

Shri Sanjeev Raina, CGM-HSSE (Corporate)
BPCL

Shri. Sanjeev Raina, CGM-HSSE (Corporate) Bharat Petroleum Corporation Limited is an enthusiastic engineering graduate equipped with 30 years of industrial experience at both field and leadership level, he always delved deep into operational safety with respect to the civil, electrical and mechanical safety aspects. Currently heading HSSE of BPCL in a leadership position as CGM. He is a NEBOSH certified Safety expert with 30 years of field expertize, a unique combination.

He revolutionized delivery, efficiency and efficacy of the training program, introducing the Competency Building model for BPCL exclusively and Delivered Hundreds of learning sessions for instructing thousands of young personnel ranging from engineers, technicians, non-management staff, administrative professionals and new hires.

He always believes in continual cultural changes in organization for achieving HSSE global standards. He played a sheet anchor role in implementation of M. B. Lal recommendations across the organization, when in Retail. He is esteemed with lot of professional memberships of National & international bodies like IMD, Switzerland, British Safety Council and National Safety Council etc.

DISASTER MANAGEMENT PLAN 2021 –

Review and Updation









Disaster Management Plan 2021

Overview of **MoP&NG** Business Activity





Disaster Management Plan 2021

Overview of **MoP&NG** Business Activity

The **Ministry of Petroleum and Natural Gas** (**MOP&NG**) is responsible for the **exploration, production, refining, distribution, marketing, import, export**, and **conservation** of petroleum, natural gas, petroleum products and liquefied natural gas in India.

Disaster Management Plan 2021

Overview of **MoP&NG** Business Activity

The **Oil & Gas Marketing Companies** operate **pan-India** basis and have the following infrastructure **spread all over the country**.

- **On-shore & Off-shore rigs**, Petroleum Installations and associated facilities.
- **Petroleum Refineries.**
- **Petroleum Depot & Terminals.**
- **LPG Bottling Plants.**
- **Aviation Fuelling Stations.**
- **Lube Blending Plants.**
- **Cross Country Pipelines for petroleum Oils and gases.**

Disaster Management Plan 2021

Overview of **MoP&NG** Business Activity

Important areas of work :→

- Onshore & Off shore **Exploration** of petroleum resources, including natural gas.
- Production, supply distribution, **marketing and pricing of petroleum** including natural gas and petroleum products.
- **Oil Refining**, **Gas Processing & Lube Blending.**
- **Planning, development, control** and assistance to all industries dealt with by the Ministry.

Disaster Management Plan 2021

Overview of **MoP&NG** Business Activity

Important areas of work :→

- **Planning, development and regulation** of oilfield services.
- **Major Projects in Oil & Gas sector.**
- **Engineers India limited** for all major projects.
- **Administration of various Central laws relating** to Petroleum and Natural Gas.

Disaster Management Plan 2021

Genesis & Reportable Events

The Disaster Management Group consists of Secretary (PNG), JS(Exploration),JS(Refineries) & JS(Marketing) as members.

JS(Marketing) has been nominated as the **nodal officer** for coordination of DMP of MOP&NG .

To **have uniformity in categorizing** the reportable events, these have been defined in the **DMP Plan for bringing clarity and uniformity**.

Disaster Management Plan 2021

Reporting of Event

A **clear flow chart has been defined** for the information flow for reporting these events. The **Disaster Management Plan specifies the response time** for reporting any event to the Nodal officer **(not more than 1 hour by phone/email/SMS).**

DMP has identified the **control room / Nodal officers** nominated by **all PSU's**
Who shall **coordinate** the activities of **DMP Act 2005** & furnish first information to the **Nodal officer of MOP&NG.**

Disaster Management Plan 2021

Hazards that can affect Oil & Gas Industry.

- **Natural Hazards –**
  - **Cyclone**, Floods, Earthquake, **Lightening**, Tsunami
- **Human-induced Hazards**
  - **Road Transportation** accidents
  - **Failure of critical control** systems
- **Chemical Hazards**
  - **Accidental Oil & Chemical spills**
  - **Fire and explosion of hazardous chemicals, toxic gases**
  - **Leak or Fire due to rupture** of Petroleum Pipelines
  - **Environment damage** due to petroleum product leakages

External Hazards

- Riots/Civil Disorder/
- Mob Attack
- Terrorism
- Sabotage
- Bomb Threat
- War / Hit by missiles
- Cyber attacks
- Drone threats.

Disaster Management Plan 2021

Status of Disaster Management Plan of the Ministry

Evolution of DMP Document – From 2016 to 2021

DMP has been **updated** based on inputs received from **NDMA & Secretary Security.**

- **Incorporated** the aspects of **Disaster Management Cycle of Prevention, Preparedness, Mitigation and Response**
- **Emphasis** on **Training and Capacity Building**
- **Safety in Cross Country Pipelines** with mitigation measures
- Focus on **Natural Disasters** brought in
- **HAZOP/QRA** have been considered
- Component of **Medical Preparedness included.**

- **DMP plan for Mo P NG** has been developed and last review done in **Oct 2021.**
- **Oil & Gas Industries** in consultation with **NDMA / OISD** have prepared the document
- The **latest updated DMP plan** has been approved by **MoPNG.**
- MoPNG has forwarded the same to **NDMA.**
- **Officials who are responsible** for administering **DM plan of the Ministry – JS (M).**

Disaster Management Plan 2021

Status of Disaster Management Plan of the Ministry

Challenges and complexities, being faced in developing/reviewing and/or implementing the DM plan :→

- **Multi-faceted facilities** with pan India presence poses peculiar challenges of uniform implementation
- **Availability of resources at remote locations**
- **Administrative support** at all locations
- **Coordination between various agencies** at local level
- **Expertise and technology availability** at **pan India locations** (remote locations)

Disaster Management Plan 2021

Today's Goal

Salient Changes- As suggested by OISD

Disaster Management Plan 2021 – Salient Changes

Today's Goal

Chapter – 1: Introduction

A) Existing: (Page No. 5) Under the heading important areas of work handled by the Ministry, the following areas has been **Included :→**

Inclusion

Areas of work handled like "**LNG Terminals, CGD, CBM, Gas Hydrates & Shale gas**" to be included.

Disaster Management Plan 2021 – Salient Changes

Chapter – 2

Integration of Disaster Management Plan (DMP) with National Disaster Management Plan (NDMP)

Changes done

Page 11: Table for cyclone classification and their damage capacity to be **reviewed in line with IMD** and source data to be mentioned. **The following para is included**:→ **"Organizations should consider IMD data for warnings. However, if any organization takes input from other forecasting agencies, the worst case forecasting scenario to be considered for initiating the action.**

Disaster Management Plan 2021 – Salient Changes

Chapter – 3

Disaster Management – Prevention, Preparedness & Mitigation of Disasters.

Page 23 (Last para): Inclusion

"ERDMP of **midstream and downstream** oil and gas industry locations are also certified by PNGRB accredited agencies".

Page 28: 1st para under **Emergency Response and Disaster Management Plan** (ERDMP)

Rewritten as

"**All the locations in the midstream and downstream Oil and Gas sector prepare the Emergency Response & Disaster Management Plan (ERDMP) and get it certified through accredited agency as approved by the Petroleum & Natural Gas Regulatory Board (PNGRB). The location level ERDMP document is approved by the management.**

The periodic review of ERDMP is also carried out by the industry.

Disaster Management Plan 2021 – Salient Changes

Chapter – 4:

Mitigation and Risk Reduction Measures {Mainstreaming – Disaster Risk Reduction(DRR) }.

Page 36 (Inclusions)

Under heading **Quantitative Risk Assessment** following para has been added as **para 3**

"Quantitative Risk Assessment (QRA) shall be done prior to construction of new facilities, major changes in existing facilities or once in every five years whichever is earlier."

1st para under Hazard, Risk & Vulnerability Assessment corrected as :

"Hazard, Risk & Vulnerability Assessment shall be carried out in line with OISD-GDN-206 and requirement of PNGRB (Emergency Response & Disaster Management Plan, ERDMP) Regulations, 2010 and amendments thereof."

Disaster Management Plan 2021 – Salient Changes

Chapter 5:

Preparedness and Response - Capacity Building

Following para Included under Chapter 5

Resource Database

- **Oil & Gas industry remain equipped** with resources like **specialized machines/ equipment** heavy equipment, critical supply items, skilled human manpower etc. **to fight disasters.**
- **Industry must share this data of available resources** with respective **District Authority** in the prescribed formats for updation of **India Disaster Resource Network (IDRN) database** (https://idrn.nidm.gov.in/). The **updation of this data bank** shall **facilitate** deployment and pooling of such resources in case of any disaster **in shortest possible time.**
- **District administration shall prepare the plan based** on the data provided by the installation(s), to make the **most effective use of combined resources** to minimize loss of life, property, environment and **to restore facilities** at the earliest.

As Section 135 of companies Act has been amended and **Disaster Management** has been included as one of the entries under schedule VII, CSR funds can be utilized for procurement of specialized equipment for fighting disaster.

Disaster Management Plan 2021 – Salient Changes

MAJOR REPORTABLE INCIDENTS TO MoP &NG BY ALL CPS

Existing - In DMP Document (in line with PNGRB ERDMP Regulations)	**Inclusions - As suggested by OISD**
Any incidents of fire not extinguished in 15 minutes	Any incident of fire not extinguished in 15 minutes.
Any incident causing shut down of operations on account of fire/ explosion/ leakage	a) Any incident on account of explosion/ blowout/ radioactive (leakage or loss). b) Any incident causing shutdown of operation(s) for more than eight hours (shift).
Any incident causing **financial loss above Rs. 20 lakhs**	Any incident causing financial loss above Rs. 50 lakhs.
Any incident leading to **fatality(s) within Plant/ location premises**	Any incident within unit/ installation premises leading to fatality(s).
Any incident of road accidents (during transportation of petroleum products resulting in fire/ explosions which in turn leads to fatality(s).	Any incident of road accidents (during transportation of petroleum products) resulting in fire/ explosions which in turn leads to fatality(s).

Disaster Management Plan 2021 – Salient Changes

MAJOR REPORTABLE INCIDENTS TO MoP &NG BY ALL CPSUs

Existing definition in the DMP Document (in line with PNGRB ERDMP Regulations)	OISD Comments -- inclusion)
Any incident causing major loss of containment and having adverse impact outside the plant/ location premises including disasters defined under Section 2 (d) of DMP Act 2005.	Any incident causing major loss of containment and having adverse impact outside the plant/ location premises including disaster defined under Section 2 (d) of DMP Act 2005.
Any incident not covered above in S. No. 1 and 6 but which gets reported in the national media within 24 hours of the occurrence.	**Any incident not covered above but which gets reported in the National media within 24 hours of the occurrence.**
Cumulative man hours lost more than 500 hrs	**Cumulative lost time, due to incident, within unit/ installation premises, is more than 45 man-days**
No mention in the document	**Any incident within unit/ installation premises, leading to permanent loss of body part and/or permanent disability.**

Disaster Management Plan 2021 – Salient Changes

Today's Goal

Salient Changes made in discussion with NDMA / MoPNG

Disaster Management Plan 2021 – Salient Changes

Today's Goal

SOP for Cyclone (Post Cyclone Tauktae)

Preparedness and Response Procedures developed for all types of Installations in Oil and Gas sector.

Security Threats

Threat and Vulnerability Assessment - The Value of Threat Assessment -- Riots / Civil Disorder / Mob Attack /Terrorism /Sabotage /Bomb Threat / Drone attack etc

Disaster Management Plan 2021 – Salient Changes

Disaster Management in **Offshore Operations** (added as separate chapter)

1. **Oil Well Blow Out / Fire**
2. Confirmed fire and gas leakage detection including H_2S leakage
3. Oil spill
4. **Process / Pipeline leakage, Riser failure**
5. Helicopter Emergency (Crash, ditching, loss of control & communication)
6. Collision/ Grounding/Capsizing/ loss of control of vessels
7. Unconventional threats like terrorist attack, Sabotage, Hijacking or ramming
8. Bomb threat
9. **Natural Calamities (tsunami / cyclone)**
10. Structure failure / rig drift.
11. Search and Rescue (SAR) (Coast Guard Contingency Plan), Beyond OHA
12. Capability, situation will be coordinated by MRCC (as per National Maritime SAR Plan)

Disaster Management Plan 2021 – Salient Changes

Pandemic Emergency Response Plan (Post COVID 19)→

This document **mainly focusses on handling a pandemic by employing the following steps**:→

Planning

↓

Preparedness

↓

Response

↓

Review and Recovery

Thank you.



