

MUMBAI HIGH INCIDENT AND REGULATORY PROGRESS SINCE

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OISD

Oil Industry Safety Directorate

Introduction

- Established in 1986
- Technical Department under MOP&NG for HSE matters
- Self Regulatory

Oil Industry Safety Directorate

Objective

To formulate and standardise procedures and guidelines in the areas of design, operations and maintenance as also the creation of new assets with a view to achieve the highest safety standards in a cost effective manner.


Oil Industry Safety Directorate

SAFETY COUNCIL

Chairman

- Secretary, Ministry of Petroleum & Natural Gas

Members

- Ministry of Petroleum & Natural Gas
 - Chief Executives from Oil & Gas Industry
 - Heads of Statutory Bodies
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Oil Industry Safety Directorate

STEERING COMMITTEE

- Senior technical personnel (Principal panelist) nominated by Safety Council Members to review the activities periodically.
- Link between Industry and OISD


Oil Industry Safety Directorate

Major Functions

- Development of standards for Oil & Gas industry
 - Safety audits
 - Safety Performance Evaluation
 - Training
 - Incident Investigations & Analysis
 - Dissemination of Information
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Oil Industry Safety Directorate


Jurisdiction

- Exploration & Production
 - Refining
 - Gas Processing
 - Transportation - Cross Country Pipelines, Road, Rail
 - Marketing Installations – LPG Installations, POL Terminals, AFS, Lube Plants
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MHN PROCESS COMPLEX

- Located 160 km West of Mumbai in 73 m water depth.
 - Consisted of 4 bridge-linked platforms NA-MHF-MHN-MHW
 - Oil processing capacity - 1,80,000 BPD
 - Gas compression facility- 4.2 MMSCMD
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MHN PROCESS COMPLEX

- Platform owned and operated by ONGC- National oil company
 - MHN comprised of eight legged steel jacket supporting three deck top side structure
 - Length – 65 m, width- 25 m
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Platforms Design

- All platforms are designed & constructed as per international standards.
- All safety and fire fighting equipment were installed.

Manpower awareness

- All offshore going persons are undergoing following trainings:
 - Survival at sea.
 - Helicopter Under Water Escape Training (HUET)
 - First aid
 - Fire fighting

MHN INCIDENT

- MSV Samudra Suraksha carrying out diving operations at N-7 Jacket of Mumbai High.
 - At about 1400 hours on 27 July 2005, cook was injured.
 - For evacuation of injured cook, the Master ordered the recall of the divers and recovery of the bell.
 - ONGC representative requested MHN radio room for evacuation by a helicopter and assistance of a medical doctor, as desired by the Captain.
 - At about 1445-1500 hours, OIM received a request for the transfer of the injured cook from Suraksha through MHN radio room.
 - Due to bad weather MI-172 helicopter parked at MHN was not allowed to land on Suraksha.
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- MSV captain requested MHN for a basket transfer of victim through the MHN crane
- Samudra Suraksha was advised to call later as platform was busy with an OSV.
- Platform NQO was requested for doctor's assistance, doctor was not available on NQO.
- A jack up drilling rig Aban – 5 requested by MSV for transfer of injured person. Rig expressed inability to accommodate the injured person overnight.
- OIM, MHN discussed the matter internally and agreed for basket transfer by the south crane.
- Weather around MHN on 27th July: sea was rough with parameters of Wind 22 to 25 knots, Current 1.8 to 2 Knots and Swell 4 to 5m.

- Controls on MSV for Dynamic Positioning

- Joystick DP : Manoeuvring through single integrated joystick via Computer

- Manual : Manoeuvring of individual thruster using lever control

Emergency control : By-passing controls & directly controlling thrusters using push buttons

- On way to MHN platform, at 1530 hours - observed that starboard azimuth thruster pitch was sluggish.
- Chief engineer asked for some time for repairs.
- Master decided to operate the thrusters on emergency mode.

- Master tried to move the vessel away from platform, but he was unable to move.
- The vessel scrapped against the platform and slammed on the risers.
- The vessel was moving out when it hit MHN South-West corner at approximately 1605 hrs.
- The moment vessel hit the platform, there was a strong hissing sound and the fire broke out.
- Flames came onto the bridge of vessel. The burning debris were falling all over the ship.
- Persons at platform felt jerk, heard a banging sound followed by hissing sound. A large flame followed.

- At 16.10 hrs radio operator heard sound, came out of radio room saw fire on south side of MHN platform and Samudra Suraksha
- He immediately called all stations for help, 384 persons were on board platform complex including drilling rig and MSV.
- A number of explosions took place at MHN.
- A general alert went out on the SOS sent by MHN and all the vessels from Mumbai High North and south converged on MHN.
- Prompt response by OSVs and MSVs operating near MHN Complex saved maximum valuable lives. 15 Offshore Supply and multi-purpose support vessels spontaneously participated in the operation.
- Their convergence on the scene, in quick time, was of great assistance in locating & rescuing the large number of personnel who were drifting in the rough waters,

ESCAPE AND RESCUE

POB of the complex & MSV	-	384
Rescued (over next 15 hrs)	-	362
Dead and missing	-	11+11

Basic factors contributing to the incident

- Adverse weather conditions, weather side approach.
- Absence of joint procedures for vessel- platform interface operations.
- Manoeuvring misjudgment or operating error with possible machinery failure.
- Absence of interaction between an inexperienced OIM of MHN and over confident master of MSV
- Operating alongside the platform with unprotected risers

OISD

MHN

POST ACCIDENT DEVELOPMENTS



EMPOWERMENT TO OISD

- No regulatory agency for safety in offshore operations.
- OISD was given the mandate of offshore safety after the accident by Petroleum Ministry, Government of India

DEVELOPMENTS AFTER THE ACCIDENT

- Capacity building
- Safety awareness in companies
- Mandate to OISD for Offshore Safety
- Safety Management System strengthened in organisations
- Regulatory mechanism- under approval by Government