

Online Professional Training Program on Process Safety Management (PSM) in Oil & Gas Operations

Program Note

Date: 23–24 September 2026

Introduction & Rationale

The oil and gas sector remains a critical pillar of India's energy security, supporting rapid economic growth and urbanization. As per the Ministry of Petroleum and Natural Gas, India is the third-largest consumer of energy globally, with natural gas demand projected to significantly increase in the coming decade. The Government of India has set an ambitious target to increase the share of natural gas in the energy mix from ~6% to 15% by 2030, leading to rapid expansion of pipeline infrastructure and City Gas Distribution (CGD) networks.

As of recent PNGRB updates, over 300 Geographical Areas (GAs) have been authorized for CGD development, covering more than 98% of the country's population and approximately 88% of its geographical area. This expansion includes thousands of kilometers of cross-country pipelines, LNG terminals and downstream distribution systems, significantly increasing the complexity and operational risk profile.

However, the sector is inherently high-risk. Major industrial incidents such as the Baghjan blowout, along with periodic refinery fires and pipeline leaks, highlight the catastrophic consequences of process failures — impacting human lives, the environment and critical infrastructure.

In this context, Process Safety Management (PSM) has emerged as a critical discipline. Unlike occupational safety — which focuses on individual worker safety (e.g., slips, trips, falls, etc.) — PSM addresses the integrity of systems, processes and controls to prevent catastrophic events such as explosions, fires and toxic releases.

The proposed online training program, under the MoU between GIDM and PNGRB, aims to bridge the gap between regulatory compliance and operational excellence. It aligns with:

- PNGRB Act, 2006
- PNGRB Technical Standards and Specifications including Safety Standards (T4S)
- PNGRB Emergency Response and Disaster Management Plan (ERDMP) Guidelines
- Relevant standards of Oil Industry Safety Directorate (OISD) and Petroleum and Explosives Safety Organisation (PESO)

The program also reflects national priorities under the Disaster Management Act, 2005, emphasizing prevention, preparedness and resilience in critical infrastructure sectors.

Aim

To strengthen the capacity of professionals in the oil and gas sector by enhancing their understanding of process safety, regulatory compliance, risk assessment, and modern safety culture approaches for prevention and mitigation of major industrial accidents.

Objectives

- To enhance the capacity of professionals in identifying, assessing, and managing process-related risks and hazards.

- To improve understanding of safety regulations and compliance requirements of the Petroleum and Natural Gas Regulatory Board (PNGRB), including T4S standards.
- To promote a proactive safety culture beyond checklist-based practices by adopting approaches followed by highly reliable organizations.
- To strengthen process safety systems through layered protection measures for minimizing the probability and impact of major accidents.

Target Participants

The programme is intended for:

- Safety Officers, HSE Managers and professionals from Oil & Gas companies and CGD Entities.
- Operations & Maintenance Engineers (pipelines, terminals, refineries).
- Process and Design Engineers.
- Fire/ Safety/ Disaster Management Professionals and Regulatory Inspectors.

Date, Venue & Mode

Date: 23–24 September 2026

Venue: Gujarat Institute of Disaster Management (GIDM), Raysan, Dist. Gandhinagar, Gujarat

Mode: The programme will be delivered through live online sessions comprising expert lectures, case discussions, practical exercises and interactive discussions.

Expected Outcome and Way Forward

At the end of the programme, participants are expected to:

- Gain practical knowledge and skills to identify, assess, and manage process safety risks in oil and gas operations;
- Develop a better understanding of regulatory requirements and compliance with safety standards;
- Enhance their capability to prevent major accidents and respond effectively during emergencies;
- Strengthen safety culture and promote adoption of best safety practices within their organizations;
- Improve preparedness for implementing Process Safety Management (PSM) systems in day-to-day operations.

A joint certificate of successful completion from the Petroleum and Natural Gas Regulatory Board (PNGRB) and Gujarat Institute of Disaster Management (GIDM) will be issued upon completion of the programme.