity	RPM	Head	Make	Details
1	Jockey	02	20 m3/hr	2900	120 mtr	Mather & Platt	Make: ABB Co. Serial no: 4487968 & A - 487969
2	Main (Electric)	02	273 m3/hr	1485	120 mtr	Mather & Platt	Greaves Engine Model No: 90039038
3	Main (Diesel)	01	273 m3/hr	1800	120 mtr	Mather & Platt	Greaves Engine Model No: TBD3 V6 1

3.0 Fire Hydrant System for Multi-Purpose Terminal / Jetty

Water Storage: Fire water inlet is taken from sea water for MPT jetty & Mobile hopper. Details of Fire Water Pump House are as given below.

Sr.No.	Type of Pump	Quantity	Capacity	RPM	Head	Make	Details
1	Jockey	02	75 m3/hr	2965	131.5 Mtr	FLOWMORE Vertical Pumps	Pump Input 35.46KW SR No. 15122382-20-1 & 15122382-20-2
2	Main (Diesel)	03	720 m3/hr	1500	131.5 Mtr	AMRILLO	536HP, Model S600AS Sr No. 333380/333359/333361
3	Foam Pump (Electrical)	02	33 m3/hr	1475	NA	Crompton Greaves	Sr No. 16-02425 Model- RDZX-1-300-L Rotary Gear Pump
4	Foam Pump (Diesel)	01	33 m3/hr	1440	NA		Sr No. 126 B16 Model - KOEL

3.1 Foam Tanks 02no's

- Capacity 17000 Litres each, Foam Compound AR-AFFF.

4.0 Firefighting equipment details at site

4.1

Sr. No.	Plant	Fire Hydrant	shore coupling	Deluge Valve (MVWS)	Foam Pourer	Foam Monitor	Tower monitor	Water Monitor	HVLR Monitor	Hose reel hose	water Curtain	Sprinklers	Isolation valve	Sand Bucket	Hose Box
1	Coal Yard	17	0	0	0	0	0	20	0	1	0	17	9	0	0
2	New Coal yard														
3	Rockyard area	27	0	0	0	0	0	14	0	0	0	0	11	0	27
4	CFS Area	33	0	0	0	0	0	0	0	0	0	0	7	0	31
5	Petcock area														
6	MPT Jetty	17	4	4	0	0	9	15	0	0	9	0	15	0	17
7	Container Jetty	31	0	0	0	0	0	0	0	0	0	0		0	31
8	HTT01	2	0	0	0	0	0	0	0	0	0	0	1	0	2
9	HTT02	2	0	0	0	0	0	0	0	0	0	0	1	0	2
10	HTT03	4	0	0	0	0	0	0	0	0	0	0	2	0	4
11	Liquid Terminal phase 01	68	0	72	30	25	0	0	0	0	0	0	24	85	68
12	Liquid Terminal phase 02	65	0	100	26	0	0	45	59	3	0	0	32	120	65

4.1.1 Portable Firefighting Equipment's.

Sr. No.	Plant	Fire Extinguishers												Total
		ABC 2kg	DCP 5kg	ABC 6kg	ABC 9kg	DCP 10kg	DCP 25kg	DCP 50kg	DCP 75kg	Foam 9ltr	Foam 45 ltr	Co2 2kg	Co2 4.5kg	
1	CFS Area	0	1	7	1	2	0	0	0	0	0	0	0	11
2	MPT Jetty	5	2	1	30	0	2	0	7	1	1	0	5	54
3	Container Jetty	6	5	8	0	0	0	2	0	2	0	44	12	79
4	Main Store	0	2	0	9	0	0	1	0	0	0	0	4	16
5	STP Area	0	0	0	2	0	0	0	0	0	0	0	1	3
6	SS01	6	3	0	3	1	0	0	0	0	0	0	22	35
7	Canteen, Admin & Afcon Building	0	0	0	0	0	0	0	0	0	0	0	4	4
8	DG Room	0	0	0	1	0	0	0	0	0	0	0	3	4
9	SS03	0	0	0	2	0	0	0	2	0	0	0	7	11
10	ER01	2	0	1	5	0	2	0	0	0	0	0	3	13
11	HTT01	0	0	0	2	0	0	0	0	0	0	0	0	2
12	HTT02	0	0	0	4	0	0	0	0	0	0	0	0	4
13	HTT03	0	0	0	4	0	0	0	0	0	0	0	0	4
14	Liquid Terminal phase 01	0	0	14	216	0	8	2	6	0	0	0	16	262
15	Liquid Terminal phase 02	0	0	0	271	0	24	0	13	0	0	0	23	331

ADANI HAZIRA PORT PVT. LTD.
LIQUID TERMINAL
EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN
AUTHORIZED BY: HOD (HSEF)

16	L T F W P H Phase-01	0	0	1	5	0	0	0	0	0	0	0	0	6
17	L T F W P H Phase-02	0	0	0	1	0	0	0	0	0	0	0	1	2
17	Sea water pump house	0	0	8	24	0	0	0	15	0	0	0	2	49
18	New sea water pump house	0	0	0	1	0	0	0	0	0	0	0	1	2
19	CT Jetty Diesel Pump	0	3	0	2	1	0	0	0	0	0	0	1	7
20	C.W.P.H	0	0	0	0	0	0	0	0	0	0	0	2	2
21	NDC Building	0	0	0	0	0	0	0	0	0	0	0	3	3
22	New Custom- building pass section	3	0	0	1	0	0	0	0	0	0	1	3	8
23	Fire station	20	0	0	0	0	0	0	0	0	0	0	56	76
24	Water tender	1	0	1	0	0	0	0	0	0	0	0	1	3
	New water bowser	0	0	0	1	0	0	0	0	0	0	0	1	2
	Foam tendor-02	0	0	0	2	0	0	0	0	0	0	0	2	4
25	Foam tendor-01	0	0	0	1	0	0	0	0	0	0	0	1	2
Total		43	16	41	588	4	36	5	43	3	1	45	174	999

4.1.2 Portable Firefighting Equipment's.

Sr.No.	Plant	Foam Trolley 200Litres	Foam Trolley 1000Litres
01	Liquid Terminal -I	08	0
02	Liquid Terminal -II	12	0
03	MPB Jetty 03	0	01
04	MPB Jetty 04	0	01
05	L.T.F.W.P.H	0	01
	Total	20	03

5.0 PPEs & Safety Equipment in Fire Tender

PPE & Safety Equipment		
Sr.No.	Type	No.
1.	Self-Breathing Apparatus – Fire Tender	14
2.	Self-Breathing Apparatus	11
3.	Self-Breathing Apparatus – Cylinder	27
4.	Self-Breathing Apparatus Trolley mounted with 02no's Cylinders each	02
5.	Aluminized Suit – HR suits	03
6.	Chemical Suit	03
7.	Explosive Meter – HSE	02
8.	Oxygen Meter – HSE	02

6.0 Fire Trained Persons

2018		2019		2020	
EMPLOYEE	CONTRACTOR	EMPLOYEE	CONTRACTOR	EMPLOYEE	CONTRACTOR
6	56	6	62	6	56

7.1 Foam cum Fire Water Tender - 02

Vehicle Data			
Sr.No.		FT01	FT02
1	Vehicle Number :	GJ-5-AV 3377	GJ-5-BX 9920
2	Vehicle Make by :	TATA Motors	TATA Motors
3	Vehicle Model :	2518	2518
4	Engine Number No :	B591803111J84021111	B591803251H63461248
5	Chassis Number No :	MAT448030B7J42535	MAT448022M2H13278
6	Fire Engine Type :	FOAM	FOAM
7	Manufacturing Date :	08.02.2011	
8	Fire Pump Make by :	Vijay Fire Vehicles & Pumps Ltd.	N.K. Fire (Newage Fire Pumps Ltd)
9	Fire Pump Model :	S/S	S/S
10	Water Tank Capacity :	9000 Ltrs	4000 Ltrs
11	Foam Tank Capacity :	3000 Ltrs	6000 Ltrs
12	Pump Capacity :	4000 Ltrs/ Per Min	4500 Ltrs/ Per Min
13	Fire Pump Sr. no :	VJ- HP-073	
14	PTO Make :	VAS Make	VAS Make

7.1.1 Equipment & Material in Foam Tender

Sr No.	Equipment Name	Qty
1	Torch	1 no
2	Fireman Axe	04 no's
3	B.A. Sets	02 no's
4	Wheel Spanners	01 no
5	Crow Bar	01 no
6	Jack & Tommy	01 no
7	Life Buoy	01 no
8	First Aid kit	01 no
9	Battery (12V, 100Ah)	02 no's
10	Parking Triangles	02 no's
11	Battery Charger	01 no
12	AFFF Jerry can (20 litres)	01 no
13	DCP Extinguishers 09kgs	01 no
14	Tool Box	01 no
15	Hose Clamp	05 no's

ADANI HAZIRA PORT PVT. LTD.
LIQUID TERMINAL
EMERGENCY RESPONSE & DISASTER MANAGEMENT PLAN
AUTHORIZED BY: HOD (HSEF)

16	Hose Bandages	08 no's
17	FB 10 X Branch	06 no's
18	Inline inductor's with pickup tubes	02 no's
19	Proximity suite	01 no
20	Chemical Suite	01no
21	Pick up tube	10 no's
22	Pick axe (Trikam)	01 no
23	Spade	01 no
24	Hammer	01 no
25	Manila Rope 20mts-03, 10mts-01.	04 no's
26	Basket Strainer	02 no's
27	Metal Strainer	02 no's
28	Delivery Hose Pipes (RRL 15mts)	07 no's
29	TP Branches	01 no
30	Fog Branch	02 no's
31	Universal Branch	02 no's
32	Revolving Branch	02 no's
33	Short Branch	02 no's
34	London Pattern Hand control	04 no's
35	Female to Female Adaptor	04 no's
36	Hand Control Dividing Breaching	02 no's
37	Wheel Stopper	02 no's
38	Suction Wrench	06 no's
39	Suction Hose	04 no's
40	Ceiling Hook	01 no
41	Ext Ladder at FWPH	01 no

7.2 Fire Vehicle - Water Tender

Vehicle Data		
Sr.No.		
1	Vehicle Number :	GJ-5-AV 2288
2	Vehicle Make by :	TATA Motors
3	Vehicle Model :	2518
4	Engine Number No :	B591803111J84021172
5	Chassis Number No :	MAT448030B7J42536
6	Fire Engine Type :	FOAM
7	Manufacturing Date :	08.02.2011
8	Fire Pump Make by :	Vijay Fire Vehicles & Pumps Ltd.
9	Fire Pump Model :	S/S
10	Water Tank Capacity :	12000 Ltrs
11	Foam Tank Capacity :	00 Ltrs
12	Pump Capacity :	4000 Ltrs/ Per Min
13	Fire Pump Sr. no :	VJ- HP-072
14	PTO Make :	VASS Make

7.2.1 Equipment & Material in Water Tender

Sr No.	Equipment Name	Qty
1	Torch	1 no
2	Fireman Axe	04no's
3	B.A. Sets	02no's
4	Wheel Spanners	01 no
5	Jack & Tommy	01 no
6	Life Buoy	01 no
7	First Aid kit	01 no
8	Battery (12V, 100Ah)	02no's
9	Parking Tringles	02no's
10	Battery Charger	01 no
11	Tool Box	01 no
12	Hose Clamp	05no's
13	Hose Bandages	09no's
14	FB 10 X Branch	06no's
15	Inline inductor's with pickup tubes	02no's
16	Proximity suite	01 no
17	Chemical Suite	01no
18	Pick up tube	10no's
19	Pick axe (Trikam)	01 no
20	Spade	01 no
21	Hammer	01 no
22	Manila Rope 20mts-03, 10mts-01.	04no's

23	Basket Strainer	02no's
24	Metal Strainer	02no's
25	Delivery Hose Pipes (RRL 15mts)	07no's
26	TP Branches	02 no
27	Fog Branch	02no's
28	Universal Branch	02no's
29	Revolving Branch	02no's
30	Short Branch	01no's
31	London Pattern Hand control	04no's
32	Female to Female Adaptor	04no's
33	Hand Control Dividing Breaching	02no's
34	Three-way Collecting Head	02no's
35	Suction Wrench	06no's
36	Suction Hose	04no's
37	Celling Hook	01 no
38	Co2 Extinguishers	02no's

8.0 Water Browsers – 1 Nos.

Sr.No.		WB03
1	Vehicle Number :	GJ05 VX 8822
2	Vehicle Make by :	TATA Motors
3	Vehicle Model :	1613
4	Engine Number No :	697TC69ETY106704
5	Chassis Number No :	MAT373033G1E13976
6	Fire Engine Type :	Water
7	Manufacturing Date :	2016-17
8	Fire Pump Make by :	N.K. Fire (Newage Fire Pumps Ltd)
9	Fire Pump Model :	NKLP3000
10	Water Tank Capacity :	8000 Ltrs
11	Foam Tank Capacity :	00 Ltrs
12	Pump Capacity :	3200 Ltrs/Per Min
13	Fire Pump Sr. no :	6117-67
14	PTO Make :	VAS

8.1.3 Equipment in Water Bowser

Sr No.	Equipment Name	Qty
1	TP Branch	02no's
2	Short Branch	01 no
3	Delivery Hoses	04no's
4	Aluminium Extension Ladder	01 no

9.0 FIXED FIRE SYSTEM

Fixed firefighting system:

1. NDC Building – NOVEC 1230 Gas flooding system with auto actuation.
2. Liquid Terminal area – MVWS system with operation through deluge valve
3. Foam System with Water cum Foam Monitor/HVLR Monitor
4. Foam pourer system
5. Water curtain and Tower monitor for Jetty area
6. Hydrant System

10.0 DETAILS OF FIRE ALARM / DETECTION SYSTEMS

Sr. No.	LOCATION	ISD	GD	MCP	TOTAL
1	Administrative Building G/F	76	00	01	77
2	LT control room	48	00	01	49
3	MCC Room	24	00	01	25
4	Enclosure 1,2&3	00	00	31	31
5	LT pump house	00	06	0	6
	TOTAL	148	06	34	188

LEGENDS

ISD : IONIZED SMOKE DETECTORS

HD : HEAT DETECTOR

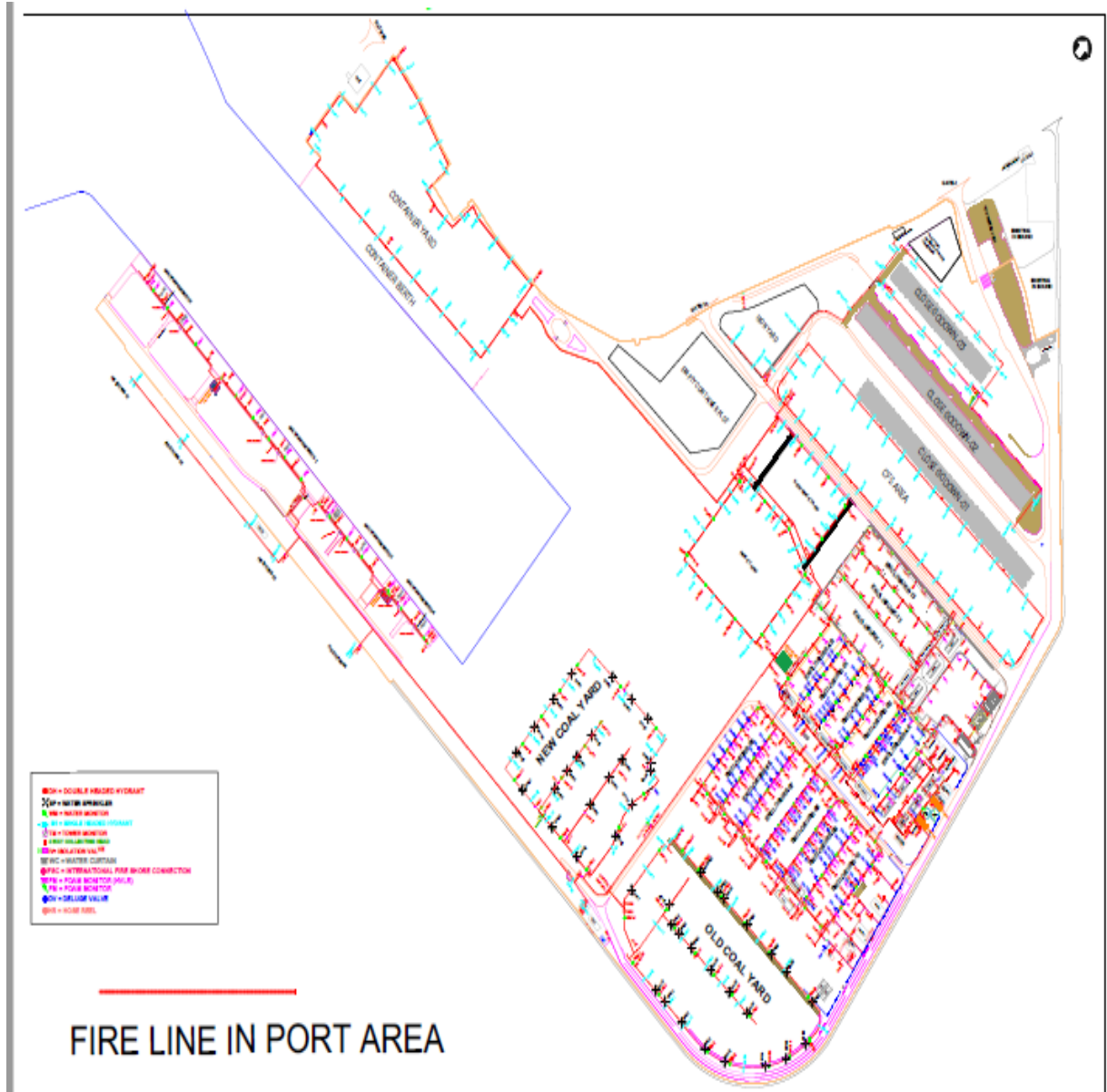
MCP : MANUAL CALL POINT

GD : GAS DETECTOR

11.0 DETAILS OF GAS DETECTORS / KIT INSTALLED IN FIELD

Sr. No	Description	Qty.
1	GAS Detector VOC type – Pump House	3 Nos
2	GAS Detector – Explosive Gas - Pump House	3 Nos
3	GAS Detector VOC type – Jetty	3 Nos
4	GAS Detector – Explosive Gas - Jetty	3 Nos

11.0 DETAILS OF FIRE LINE NETWORK IN AHPPL



SECURITY THREAT PLAN

1.0 Standard Operating Procedure to tackle security threats:

2.0 Emergency Siren Tone

Any emergency : Repeated Wailing sound of 30 seconds for two minutes

All clear & testing : Continuous SIREN for 2 minutes.

3.0 Telephone Nos. to be contacted

i.	SECURITY CONTROL ROOM	:9909957114/61700
ii.	MARINE CONTROL ROOM	:9909957115/61755
iii.	FIRE	:9909957113/61633
iv.	MEDICAL	:8980802405/61605
v.	NEAREST ESSAR CARE HOSPITAL	:02616685100
vi.	NEAREST POLICE STATION	:2912711 / 2912712
vii.	HPPL Control	:02613051230

4.0 Natural Disasters

- i. Cyclones, Storm, Flood and Tempest
- ii. Earthquake

5.0 Man-made Disasters

- i. Fire
- ii. Explosion
- iii. Discharge of pollutants into the water
- iv. Escape of inflammable, explosive or toxic gases
- v. Terrorist activity

6.0 Warning

The warning or information about an incident/disaster or potential incident/disaster may come from any source and management should decide where the information should be received first and who should initiate the initial action.

7.0 Alerting Procedures

- a) On receipt warning /information the duty officer must get all relevant details pertaining to the incident/disaster and then alert the disaster management team in accordance with disaster management plan.
- b) The disaster management team then starts initiating action as per the documented Contingency without delay.
- c) If considered necessary, other services such as the Police, Coast Guard, Navy, Fire Brigade and Ambulance Service may be placed on alert.

8.0 Activation of Security Emergency Response Procedure

The management may nominate Chief Security Officer or in his absence any designated Security Manager for the activation of the Security Emergency response procedure.

9.0 Controller / ERP Chart) – (Annexure-34, Point no. 18)

10.0 Communications

Good communication network and methodical practice are of paramount importance to any incident/disaster plan, without which, any well developed plan will be drastically curtailed in efficiency. Security is equipped with wireless sets, mobile phone, land line phone and LAN connectivity at all important locations.

11.0 Administrative Support

It is important that experienced Administrative Officers and Recorders are considered essential to be positioned at key location. Records and documentation may be required in support of legal proceedings and/or costing purposes, resulting from an incident/disaster. Therefore, all administrative personnel must be briefed upon the importance of maintaining and compiling the record.

12.0 Visual Status Recording

a) During any incident/disaster there is a need for the controlling and co-ordination, hence it is recommended that the Control Center, should have display of updated information. The information is displayed on wall chart / blackboards / whiteboards.

b) The depth of information displayed on these Status Boards will depend on the severity and scope of the incident / disaster therefore, should be tailored to meet demands and changing circumstances.

To ensure Status Boards are constantly updated and reflect the overall situation, at any given time, it is necessary to consider dedicated personnel to update the board till the crisis situation is over.

13.0 Drills and Exercise

The objective of drills and exercises is to ensure that security personnel are proficient in all assigned security duties, at all security levels, and to identify any security-related deficiencies, which need to be addressed.

14.0 Security Head / Manager / Officer

The Security Head / Manager / Officer will be responsible for ensuring complete security of the area within the Control Center and should have full authority over access control thereby permitting only those personnel who are authorized. Security Head / Manager / Officers will conduct himself with decorum and politeness but, if necessary, in a firm manner.

15.0 Evacuation

The security personnel will coordinate with other departments and personnel during emergency.

16.0 Plans for the following should be in hand

- a) Stand by accommodation (school / college in nearby area may be consider for the same).
- b) Adequate drinking water and food for the evacuated people.
- c) Arrangement to meet enhanced transport requirements for the evacuation purpose.
- d) Officer to be earmarked for overall monitoring /coordinating /receiving reports.
- e) Medical facilities at evacuation center along with antidotes for the likely incidents.
- f) Enough lighting arrangements at evacuation center.
- g) Evacuation routes along with alternative route should be pre-determined.
- h) Access control system at evacuation center.
- i) Stevedore to be informed.
- j) Liaison with local authority/Coast Guard /Navy.
- k) To forward information to the authorities for issuance of Notice to Mariners (NOTAM).
- l) The port officer may conduct a conference after declaration that an emergency no longer exists.

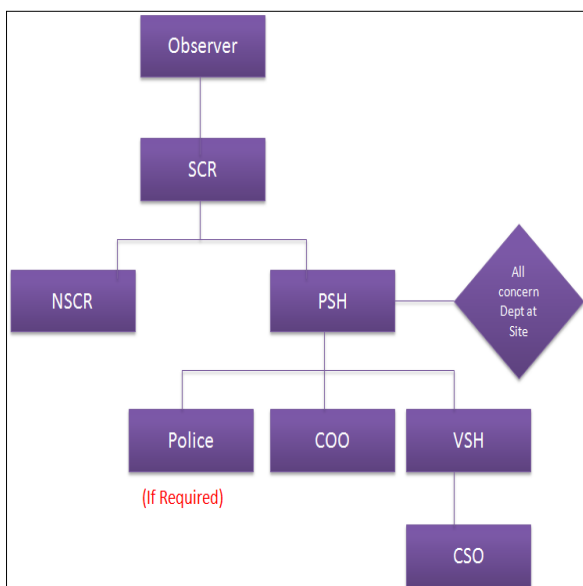
17.0 General Instructions

It has already been stated that incidents / disasters occur under a wide variety of different circumstances and no two incidents follow an identical course. However, the following basic precepts are guidelines to assist company in incidents/disasters.

In any emergency the order of priority is:

- i. Safety of life
- ii. Protection of the environment
- iii. Preservation of property
- iv. Return to normal activity

18.0 Security Reporting Matrix





Adani Hazira Port Limited

**From: October 2020
to March 2021**

ANNEXURE-6

Photographs of Air Pollution Control Measures



Air Environment Management



**Covered Coal Conveyor
Belt**



Wind Brake Shield At Coal Yard Area



Dust Suppression System (DSS)

30



Air Environment Management

Mist Canon System To Arrest Dust: -



31



Air Environment Management

**Water Sprinkling at Coal
Discharge Chute**



**Water Sprinkling at
Coal Yard Area**

32



Air Environment Management



Regular Water Sprinkling On Coal Heaps



Cargo Covered With Tarpaulin



Dumper Covered With Tarpaulin

33

Road Sweeping



Green Belt Area





Adani Hazira Port Limited

**From: October 2020
to March 2021**

ANNEXURE-7

DETAILS OF ENVIRONMENTAL MANAGEMENT CELL



Adani Hazira Port Limited

From: October 2020 to
March 2021

PRANAV CHOUDHARY
CEO - AHPPL

RUPESH JAMBUDI
Head - HSEF
(DIS & Diploma In Civil)

Yagnesh Dalal
Senior Manager –HSEF
(OHS&F)
(B.Sc. PDIS, NEBOSH)

Nandan Kumar
Dy. Manager - HSE (Environment)
(M.Sc Environmental Science)

JAYDIPSINH GOHIL
Incharge - Safety (LT, DC) &
Occupational Health
Associate Manager
(DIS, B.Sc.)

CHETAN PATEL
Incharge - Safety (ES, CT, CFS)
Deputy Manager
(PGDIS & B.Sc.)

DUSHYANT JAVIYA
Incharge - Fire
Deputy Manager
(Dip. In Fire & Safety, BA)

STP & ETP- Supervisor

STP & ETP - Operators & Helpers
(08Nos.)

Prateek Smart
Ast. Manager
(Dip -EHS, M.Sc)

Kinjal Patel
Shift Officer-Saf. & Fire
Officer
(B.Sc- Fire & Safety.)

M. JAVID A.PATHAN
Shift Officer-Saf. & Fire
Sr. Officer
(PGDIS, B.Sc.)

YOGENDRA SOLANKI
Officer - Fire (LT)
Sr. Officer
(SFO, BA)

ANSHUMAN
SHARMA
Sr. Officer
(B.E. - Fire & Safety)

Shift Fire
Officers
04Nos.

Fire Crew
56Nos.

HSE - Marshals



Adani Hazira Port Limited

**From: October 2020 to
March 2021**

Annexure 8

Details of Environment Budget & Expenditure for the last six months of FY 20-21

**Adani Hazira Port Limited****From: October 2020
to March 2021****Environment Budget & Expenditure of FY 2020-21**

Sr No	Activities	Budget	Expenditure
		(In Lacs)	(In Lacs)
1	Environmental Study/Audit/Survey/Consultancy Services	58.51	58.51
2	Legal and Statutory Charges	11	10.25
3	Environmental Monitoring Services	15	11.93
4	Hazardous Waste Management	19	17.34
5	Horticulture Development –Greenery and Plantation	143.12	139
6	O&M of Sewage Treatment Plant and Effluent Treatment Plant	20	19.19
7	Treatment & Disposal of Bio medical Waste	2	1.78
8	Water Sprinkling for dust suppression	190	127
9	Miscellaneous Environmental Initiatives and Salary of Environmental Professionals	20	32.11
10	ISO 14001:2015 (EMS) audit, certification, and internal audit training	1.0	1.0
	Total	479.63	418.11

Expenditure of last three Years

Year	Budget	Expenditure
2018-19	270.69	1344.71
2019-20	363.80	326.76
2020-21	479.63	418.11

	Adani Hazira Port Limited	From: October 2020 to March 2021
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ANNEXURE-9:

Letter obtained from MoEF&CC regarding name change as Adani Hazira Port Limited

F. No. 11-150/2010-IA.III
Proposal No. IA/MH/MIS/170554/2020
Government of India
Ministry of Environment, Forest and Climate Change
(IA-III Section)

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj,
New Delhi – 110003
E-mail: ad.raju@nic.in
Tel: 011-24695296
Dated: 15th January, 2021

To

The Joint President,
M/s Adani Hazira Ports Limited
Adani Corporate House, Shantigram,
Near Vaishnav Devi Circle, S G Highway,
Khodiyar, Ahmedabad - 382 421 (Gujarat)

Subject: Development of Project Multi cargo port with supporting utilities and infrastructure facilities at Hazira, Surat, Gujarat by M/s Adani Hazira Port Private Limited - Transfer of Environmental & CRZ Clearance

Sir,

This has reference to your letter No. 'Nil', dated 28th October, 2020 regarding the transfer of Environmental & CRZ Clearance from M/s Adani Hazira Port Private Limited to M/s Adani Hazira Port Limited for the project mentioned above.

2.0 It has been noted that the project mentioned above was accorded environmental clearance by the Ministry vide letter of even number dated 29th September, 2020. Ministry has examined your application regarding transfer of EC and noted that the name of M/s Adani Hazira Port Private Limited has been changed to M/s Adani Hazira Port Limited as per Certificate of Incorporation Consequent upon conversion to Public Limited Company by the Registrar of Company, Ahmedabad, dated 5th August, 2020.

3.0 No Objection Certificate/Affidavit dated 29th December, 2020 from M/s Adani Hazira Port Limited in a non-judicial stamp paper for transfer of environmental and CRZ clearance letter dated 29th September, 2020 from M/s Adani Hazira Port Private Limited to M/s Adani Hazira Port Limited has been received. In addition, the undertaking mentioning that M/s Adani Hazira Port Limited shall comply with all the conditions mentioned in the Environmental & CRZ Clearance granted vide letter of even number dated 29th September, 2020 has been received.

4.0 In view of the above, it has been decided by the Ministry to transfer the Environment and CRZ Clearance accorded to M/s Adani Hazira Port Private Limited vide letter of even number dated 29th September, 2020 in the name of M/s Adani Hazira Port Limited.

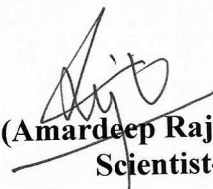
5.0 You are requested to obtain 'Consent to Establish' and 'Consent to Operate' from the State Pollution Control Board concerned in the name of M/s Adani Hazira Port Limited.



6.0 M/s Adani Hazira Port Limited shall comply with all the specific and general conditions stipulated in the environmental and CRZ clearance of even no. dated 29th September, 2020. All other conditions stipulated in the environmental and CRZ clearance letter shall remain the same.

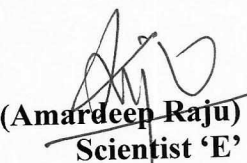
7.0 In case, there is a change in the scope of the project, fresh environmental and CRZ clearance shall be obtained.

This issues with the approval of the Competent Authority.


(Amardeep Raju)
Scientist-E

Copy to:

- I. The Principal Secretary, Department of Forests & Environment and Chairman, GCZMA, Govt. of Gujarat, Sachivalaya, Gandhinagar.
- II. The APCCF (C), MoEF& CC, RO (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Link Road No.3, Ravishankar Nagar, Bhopal -16.
- III. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- IV. The Member Secretary, Gujarat Pollution Control Board, Sector 10-A, Gandhi Nagar - 382043.
- V. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- VI. Guard File/ Record File/ Notice Board.


(Amardeep Raju)
Scientist 'E'



Adani Hazira Port Limited

**From: October 2020
to March 2021**

ANNEXURE-10

Copy of renewed PESO Licence

प्ररूप XV
(प्रथम अनुसूची का अनुच्छेद 6 देखिए)
FORM XV
(see Article 6 of the First Schedule)

अधिष्ठापनों में पेट्रोलियम के आयात और भंडारकरण के लिए अनुज्ञप्ति
LICENCE TO IMPORT AND STORE PETROLEUM IN AN INSTALLATION

अनुज्ञप्ति सं. (Licence No.) : **P/HQ/GJ/15/5294(P270337)**

फीस रूपए (Fee Rs.) **50000/-** per year

M/s. Adani Hazira Ports Pvt Ltd , At & Post Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270 को केवल इसमें यथा विनिर्दिष्ट वर्ग और मात्राओं में पेट्रोलियम **379900.00 KL** आयात करने के लिए और उसका, नीचे वर्णित और अनुमोदित नक्शा संख्या **P/HQ/GJ/15/5294(P270337)** तारीख **11/11/2020** जो कि इससे उपाबद्ध है, में दिखाए गए स्थान पर भण्डारकरण के लिए पेट्रोलियम अधिनियम, 1934 के उपबंधों या उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए, यह अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to **M/s. Adani Hazira Ports Pvt Ltd , At & Post Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270** valid only for the importation and storage of **379900.00 KL** Petroleum of the class and quantities as herein specified and storage thereof in the place described below and shown on the approved plan No **P/HQ/GJ/15/5294(P270337)** dated **11/11/2020** attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति 31st day of December **2025** तक प्रवृत्त रहेगी।

The Licence shall remain in force till the 31st day of December **2025**

पेट्रोलियम का विवरण /Description of Petroleum	अनुज्ञप्त मात्रा (किलोलीटरों में) /Quantity licenced in KL
वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A in bulk	379900.00 KL
वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C, otherwise than in bulk	NIL
कुल क्षमता /Total Capacity	379900.00 KL

October 31, 2013

Chief Controller of Explosives

- 1). Amendment dated - 14/11/2013
- 2). Amendment dated - 24/01/2014
- 3). Amendment dated - 03/07/2014
- 4). Amendment dated - 16/09/2014
- 5). Amendment dated - 02/11/2015
- 6). Amendment dated - 11/12/2015

अनुज्ञप्त परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी विन्यास सीमाएं अन्य विशिष्टां संलग्न अनुमोदित नक्शों में दिखाई गई हैं **Plot No: -, Hazira Port, Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270** स्थान पर अवस्थित है तथा उसमें निम्नलिखित **108 Above Ground tank(s) for CLASS A** , सम्मिलित हैं।

The licensed premises, the layout , boundaries and other particulars of which are shown in the attached approved plan are situated at **Plot No: -, Hazira Port, Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270** and consists of **108 Above Ground tank(s) for CLASS A** , together with connected facilities.

Note:-This is system generated document does not require signature.

अनुज्ञप्ति संख्या-(Licence No.) P/HQ/GJ/15/5294 (P270337)

नवीनीकरण के पृष्ठांकन के लिए स्थान
SPACE FOR ENDORSEMENT OF RENEWALS

पेट्रोलियम अधिनियम, १९३४ के उपबन्धों या उनके अधीन बनाए गए नियमों या इस अनुज्ञप्ति की शर्तों का उल्लंघन न होने की दशा में यह अनुज्ञप्ति फ़िस में बिना किसी छूट के दस वर्ष तक नवीकृत की जा सकेगी। This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence.	नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry of license	अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature and office stamp of the licencing authority.
1).	17/12/2015	31/12/2018	Sd/- Shivchandra D. Mishra Controller of Explosives For Dy. Chief Controller of Explosives Vadodara
2).	04/01/2019	31/12/2019	Sd/- Sanjay Kumar Controller of Explosives For Dy. Chief Controller of Explosives Vadodara
3).	31/12/2019	31/12/2020	Sd/- GANESH R. Dy. Controller of Explosives For Dy. Chief Controller of Explosives Vadodara
4).	18/12/2020	31/12/2025	Mohanlal Jana Dy. Controller of Explosives For Dy. Chief Controller of Explosives Vadodara

यदि अनुज्ञप्ति परिसर इसमें उपाबद्ध विवरण और शर्तों के अनुरूप नहीं पाए जाते हैं और जिन नियमों और शर्तों के अधीन यह अनुज्ञप्ति मंजूर की गई है उनमें से किसी का उल्लंघन होने की दशा में यह अनुज्ञप्ति रद्द की जा सकती है और अनुज्ञप्तिधारी प्रथम अपराध के लिए साधारण कारावास से, जो एक मास तक हो सकता है, या जुर्माने से, जो एक हजार रुपये तक हो सकता है, या दोनों से, और प्रत्येक पश्चातवर्ती अपराध के लिए साधारण कारावास से जो तीन मास तक हो सकता है, या जुर्माने से, जो पांच हजार रुपये तक हो सकता है, या दोनों से, दण्डनीय होगा।

This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.

Note:-This is system generated document does not require signature.

	Adani Hazira Port Limited	From: October 2020 to March 2021
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Annexure 11

Copy of Renewed Public Liability Insurance (PLI)

CONTRACT OF INSURANCE

INSURED NAME: ADANI HAZIRA PORT LIMITED




INSURER: IFFCO TOKIO General Insurance Company Limited

Policy Type - Public Liability - Act

Policy Period - (01/04/2021 to 31/03/2022)

Servicing Branch :	AHMEDABAD
Policy Issuing Office :	IFFCO TOKIO GEN INSU. CO. LTD. Ground Floor, IFFCO Bhavan Bh Maruti Arcade, Shivranjani Cross Rd, Satellite AHMEDABAD , GUJARAT - 380015 , GSTIN - 24AAACI7573H1ZI
Corporate Office :	IFFCO TOKIO GEN INSU. CO. LTD. 4th - 5th Floor, IFFCO Towers Plot No 3, Sector 29, GURGAON (HARYANA) - 122001
Policy No :	41059889
Unique Invoice No :	41059889
Invoice Date :	28/04/2021
Intermediary Details :	ACE INSURANCE BROKERS PVT LTD

POLICY SCHEDULE CUM TAX INVOICE

Insured		ADANI HAZIRA PORT LIMITED	
GSTIN		24AAICA0970E1ZI	
Address		Adani House, Nr Mithakhali Six	
		Road, Navrangpura	
		Ahmadabad (m Corp.)	
		Gujarat	
		India	
		Pin Code	380009
Business Description		Port Operation, Cargo handling, stevedoring	
Policy Period		01/04/2021- 31/03/2022	
Co Insurance Details		NA	
Limit of Liability		Cover	
		50,000,000 per occurrence and 150,000,000 in the aggregate	
Deductible		NA	
Territorial Limits		IND	
Jurisdiction		IND	
Turnover Details		INR 14,600,000,000	
Policy Type		Occurrence Based	
Premium		Premium Excluding Taxes: INR 5,425.00 CESS (0%): INR 0.00 GST - SGST (9%): INR 488.25 - UGST (0%): INR 0.00 - CGST (9%): INR 488.25 - IGST (0%): INR 0.00 ER Fund Premium: INR 5,425.00 Total Premium Payable: INR 11,827.00	
Other Terms and Conditions		All Other terms & conditions as per Policy Wordings attached.	
Toll Free: 1-800-103-5499; SMS "claim" to 56161 SAC Code: 9971 Regd. Office: IFFCO SADAN, C1 Distt Centre, Saket, New Delhi -110017 Corporate Identification Number (CIN) U74899DL2000PLC107621, IRDA Reg. No. 106 Consolidated Stamp Duty Deposited as per the order of Government of National Capital Territory of Delhi		For IFFCO-Tokio General Insurance Company Limited	
		<div></div> <div>Authorized Signatory</div> <div>Regd. Office : IFFCO Sadan C-1 Dist. Centre, Saket, New Delhi-110017 CIN: U74899DL2000PLC107621</div>	

POLICY FORM
(PUBLIC LIABILITY INSURANCE – ACT ONLY POLICY)

1. OPERATIVE CLAUSE

Whereas the Insured Owner, named in the Schedule hereto and carrying on business described in the said Schedule, has applied to IFFCO-TOKIO General Insurance Co. Ltd. (hereinafter called the Company) for the indemnity hereinafter contained and has made a written proposal and declaration which shall be the basis of this contract and is deemed to be incorporated herein and has paid the premium and statutory contribution towards the Environment Relief Fund as per the provisions of the Public Liability Insurance Act and the rules framed thereunder.

NOW THIS POLICY WITNESSETH that subject to the terms, exceptions and conditions contained herein or endorsed hereon, the company will indemnify the insured owner against the statutory liability arising out of accidents occurring during the currency of the policy due to handling hazardous substances as provided for in the said act and the rules framed thereunder.

2. DEFINITIONS

- a) "Act" unless otherwise specifically mentioned shall mean the Public Liability Insurance Act, 1991.
- b) "Accident" means an accident involving a fortuitous or sudden or unintentional occurrence while handling any hazardous substance resulting in continuous, intermittent or repeated exposure to death of, or injury to any person or damage to any property but does not include an accident by reason only of war or radio-activity.
- c) "Handling" in relation to any hazardous substance, means the manufacture, processing, treatment, package, storage, transportation by vehicle, use, collection, destruction, conversion, offering for sale, transfer or the like of such hazardous substance.
- d) "Hazardous Substance" means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act, 1986, and exceeding such quantity as may be specified, by notification, by the Central Government.
- e) "Owner" means a person who owns, or has control over handling any hazardous substance at the time of accident and includes:-
 - (i) in the case of a firm, any of its partners;
 - (ii) in the case of an association, any of its members, and
 - (iii) in the case of a company, any of its directors, managers, secretaries or other officers who is directly in-charge of and is responsible to the company for the conduct of the business of the company.
- (f) "Turnover" shall mean –
 - i) Manufacturing units – Annual Gross Sales including all levies and taxes.
 - ii) Godown/warehouse owners – Annual rental receipts.
 - iii) Transport Operators – Annual freight receipts
 - iv) Others – Annual gross receipts

3. EXCLUSIONS

This Policy does not cover liability:

- (1) arising out of willful or intentional non-compliance of any Statutory Provisions.
- (2) in respect of fines, penalties, punitive and/or exemplary damages.
- (3) arising under any other legislation except in so far as is provided for in Section 8 Sub-Section (1) and (2) of the Act.
- (4) arising out of damage to property owned, leased or hired or under hire purchase or on loan to the Insured or otherwise in the Insured's control, care or custody.
- (5) directly or indirectly occasioned by, happening through or in consequence of war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military or usurped power.

(6) directly or indirectly caused by or contributed to by

- a) ionizing radiations or contamination by radio activity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel.
- b) the radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

4. CONDITIONS

(1) The Insured Owner shall give written notice to the Company as soon as reasonably practicable of any claim made against the Insured Owner or any specific event or circumstance that may give rise to a claim. The Insured shall immediately give to the Company copies of notice of application(s) forwarded by the Collector and all such additional information and or assistance that the Company may require.

(2) No admission, offer, promise or payment shall be made or given by or on behalf of the Insured owner under this policy without the written consent of the Company.

(3) The Company shall not be liable for any claims for relief made after five years from the date of occurrence of the accident.

(4) The Insured Owner shall keep record of annual turnover, and at the time of renewal of insurance declare such turnover and all other details as may be required by the Company. The Company shall at all reasonable times have full rights to call for and examine such records.

(5) If at the time of happening of any accident, resulting in a claim under this policy, there be any other insurance covering the same liability, then the Company shall not be liable to pay or contributes more than its ratable proportion of such liability.

(6) This Policy may be cancelled by the Insured Owner by giving 30 days notice in writing to the Company in which event the Company will retain premium at short period scale subject to there not having occurred an accident during the policy period which may give rise to a claim(s), failing which no refund of premium shall be allowable.

(7) This Policy may also be cancelled by the Insurer by giving 30 days notice in writing to the Insured Owner in which event the Company shall be liable to repay on demand a rateable proportion of the premium for the unexpired term from the date of cancellation.

(8) If the Company shall disclaim liability to the Insured Owner for any claim hereunder and such claim shall not within 12 calendar months from the date of such disclaimer have been made the subject matter of a suit in a competent court of law, then the claim for all practicable purposes shall be deemed to have been abandoned and shall not thereafter be recoverable hereunder or be made the subject matter of any suit.

(9) The Company shall not be liable to make any payment in respect of any claim if such claim shall be in any manner fraudulent or supported by any person on behalf of the Insured and/or if the insurance has been continued in consequence of any material mis-statement or non-disclosure of any material information by or on behalf of the Insured. In such a case, if the Company pays any amount to the claimant due to any statutory provisions, such amount shall be recoverable from the Insured.

(10) The Policy and the Schedule shall be read together as one contract and any word or expression to which a specific meaning has been assigned in the Act and the Rules framed thereunder or this Policy shall bear such specific meaning.

(11) Any dispute regarding interpretation of the terms, conditions and exceptions of this Policy shall be determined in accordance with the law and practice of a court of competent jurisdiction within India.

	Adani Hazira Port Limited	From: October 2020 to March 2021
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Annexure 12

**Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved
Third Party During period October 2020 to March 2021**

	Adani Hazira Port Limited	From: October 2020 to March 2021
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**Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved
Third Party During period October 2020 to March 2021**

S No	Date	Name of Vessel	Type of Waste	Quantity (KL/ Kg)
1.	25-10-2020	MV. KENG TUNG	SLUDGE	3.370 MT
2.	24-12-2020	MT. CSS INTEGRITY	PREWASH	6.430 MT
3.	02-02-2021	MT. FORTITUDE	PREWASH	10.330 MT
4.	24-02-2021	MT. TRF KASHIMA	PREWASH	40.140 MT
5.	11-03-2021	MV. PAC ANTARES	TANK WASHING	27.710 MT
6.	11-03-2021	MT. DL VIOLET	PREWASH	12.660 MT