REPORT ON OFF-SITE MOCK DRILL CONDUCTED IN VILLAGE VADINAR NEAR BORL MAIN GATE, DISTRICT DEVBHOOOMI DWARKA ON 27.03.2015 BY IOCL, WRPL, VADINAR

Conducted by : Indian Oil Corporation Ltd., Western Regions Pipelines, VADINAR

District : DEV BHoomi DWarka
Location : Village Vadinar (Near BORL installation)
Section : S-V (Salaya-Viramgam) section of Salaya Mathura Crude Oil Pipelines
Chainage : 1.1 KM
Date : 27.03.2015
ACKNOWLEDGEMENT

We express sincere thanks to Collector & District Magistrate, DevBhoom iDwarka for granting us the permission to conduct Offsite DMP Mock Drill on 27.03.2015 & extending necessary help & guidance. Also our sincere thanks to Mr AS Gandhi, Asst. Director (Industrial Safety & Health) Jamnagar District, Chief Fire Officer, Jamnagar, Ms. Vidhi Parmar, DDMO Khambhalia for their co-operation & guidance in conducting DMP off-site mock drill.

We are also thankful to Sh. P. L. Janklat, SDM, Khambhalia Mr. M. Vohra, Industrial Safety & Health Officer Jamnagar for their continued presence for witnessing the drill.

Also we extend thanks to Sh. Ramesh Thakkar, Assist Vice President, BORL COT-Incharge & Sh. Sanjay Kumar Mehta, Assistant Vice President BORL & Secretary MAS, VADINAR for his prompt action and contribution during the drill.

My extended thanks also to Sh D SRI GANESH, Deputy General Manager, WRPL, IOCL, VADINAR under whose guidance the entire exercise was meticulously planned and also to my colleagues of IOCL Vadinar and Jamnagar for the successful conduct of the Mock drill. My special thanks to Chief Security Officer, K. A. Qureshi, Retd. Dy. S. P. IOCL Gauridad and Sh. D. K. Singh, Competent Authority, IOCL Gujarat for their presence in the drill.

Ranu Ram
Chief Operations Manager
IOCL-WRPL
VADINAR
IndianOil is India’s flagship national oil company with business interests straddling the entire hydrocarbon value chain – from refining, pipeline transportation and marketing of petroleum products to exploration & production of crude oil & gas, marketing of natural gas, and petrochemicals. It is the leading Indian corporate in the Fortune 'Global 500' listing, ranked at the 96th position in the year 2014.

Indian Oil’s cross-country network of crude oil, petroleum product and gas pipelines spanning approximately 12000 km and the largest in the country, meets the vital energy needs of the consumers in an efficient, economical and environment-friendly manner.

The 1870 km long Salaya-Mathura Pipeline, from Salaya (near Vadinar) in VADINAR district on the coast of Gujarat, is operated to bring crude oil to Indian Oil’s refineries at Koyali (Gujarat), Mathura (Uttar Pradesh) and Panipat (Haryana).

The pipeline and its associated systems are designed as per the American Petroleum Institute (API) Standards, Oil Industry Safety Directorate (OISD) Codes, Petroleum Rules and other applicable BIS Standards. This pipeline has been provided with the art equipments for maintenance, Safety and Security of the pipeline & stations. The pipeline is coated with CTE coating (being replaced by cold tape & PU) for protection against corrosion and an Impressed Current Cathodic Protection. Pipeline is operated thru PLC Control Logic system and SCADA for monitoring the pipeline operations and integrity. Besides these, regular inspection & maintenance of different stretches of pipeline is conducted as per rolling plan. At the same time, entire stretch of row is monitored by physical patrolling on daily basis through DGR approved Security Guards. The patrolling is done in day which covers 100% of pipeline and at sensitive and vulnerable locations in the Night.
OFF SITE DISASTER MANAGEMENT PLAN:

Though the pipeline is provided with all the modern facilities/ equipment for operations and safety, the risk involved in operating the pipeline which is laid in the agriculture / private & Govt. land is assessed for mitigation in the event of any failures / sabotage actions.

Disaster is an occurrence of such magnitude, which results in damaging pipeline or its components/ equipment, resulting in uncontrolled release of hydrocarbons & hazardous vapour, which may or may not be associated with fire. Disaster may arise mainly due to: (i) natural calamity or, (ii) human interference (man- made).

A Disaster Management Plan (DMP) has been developed for SMPL (off-site) to minimize the magnitude of the disaster by effectively combating the fire, oil spillage, natural calamities, unforeseen reasons etc. that may lead to disaster and subsequent damage/incur losses to Mainline, its operating personnel and surrounding public life and property. The DMP encompasses the action to be taken in any untoward exigency which is beyond the control of company as well as the State Administration. The Plan also identifies the team within the Corporation for coordination with Statutory Authorities, Mutual Aid Members and also a team for welfare & other assistance at site.

In order to ensure seamless coordination with District Administration as well as other agencies involved in control of disaster, Off Site Plan is submitted to the District Collector Office, for incorporation in Off Site District Disaster Control Plan.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Mutal-Aid-Scheme Member</th>
<th>Telephone No. Office</th>
<th>Residence/ Mobile Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chairman – Collector</td>
<td>0288 2555869/9978406210</td>
<td>0288 2554059</td>
</tr>
<tr>
<td>2</td>
<td>Addl. Collector</td>
<td>0288 2550284/9978405182</td>
<td>0288 2672131</td>
</tr>
<tr>
<td>3</td>
<td>Jt.Chairman - Commissioner,JMC</td>
<td>0288 2552321</td>
<td>0288 2552372</td>
</tr>
<tr>
<td>4</td>
<td>Mr. Sanjay K. Mehta - Secretary MAS,EOL</td>
<td>02833-256452</td>
<td>8141799699</td>
</tr>
<tr>
<td>5</td>
<td>Mr. RN Shah - Treasurer-MAS, GSFC</td>
<td>0288 3019242</td>
<td>9979862520</td>
</tr>
<tr>
<td>6</td>
<td>MAS OFFICE</td>
<td>0288 2542764</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Office of Supdt. of Police</td>
<td>0288 2554203</td>
<td>0288 2555868</td>
</tr>
<tr>
<td>8</td>
<td>Police Control Room - VADINAR</td>
<td>0288 2550200</td>
<td>0288 2550359 (Panchkoshi ‘A’ Police Station)</td>
</tr>
<tr>
<td>9</td>
<td>District Disaster Control Room</td>
<td>0288 2553404/2541485/1077 (Toll Free)</td>
<td>9426950783 (DDMO) Mr.YaswantSinhParmar</td>
</tr>
<tr>
<td>10</td>
<td>Mr. A S Gandhi ,Asst. DISH – Jamangar</td>
<td>0288 2678206</td>
<td>9426140676</td>
</tr>
<tr>
<td>11</td>
<td>Mr. Desai -Home Guard - VADINAR</td>
<td>0288 2553862</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Dr.Gosai RMO - GG Hospital</td>
<td>0288 2550240/2541081</td>
<td>0288 2551689 / 9824258885</td>
</tr>
<tr>
<td>13</td>
<td>Control Room GMB - VADINAR</td>
<td>0288 2711805 / 2756909</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Mr. KK Bisnoi - JMC CHIEF FIRE OFFICER</td>
<td>0288 2550340/101(2672208)</td>
<td>9879531101</td>
</tr>
<tr>
<td>15</td>
<td>Indian Coast Guard - Vadinar</td>
<td>02833-256579</td>
<td>1090 (Terror Helpline Toll free)</td>
</tr>
<tr>
<td>16</td>
<td>Mr. Manoj Sharma -IOCLO Vadinar</td>
<td>02833-256330</td>
<td>9958099370</td>
</tr>
<tr>
<td>18</td>
<td>Mr. Pramod cheeli- IOCL Theba</td>
<td>0288 2570712</td>
<td>9426911475</td>
</tr>
<tr>
<td>19</td>
<td>Mr.ChetansinhJadeja - Fire Officer, SDCC</td>
<td>0288 2344272/-75/2439322(Fire)</td>
<td>9099038083</td>
</tr>
<tr>
<td>20</td>
<td>Umesh Khandalkar Fire RIL</td>
<td>0288 -6611193</td>
<td>9998215963</td>
</tr>
<tr>
<td>21</td>
<td>Mr. D K Thakur,TCL</td>
<td>02892 -665247</td>
<td>9227676113</td>
</tr>
<tr>
<td>22</td>
<td>Mr.Tripathi, Mgr,(O&amp;M) GSPL</td>
<td>9825035755</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Mr. MJ Sunaria - Digjam Ltd.</td>
<td>0288 2712972/73/74</td>
<td>9510727038</td>
</tr>
<tr>
<td>24</td>
<td>Mr. PB Sakharkar–GAIL</td>
<td>0288 4011437</td>
<td>9624089696</td>
</tr>
<tr>
<td>25</td>
<td>Indian Navy- Valsura</td>
<td>0288 3987210</td>
<td>7878545656</td>
</tr>
<tr>
<td>26</td>
<td>Indian Air Force, Jamnagar</td>
<td>0288 2720007, Extn.4222(fire)</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Mr. MU Khan - Cairn India</td>
<td>2750995-96</td>
<td>9662539451</td>
</tr>
<tr>
<td>28</td>
<td>For emergency Ambulance</td>
<td>108</td>
<td></td>
</tr>
</tbody>
</table>
## Brief Description of SMPL Pipeline Features

<table>
<thead>
<tr>
<th>SECTION</th>
<th>LENGTH (Kms)</th>
<th>CAPACITY (MMTPA)</th>
<th>LINE SIZE (DIA)</th>
<th>PIPE GRADE (API SL)</th>
<th>MAOP Kg/cm²</th>
<th>M/L VALVES</th>
<th>C.P. STNS.</th>
<th>REPT. STNS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALAYA-VIRAMGAM (S-V)</td>
<td>274.40</td>
<td>21.00</td>
<td>28&quot; X 52</td>
<td>52.8</td>
<td>9HOV+2MOV+2CV</td>
<td>23+3*</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>VIRAMGAM-KOYALI (V-K)</td>
<td>148.263</td>
<td>6.50</td>
<td>28&quot; X 52</td>
<td>52.8</td>
<td>4HOV +6MOV</td>
<td>05</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>VIRAMGAM-CHAKSU (V-C)</td>
<td>605.80</td>
<td>13.50</td>
<td>24&quot; X 52</td>
<td>55.6</td>
<td>34HOV+8MOV+8CV</td>
<td>59</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>CHAKSU-MATHURA (C-M)</td>
<td>197.20</td>
<td>7.50</td>
<td>24&quot; X 52</td>
<td>55.6</td>
<td>7HOV+2MOV</td>
<td>16</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CHAKSU-PANIPAT (C-P)</td>
<td>349.10</td>
<td>6.00</td>
<td>24&quot; X 52</td>
<td>61.6</td>
<td>19HOV+6MOV</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

* Installed on on-shore line and off-shore line.

### LOOPLINES:

<table>
<thead>
<tr>
<th>S-V SECTION (28&quot; DIA)</th>
<th>V-C SECTION (24&quot; DIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALAYA – JAMNAGAR</td>
<td>VIRAMGAM – DABSAR</td>
</tr>
<tr>
<td>46.7 KMS</td>
<td>38.208 KMS</td>
</tr>
<tr>
<td>JAMNAGAR – MODA</td>
<td>SIDHPUR – SHERPURA</td>
</tr>
<tr>
<td>12.6 KMS</td>
<td>15.593 KMS</td>
</tr>
<tr>
<td>GAURIDAD - SUREND’R</td>
<td>ABU ROAD – KODRALA</td>
</tr>
<tr>
<td>100.40 KMS</td>
<td>33.921 KMS</td>
</tr>
<tr>
<td>GAURIDAD - KOYALI</td>
<td>RAMSAR – DHASUK</td>
</tr>
<tr>
<td>148.26 KMS</td>
<td>21.854 KMS</td>
</tr>
</tbody>
</table>

VALVES: 4 (HOV)  
VALVES: 8 (HOV)
Off-Site mock drill conducted at CH: 1.1 Km at Vadinar village (Near BORL Main Gate) on 27.03.2015 by IOCL, WRPL, VADINAR

1.0 Background:

Cross country underground pipelines of IOCL, GAIL, BORL and GSPL pass through VADINAR District of Gujarat. One such Pipeline (Salaya Mathura Pipeline) is owned and operated by IOCL. It runs through Jamkhabaliya, Lalpur, Jamnagar & Dhrol Tahsils of Dwarka Jamnagar District. District administration has initiated many activities in reducing risk to unprecedented event such as fire and other hazards.

Since Pipeline leakage can also pose as potential threat to the nearby area, it was felt necessary to assess our preparedness to combat such eventualities.

2.0 Need & Rational for Off Site DMP Mock Drill:

Though, an exhaustive crisis management system is in place to combat oil leak or burst or fire in the mainline ROW (right of way) of western region pipelines of Indian Oil Corporation Ltd., Pipelines Division, it is very essential to check the effectiveness of disaster management plan (DMP).

The off-site mock drill strives to develop appropriate systems for detection & reporting of oil leakage/ spill, ensure prompt response either to prevent pollution or restrict possible spread of fire, contaminants, ensuring that adequate protection is provided for public health & welfare & that appropriate response techniques are used to clean up pollutants, hazards & dispose-off the recovered material in an environmentally acceptable manner.

The disaster management plan details the roles & responsibility of various coordinators in case of any exigency. The coordinators are designated in station as well as for mainline emergencies to combat such situations. The purpose of off-site mock drill is to familiarise all the employees / coordinators with the control plan/ roles & responsibilities and be adequately trained in emergency proceedings. Environment, Safety & Security Awareness programmes in villages along row are also conducted to educate villagers for actions in case of any eventuality in mainline.

Mutual aid partners, district administration, civil & police force, fire brigade, factory inspectorate, district disaster management body, civil defence and other various agencies are also informed about the drill so that all assemble together to know and discuss various aspects of emergency preparedness.

The off-site mock drill activating the emergency preparedness plan is conducted annually for ensuring its efficiency during emergency.

3.0 Scope:

3.1 Scenario preparation and pre drill communication.
3.2 Activation of scenario on the day of the Drill in sequential manner as per the scenario prepared.
3.3 Post observers at each crucial stage to monitor response and conduct.
3.4 Evaluation of the performance at the review meeting.
3.5 Lessons learnt by each working group.
3.6 Debriefing meeting to highlight the achievements as well as shortcomings and determine the future course of action.
3.7 To provide inputs for refinement of DMP.

**4.0 Objectives:**

4.1 To test the disaster management plan of Western Region Pipeline of IOCL in particular & Mutual Aid Agencies, District Authority in general.
4.2 To find out the functioning of different teams of IOCL and that of the various Mutual Aid agencies & related Government departments.
4.3 To find out the alertness and response time of the personnel involved in the Drill.
4.4 To find out the effectiveness of the communication system.
4.5 To check the coordination of reactions and response of emergency services.
4.6 To evaluate the performance and inviting suggestions for further modifications and strengthening the plan.
4.7 To observe commitment of teams at every level for controlling the Oil Spillage and Fire.
4.8 To find out the clarity in role and responsibilities.
4.9 To educate and create awareness among the villagers.
4.10 Testing emergency support systems thru standard operating procedures.
4.11 To maintain better coordination between different agencies of the Mutual Aid & Government Bodies for better management of the disaster.

**5.0 Scenario:**

The mock drill was simulated considering a case of heavy crude oil leakage at remotely located off-site near Vadinar village at chainage 1.1 KM towards BORL installation, Dwarka District.

**6.0 Pre Mock drill activities:**

An internal discussion was conducted and the scenario, date time & venue of the drill was finalised in consultation with DGM, WRPL, Vadinar. It was decided to simulate the crude oil leakage at chainage 1.1 km in SV section of Salaya Mathura pipelines at Vadinar village at chainage- 1.1 KM towards BORL installation, Dwarka District.

Accordingly, the information regarding the plan of mock drill was passed on to District Collector Office, SP office, District Disaster Management Office, Factory Inspectorate, Police Station and Secretary Mutual Aid Scheme, VADINAR requesting them to depute their representatives to witness the drill and to provide feedbacks.
7.0 Location Map of leak site:
### 8.0 Chronology of events:

Activities related to off-site mock drill on 27.03.2015 in ROW at chainage 1.1Km in SMPL-SV section of Salaya Mathura pipelines at Vadinar village at chainage- 1.1 KM towards BORL installation, Dwarka District.

8.1 The activities of Off-site mock drill are detailed below in chronological order:

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>Details of Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15:06</td>
<td>DGR Day Patrolmen Supervisor Sh Baburam Choudhary (Mob: 9979088569) informed Sh Abhishek, AO&amp;ME, WRPL, VADINAR about oil leakage at chainage 1.1 Km near Vadinar village. It is declared as Level-I emergency.</td>
</tr>
<tr>
<td>2.</td>
<td>15:06</td>
<td>Search party consisting of Sh. Abhishek, AO&amp;ME, WRPL, VADINAR informed Control Room Shift Engineer Sh. Deepak Joshi, passed the message to COM, TSM(O) and rushed to site.</td>
</tr>
<tr>
<td>3.</td>
<td>15:06</td>
<td>Informed Mr. Ankit Jaiswal and Sh. Manish Kumar as persons of Alternate Control Room.</td>
</tr>
<tr>
<td>4.</td>
<td>15:07</td>
<td>COM Vadinar Sh. Ranu Ram also called and informed that leakage has occurred at 1.1 km chainage and to inform all about the incident as per the disaster management plan of Vadinar Station. Immediately called to CD and informed him. Jamnagar Station was also informed.</td>
</tr>
<tr>
<td>5.</td>
<td>15:07</td>
<td>Communication given to CISF Fire and informed them about the event and asked to report site</td>
</tr>
<tr>
<td>6.</td>
<td>15:07</td>
<td>DGM Vadinar and CMNM Vadinar was also informed.</td>
</tr>
<tr>
<td>7.</td>
<td>15:08</td>
<td>Information given to Station Coordinator Sh. Atul Parmar</td>
</tr>
<tr>
<td>8.</td>
<td>15:10</td>
<td>MOSRU has been sent from the station to site. Information was sent to Ambulance 108, Ambulance from BORL, Fire Tender from BORL, Ambulance KPT, SOG CR Khambhalia and to deploy their resources immediately. Information was also passed to Disaster Control Centre Jamnagar, Disaster Control Centre Khambhalia, Security Coordinator and Mutual Aid, Jamnagar</td>
</tr>
<tr>
<td>9.</td>
<td>15:10</td>
<td>Given information to MAS control room Jamnagar</td>
</tr>
<tr>
<td>10.</td>
<td>15:12</td>
<td>Information was passed to Crisis Coordinator Region Sh. S.K.Kanojia, Admin Coordinator Sh. R.K.Mishra, Maint. Coordinator Sh. S. Mukherjee, Finance Coordinator Sh. R.K. Ahuja, Medical Coordinator Sh. Rajeev Kumar, Security Coordinator Sh. O.P. Sanodiya, Electrical Coordinator Sh. U.S. Rawat, Mechanical Coordinator Sh. Ranjit Singh and Material Coordinator Sh. G.B. Vaghela</td>
</tr>
<tr>
<td>11.</td>
<td>15:18</td>
<td>Ambulance 108 asked about any casualty and informed that they are proceeding to site.</td>
</tr>
<tr>
<td>12.</td>
<td>15:18</td>
<td>SOG CR Khambhalia also called and asked about situation and said he is</td>
</tr>
<tr>
<td>No.</td>
<td>Time</td>
<td>Details of Activities</td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>13</td>
<td>15:27</td>
<td>Shut down of pipeline taken.</td>
</tr>
<tr>
<td>14</td>
<td>15:30</td>
<td>Offsite declared due to fire.</td>
</tr>
<tr>
<td>15</td>
<td>15:33</td>
<td>Fire under control and situation is normal</td>
</tr>
<tr>
<td>16</td>
<td>15:35</td>
<td>Maintenance work started.</td>
</tr>
<tr>
<td>17</td>
<td>15:43</td>
<td>Drill concluded and all clear siren sounded</td>
</tr>
<tr>
<td>18</td>
<td>15:50</td>
<td>De-briefing started</td>
</tr>
<tr>
<td>19</td>
<td>17:00</td>
<td>De-briefing completed.</td>
</tr>
</tbody>
</table>

### 9.0 Mutual Aid Scheme members Participated:

9.1 Directorate of Industrial Safety & Health  
9.2 DDMO  
9.3 SDM, Khabhaliia  
9.4 Chief fire officer  
9.5 RIL  
9.6 Essar Oil  
9.7 BORL  
9.8 GSFC  
9.9 IOCL Theba  
9.10 Digvijay cements  
9.11 GSECL (TPS Sikka)  
9.12 GPCB  
9.13 GSPL  
9.14 TATA Chemicals  
9.15 CAIRNS

**Others presents:**

1. Farmers (approx. 50 numbers)  
2. Sarpanch Vadinar  
3. Sarpanch Singach  
4. KPT  
5. Indian Coast Guard  
6. Central Industrial Security Force  
7. Local Police  
8. Contractors  
   a. M/s Raj Enterprises
b. M/s Rajlaxmi  
c. M/s BapaSita Ram  
d. M/s Bharat Enterprises  
e. M/s GN Enterprises  
f. M/s PM Rathore  
g. M/s Advance Infrastructure Pvt. Ltd.  
h. M/s Jagannatha Enterprises  
i. M/s Siddhivinayak Travels

10.0 List of observers:

10.1 Sri Suresh Zanwar (Manager-BPCL-VBPL) site observer
10.2 Sri R.N.Shah (Treasurer MAS)& Sri K.C.Nath, Rescue and Medical assistance observer
10.3 R.P.Mithani (GSECL), MAS office observer
10.4 Sri Sanjay Patel, Head F&S, EPGL, IOCL Fire station & Main gate observer.
10.5 Sri Vinay Sharma, JGM, EOL-BORL Main gate obsever.
10.6 Sri Chetanbhai Jadeja, Security & Fire safety, SDCL, IOCL control officer observer.
10.7 Sh. P. L. Janklat, SDM Khabhalmia,
10.8 Ms.Vidhi Parmar, DDMO, Khabhalmia
10.9 Sri. A.S.Gandhi, Assistant Director Industry safety & Health-Special observer.
10.10 Sri. M.I.Vohra, Industry safety & Health officer-Special observer.
10.11 Sh. Ramesh Thakkar, Assist. Vice President Incharge, BORL
10.12 Sri Sanjay Mehta, AVP, BORL-Special observer.
10.13 Shri.K.A.Qureshi, Chief Security Officer, Gauridad&Retd. Dy.SP-Special observer
10.14 Sh. D.K.Singh, Competent Authority, IOCL Gauridad-Special observer
10.15 Sh. S.G.Kriplani, DM(T&I), IOCL Theba-Special observer
10.16 SOG, Khabhalmia-Special observer
10.17 IB, Jamnagar -Special observer
10.18 Coast Guard -Special observer
10.19 KPT -Special observer

11  Debriefing& Concluding

11.19 Upon completion of all activities related to restoration of leak in Pipeline, all participants including District administration authority, observers and other respectable guests like print media & TV media representatives assembled to discuss the total event and express their observations.

11.20 Dy. General Manager, Sh. D. Sriganesh, IOCL Vadinar formally welcomed the dignitaries with flower bouquets before starting the de-briefing session.

11.21 COM, VADINAR informed about LEVEL I& LEVEL II Emergency scenario in the event of heavy crude oil leakage in ROW. He also elaborated all the activities chronologically, starting from call from DGR guard to the completion of activities of restoration of leak site. He expressed satisfaction about active support of District administration and thanked all those present particularly officials from DDM, Safety & Health, JMC, SDM office, GPCB, Police, oil sector companies representatives of MAS. He invited the team leader of all MAS members to
express their turnout and experience. Then he invited all observers to share their observations about the off-site mock drill conducted by IOCL and to touch upon the scope of improvement.

11.22 Different dignitaries and observers provided the valuable observations and areas of improvement about the mock drill. The same have been documented and appended in the summary of observation in the report.

11.23 MAS Secretary Sh. Sanjay Kumar Mehta, AVP-BORL Vadinar summarized the debriefing by giving details about the basic purpose of organising such off-site mock drills in Mainline. The intended derivatives out of Off-site mock drill was to check (i) Communication efficiency, (ii) Response time of designated co-ordinators in case of emergency in Mainline, (iii) how effective was liaison with MAS members, (iv) how effective was communication with related govt. bodies viz.: District Collector, Asstt. Director, Industrial Health & Safety, Police officials and in the end (v) to check how best our equipment were functioning.

11.24 COM, IOCL, WRPL Vadinar assured the all presents and observers that whatever scopes of improvements have been suggested by the observers would be taken care in future and would ensure ZERO observations in future.

11.25 Dy. General Manager Sh. D. Sri ganesh, IOCL Vadinar during his address expressed a sincere thanks to district administration, Police, DISH, District Disaster Management, Khambhaila, all the MAS members, farmers and all other stake holders for making this drill successful. He further expressed that MAS is the biggest strength of the industries here in districts Devbhoomi Dwarka and Jamnagar and nothing untoward incident will take place with the union of such a strong MAS.

11.26 At the concluding, CMNM, IOCL, WRPL Vadinar further thanked all the representatives for their contribution during off-site mock drill and on an assuring note that the support would continue from District administration and mutual aid partners. He also thanked all Government officials for reaching site & giving their valuable suggestions regarding safety. All the Police officials from, SOG, Khambhalia, IB, Jamnagar, Farmers, Sarpanch, contractor etc. were complimented for being present at site till completion of all of the activities. He also express words of appreciation for all employees of IOCL Vadinar, Vadinar for great efforts in arranging the logistics for successful completion of off-site mock drill at very short notice.

12 Summary of positive observations:

12.19 Entire Mock Drill was carried with full coordination with Govt. officials and all Mutual Aid Scheme members in organized manner.
12.20 Excellent participation by MAS and all other stakeholders.
12.21 Parking arrangements were excellent, well managed and away from the drill site
12.22 Sarpanch, Vadinar expressed a great sense of satisfaction that the locals are safe and nothing untoward incident can take place.
12.23 Assistant Director, DISH expressed that the drill has been conducted professionally.
12.24 Flow of information was excellent and as per ERDMP.
12.25 Emergency preparedness of team was very excellent.
12.26 Most of M/L Emergency equipment were available and were in good working condition.
12.27 Area barricading was done in two layers depicting the hazardous and non-hazardous area and was excellent.
12.28 Mandatory sign boards were available.
12.29 Spark arrestors of vehicle were available & used.
12.30 Updated first aid box available.
12.31 Doctor was available for providing first aid treatment
12.32 Five number ambulances were mobilized at site
12.33 Two Mobile Oil Spill Recovery Unit (MOSRUs) were mobilized at site
12.34 Seven number of fire/foam tenders were mobilized
12.35 All the maintenance equipments were mobilized at site
12.36 All the teams viz Auxiliary team, Combat Team and Rescue team works very efficiently
12.37 Incident command post established on time.
12.38 The casualty victims were attended very promptly without delay.
12.39 Operation control shift in-charge performed duty very efficiently with effectively.
12.40 The gadgets available for communication such as telephones and wireless set in control room were adequate.
12.41 The communication between site & control room shift in-charge, SIC & other functional area in-charges was effective.
12.42 Communication & instruction was prompt & effective from main incident controller.
12.43 Coordination between MAS members who have participated in mock drill was effective and all have responded in quickest possible time after getting the message from DDMC.

13 Area of improvements
13.19 Line walker to restrict any-body entering the incident site
13.20 Mayura water Curtain should have been operated from the opposite side of wind direction
13.21 LEL checking should have been done by using BA set
13.22 Standby person should have been provided with LEL checking person to avoid any incident
13.23 Hand gloves should have been used by the maintenance team
13.24 Foam jet of IOCL foam tender was insufficient to hit the incident site
13.25 The DGR guard could not guide the fire tender of GSFC to site properly due to which the fire tender moved towards IOCL plant and reached late at site.
13.26 All clear message not reached to MAS office
13.27 Walkie-talkie communication with control was disturbed
13.28 PPEs for H₂S handling should have been provided at site
13.29 No protection to BORL plant was taken as the fire could have been spread towards plant.
13.30 Existing & live tea stall near the site should have been closed
13.31 Disaster siren was not heard at site
13.32 The alternate approach road was not manned and blocked for routine traffic.
13.33 Defensive (self fire fighting) fire fighting should have been done
13.34 All clear siren was not heard properly at site.
Photos of Various Activities during Offsite DMP Mock Drill

USE OF PUBLIC ADDRESS SYSTEM TO KEEP THE MOB AWAY FROM SITE

USE OF MOSRU FOR RECOVERY OF SPILLED CRUDE OIL
INCIDENT COMMAND POST ESTABLISHED AT SITE

IOCL FIRE TENDER TURN OUT
CHIEF INCIDENT CONTROLLER CONTROLLING THE SITE

IOCL CISF FIRE WING READY TO FIGHT WITH ANY SITUATION

READINESS OF FIRE FIGHTERS TO TACKLE WITH ANY SITUATION
FIREMEN IN ACTION TO FIGHT THE FIRE
USE OF MAYURA WATER CURTAIN AND FOAM FOR FIRE FIGHTING

TURN OUT OF AMBULANCE AT DRILL SITE

RESCUE OF CASUALTY FROM THE INCIDENT SITE
INSPECTION OF INCIDENT SITE AFTER FIRE FIGHTING FOR ANY CASUALTY
MAINTENANCE TEAM ON THE JOB FOR REPAIR OF LEAKAGE

ADDRESS BY ADDITIONAL DIRECTOR, DISH IN CONCLUDING AND DEBRIEFING SESSION

CONCLUDING AND DEBRIEFING SESSION
ADDRESS BY SH. BHUWAN Bhai, REPRESENTATIVE VILLAGE SARPANCH VADINAR IN CONCLUDING AND DE-BRIEFING SESSION