पी एन जी आर बी
PNGRB

GUJARAT INSTITUTE OF DISASTER MANAGEMENT
BUILDING RESILIENCE

Training Report

A Residential Training Program on

Safe Road Transportation of Hazardous Goods

26 - 28 November, 2025

Background

A three-day Capacity Building Program on **Safe Road Transportation of Hazardous Goods** was jointly organized by the Petroleum and Natural Gas Regulatory Board (PNGRB) and the Gujarat Institute of Disaster Management (GIDM) from 26th to 28th November 2025 at the GIDM Campus, Gandhinagar. The program was conducted under the ongoing Memorandum of Understanding (MoU) between PNGRB and GIDM, aimed at promoting a culture of safety, preparedness and resilience across India's oil and gas value chain.

This initiative formed part of a broader national effort to strengthen institutional and technical capacities for the safe road transportation of hazardous goods. Considering the growing complexity and scale of oil and gas infrastructure, the program emphasized the need for improvement in vehicle safety management, driver safety management, journey risk management, etc., to ensure safe transportation of hazardous goods.

A total of 39 participants, representing a diverse range of organizations including public sector undertakings (PSUs), refineries, oil and gas companies, city gas distribution networks and safety and environmental departments, took part in the training. Through expert-led sessions, case studies and mock-drill, the participants enhanced their understanding of journey risk assessment, use of advanced technology like VTS, GIS, etc. and TT driver issues.

The program provided a comprehensive platform for knowledge sharing, practical learning, and alignment with both national safety regulations and international good practices in disaster management for the safe transportation. The detailed program note and the list of participants are enclosed as Annexure 1 and Annexure 2, respectively.

Welcome Address

The inaugural session of the three-day Capacity Building Program on Safe Transportation of Hazardous Goods began with a warm welcome by the Gujarat Institute of Disaster Management (GIDM) team on 26th November 2025 at the GIDM Campus, Gandhinagar. Representatives from GIDM extended greetings to all dignitaries, expert speakers and participants, outlining the objectives of the program and emphasizing its importance in safeguarding road transportation of hazardous goods in the oil and gas sector. Participants were encouraged to make the most of the interactive sessions and share their professional experiences to enrich collective learning.

Following this, Shri. Jayanta Narayan Das, Member, Petroleum and Natural Gas Regulatory Board (PNGRB), addressed the gathering and delivered the welcome address virtually. In his remarks, Mr. Das extended his warm greetings to all participants and highlighted the significance of this joint initiative under the MoU between PNGRB and GIDM. During his speech, he noted that 86.6% of hazardous-material transport accidents involve tank trucks, with over one-third specifically involving petroleum tankers, highlighting the vulnerability of the sector.

Shri. Jayanta Das, Member PNGRB during the inaugural address on 26th Nov 2025.

In India alone, over a five-year period, 1,635 petroleum tanker accidents were recorded, resulting in more than 900 fatalities, underscoring the severe consequences of even a single lapse. In order to tackle this, he informed about the guidelines for Safe Road Transportation of Hazardous Petroleum Products, providing a clear framework for operators and regulators. He encouraged active participation and urged all attendees to engage in discussions, share field experiences, and apply the lessons learned to strengthen safety culture and emergency readiness within their respective organizations. Lastly, he encouraged the participants to carry learnings back to their teams.

Session Proceedings and Key Highlights

Session 1: Overview of India's Oil and Gas Transportation Risk Profile
By Shri. P. S. Murthi , Former Executive Director, HPCL


Shri Murthy established the training programme's focus by introducing participants to India's profile of the oil and gas industry. As the world's third-largest primary energy consumer, India's oil and natural gas consumption accounts for 26.71% and 6.20% of the total respectively, with per capita consumption of 0.19 and 0.04. India produces 28.4 million tonnes of crude oil against a domestic demand of 239.5 million tonnes, resulting in a 11.9% self-sufficiency rate. The marketing infrastructure and distribution channel was also discussed. The total number of retail outlets is 99,281, of which 28,533 are rural. The pipeline infrastructure for crude oil, LPG, POL and natural gas is expanding in India. The Indian oil and gas distribution infrastructure includes oil terminals, gas stations, retailers, LPG distributors, bottling plants, and pipelines. While pipeline infrastructure has improved, road transport remains essential for delivering products to outlets. The industry faces challenges in balancing pipeline and road transport, particularly for LPG distribution, and ensuring safety in transportation.

The oil and gas industry in India is concerned about the increasing number of accidents, particularly in refineries, despite efforts to reduce them. While the number of fatalities in the industry is relatively low compared to the overall road accident rate in India, the potential consequences of accidents in oil and gas installations are catastrophic. The industry is also facing challenges with road accidents involving petroleum product transportation, with LPG trucks being a major contributor. Shri Murthi addressed accident trends in India and their causes. Analysis of accidents in the Indian oil and gas industry reveals that 1% of the world's vehicles are present in India and account for 11% of

global road accident fatalities. In 2022 and 2023, India recorded approximately 4.61 and 4.8 lakh road accidents respectively. The root cause analysis of accidents for all oil and gas companies indicates that the primary causes are negligent driving, poor road conditions and vehicle failure. The oil industry is actively monitoring accidents and fatalities, with a focus on human error as the primary cause. Efforts are being made to improve reporting accuracy and collaborate with authorities to address road safety concerns.

Session 2: Human Factor and other causes in road accidents (CNG Transportation) Key Initiatives

By Shri. Manish Dhruv, VP, Gujarat Gas

Shri Manish Dhroov outlined the types of road accidents including fatal accidents (33%), grievous injury accidents (33%), minor injury accidents (28%) and non-injury accidents (6%). To address these, PNGRB road transportation safety guidelines advocate for quarterly intensive safety checks, journey management plans (JMP), adherence to duty hour limits, prohibition on night driving and other measures. He also highlighted LCV/HCV road accidents caused by external factors such as road and weather conditions. He explained the direct factors (e.g. driver fatigue, distracted driving, inadequate journey planning) and indirect causes of human factors (e.g. poor vehicle conditions, ergonomic stress, traffic density) and the challenges faced by drivers.

Key elements to ensure road safety include trip management, contract management, vehicle management, driver management, emergency management, stakeholder management and journey risk management. Drivers should be trained in hazardous goods transportation and defensive driving. Safety requirements before fleet deployment include using speed governors, maintaining the centre of gravity (CG) of the vehicle, using dampers and shock absorbers and other measures. After deployment, safety requirements can be

assessed through the Contractor Performance Assessment Report (CPAR) and meetings with MCV transport providers, along with route risk assessment and identification of hotspots. Participants raised concerns about drivers' behaviour, illiteracy and deteriorating health and socio-economic conditions. He concluded his session highlighting to humanise the behaviour towards driver and improving their societal status.

Session 3: Understanding Disaster Risk Management & Current Trends
By Shri. Nisarg Dave, Director (DM), GIDM

Shri. Dave started his session introducing the UN World Sustainable Transport Day celebrated on 26th November every year. Disaster Risk Management is necessary due to the increase in the occurrence of extreme weather events induced due to climate change and haphazard anthropogenic activities. Disaster risk is a function of hazard, vulnerability, exposure and coping capacity. Disaster resilience can be marched by keeping disaster risks in check through prevention, mitigation, preparedness, response and recovery.

He advocated about the human induced disasters and distancing from the misnomer term - natural disasters. NATECH i.e. Natural Hazards Triggering Technological Accidents was explained with case studies like Coffeville Flood Oil Spill (2007), Bhadbhut Incident (2013), Sundarban Oil Spill (2014) and the recent Gambhir Bridge Collapse (2025). NATECH incidents may exceed typical oil and gas accident scenarios. Climate change increases the frequency and intensity of natural hazards, potentially causing cascading events and overwhelming emergency responders.

Lastly, he showcased the evolution of DRM from 1970s to the current SFDRR framework and explained India's disaster governance mechanism including PM's 10 Point Agenda on Disaster Risk Reduction.

Session 4: Classification & Properties of Hazardous Goods

By Shri. Sanjay Masrani, Subject Matter Expert

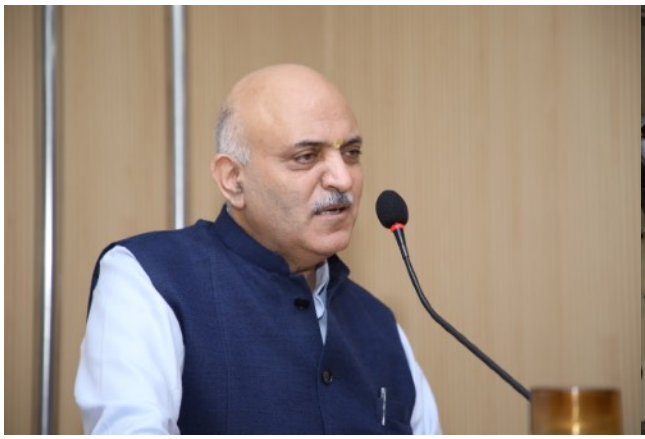
Shri Sanjay Masrani's enthusiasm was met with the participant's questions during his introductory discussion on several accidents that occurred in India in 2025. The knowledge of the classification and properties of hazardous goods is essential for the shipping of hazardous materials and to avoid severe penalties. Hazardous chemicals in India are classified by the Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989 based on physical hazards such as flammability and toxicity. This classification also aligns with the UN classification system into nine classes: explosives, gases, flammable liquids, flammable solids, oxidising substances, poisonous/infectious substances, radioactive materials, corrosives and miscellaneous dangerous substances. Health and environmental hazards are assessed to categorise substances such as toxic and carcinogenic chemicals while physical hazards include flammable, highly reactive and toxic materials.

Shri Masrani suggested the judicious use of the TREM card (Transport Emergency Card) as it would be beneficial to drivers and first responders. The participants expressed their need for updated TREM cards, Hazchem panels and uniform labelling systems. Furthermore, NFPA labels and MSDS serve the purpose of quickly identifying the various fire-related hazardous substances associated with a particular material.

He concluded his session by emphasising the importance of a robust safety culture. This includes ensuring all containers are properly labelled; use of the appropriate protective equipment; storing chemicals only in approved areas; reporting leaks and spills immediately; and disposing of used chemicals and containers correctly.

Session 5: Transport Infrastructure, Vehicle Requirements & Safety Checks
Session 6: Operational Safety & Good Practices

By Shri. Sanjeev Raina, Executive Director, BPCL




On the second day, Shri. Sanjeev Raina proceeded with the vision to transform the country into a self-reliant and prosperous economy by 2047, i.e. Viksit Bharat 2047. India's petroleum product movement depends heavily on road transportation, making tank truck safety a national priority. Ensuring safe, compliant, and reliable movement requires a holistic approach covering road infrastructure, vehicle design & certification, statutory requirements, and robust daily safety checks. There is a need for a comprehensive understanding of the infrastructure elements, vehicle engineering needs, regulatory expectations, and operational safety controls essential for petroleum tanker transportation.

With technological advancement, the tank lorry design has been upgraded along with enhanced engine systems, fuel systems, etc. The tank lorry pertaining to fill pipe, dip pipe, vacuum valve, electrical systems, and cabins needs to undergo safety precautions (periodic checking, training, etc.) and quality checks (blue dyes, following IQCM guidelines) and general checking of lorry operations. The tank lorry calibration, if unchecked, can cause fatalities, loss of resources, and can have a cascading impact on society. Elaborate discussions happened on how Vehicle Tracking System (VTS), ABS, and other safety features reduce the risk of accidents.

Adding to this, he threw light on various tank lorry malpractices anchored by drivers, contractors, middlemen, and other involved stakeholders. Such issues can be addressed through risk assessment, scheduling, real-time monitoring, and JRP. He emphasised on Journey Management Plans (JMP) as they are crucial for petroleum tanker transportation, providing discipline, foresight, and

accountability. When combined with fatigue management, route risk assessment, technology-driven monitoring, and strong leadership oversight, JMP becomes a powerful tool for reducing road transport risks and protecting life, property, and the environment.

Session 7: Technology and Innovation in Hazardous Goods Transport
Session 8: Emergency Response & Incident Management
By Shri. Sanjay Mishra, Chief Executive Officer, LSC

In his session, Shri. Sanjeev Mishra explained how the AI engine operates continuously across the fleet to identify and flag high-risk patterns. The system monitors driver behaviour in real time under critical categories such as risky driving, suspected pilferage, suspected hijack, accident-prone tendencies, and suspected narcotics influence. He also illustrated these concepts through several impactful videos and case studies, showing how vehicles sometimes topple due to driver negligence or unforeseen external factors.

He detailed how risk categorization through AI works by filtering and evaluating each violation based on predefined parameters and behavior signatures. The AI classifies events into high-, moderate-, and low-risk categories depending on severity, frequency, and contextual conditions. High-risk events demand immediate intervention, moderate risks need timely corrective action, while low-risk deviations still require consistent monitoring to prevent escalation.

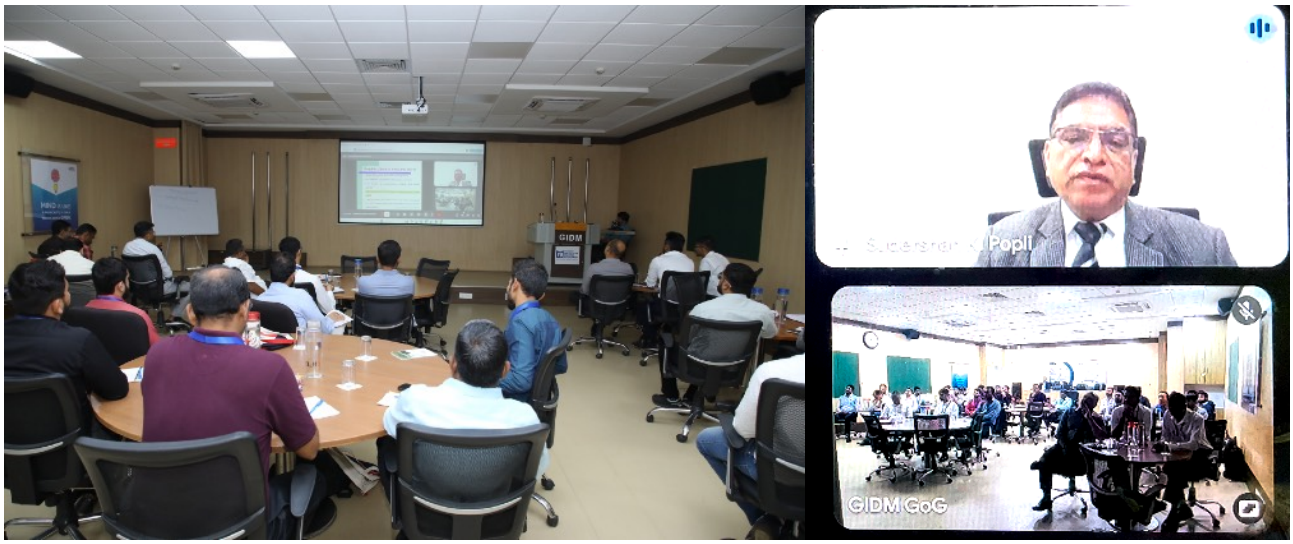
Shri. Mishra further explained that the intelligence model has been developed from over a decade of domain expertise. It uses a sophisticated permutation–

combination framework to compare new violations against past patterns of the same vehicle, contextual indicators, industry-specific thresholds, and long-term behavioural trends. This ensures every alert is accurate, contextual, and actionable, helping organizations strengthen fleet safety and prevent critical incidents.

India's road network spans approximately 6.3 million kilometres, which makes it difficult to handle the road emergencies due to uncontrolled and open environment, limited resources at site, unavailability of experts at site and many more. Such conditions makes it to difficult to handle as compared to plant emergencies. Therefore it is necessary to have quick response teams equipped with necessary equipments and kits.

Session 9: Enhancing Safety Provisions for Truck Drivers on National Highways

By Shri. Sudarshan Popli, Advisor, NHAI



Shri Sudarshan Popli presented a virtual session on a range of topics including the challenges faced by truck drivers on highways, the development of highway infrastructure and safety, and policy recommendations supported by several case studies. The skilled driver shortage is attributed to low wages, a lack of benefits and harassment. Other contributing factors include a poor working environment, fatigue, an imbalance of family lives, inadequate infrastructure and facilities such as restrooms, safe and secure parking and social stigma.

In his discussion on the development of highway infrastructure, he introduced the UN's Global Plan for the Decade of Action for Road Safety 2021-2030 which

aims to halve road traffic deaths and injuries by 2030. This plan emphasises a holistic "Safe System" approach to mobility and urban design. The National Highways Authority of India (NHAI) has advanced the road infrastructure through IT-enabled products such as the Raj Marg Mobile app, Road Safety Audit Mobile App; ambulance and crane deployment and amenities including dhabas, medical rooms and driver dormitories.

It was recommended to improve driver knowledge and training on road signs, the use of vernacular language, vehicle fitness and safety features. The organisations were also advised to identify driver habits, accident-prone areas on long routes and provide hazardous corridor alerts. Ultimately, a safe system approach should be prioritised over traditional methods.

Session 10: Training & Capacity Building Techniques
Session 11: PNGRB Road Safety Guidelines and Case Study Discussion on Jaipur Incident

By Shri. Rajesh Nigam, Former Executive Director, IOCL

Shri. Rajesh Nigam discussed the LPG tanker explosion on the Jaipur-Ajmer Highway in 2024. Based on the incident, PNGRB issued new, stringent guidelines for the safe road transportation of petroleum products, emphasising driver rest periods, vehicle maintenance, and exploring alternatives like rail transport for long distances. He explained the statutory provisions for various modes of transportation, i.e. road (Carriage by Road Act, 2007; Central Motor Vehicles Rules, 1989), sea (International Maritime Dangerous Goods (IMDG) code); rail (Red Tariff Rules); and air (Safe Transport of Dangerous Goods by Air (ICAO TI) and the Aircraft (Carriage of Dangerous Goods) Rules, 2003) and inland waterways (International carriage of Dangerous Goods by Inland Waterways (ADN)). In addition to this, he illustrated the TT induction procedures, TT crew induction procedures, and procedures for TT entries.

The drivers can benefit from socio-economic protection against the risk of transporting petroleum products through some kind of life insurance, like Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY). He suggested other social protection measures, like compulsory health check-ups, timely settlement of insurance money, and providing higher wages to drivers, helpers, and additional crew on a timely basis.

Session 12: Audits, Inspections & Compliance Monitoring
By Shri.Amol Vedpathak, Head Safety, Reliance Industries Ltd.

Shri. Amol Vedpathak highlighted the challenges in the transportation sector and the dire need for regular timely audits and inspections. The distribution safety is managed through contractor safety management, vehicle safety management, driver safety management and journey safety management. It was recommended to include risk reduction measures from the initial stage of design and fabrication. Inspection scope includes tank exterior and interior, thickness measurement, manhole assembly, flame arresters, dip pipe, drain valve, foot valve, emergency shut-off valve, PV vent, chassis integrity, hose integrity, fire extinguishers, markings, and testing intervals. In addition to this, the LPG tankers are inspected around tank exterior and interior, thickness measurement, manhole assembly, flame arresters, dip pipe, drain valve, foot valve, emergency shut-off valve, PV vent, chassis integrity, hose integrity, fire extinguishers, markings, and testing intervals.

During discussion he shared technical experiences at his organisation pertaining to QC programme for tank trucks. After giving a glimpse of driver safety management and journey safety management, he elaborated on vendor capability assessment survey. The participants and speaker exchange their thoughts on ways to deal with the vendors and contractors to ensure holistic

road safety. He concluded the session and thanked the organisers and participants.

Closing of the Program

Director (DM) GIDM formally concluded the training program on 'Safe Road Transportation of Hazardous Goods'. All participants were given a post-test followed by feedback. Representatives from GIDM expressed appreciation to the expert speakers and participants for their active involvement and enthusiasm throughout the program. The organisers were thanked for their efforts, arrangements and conducting a training programme on such an important subject.

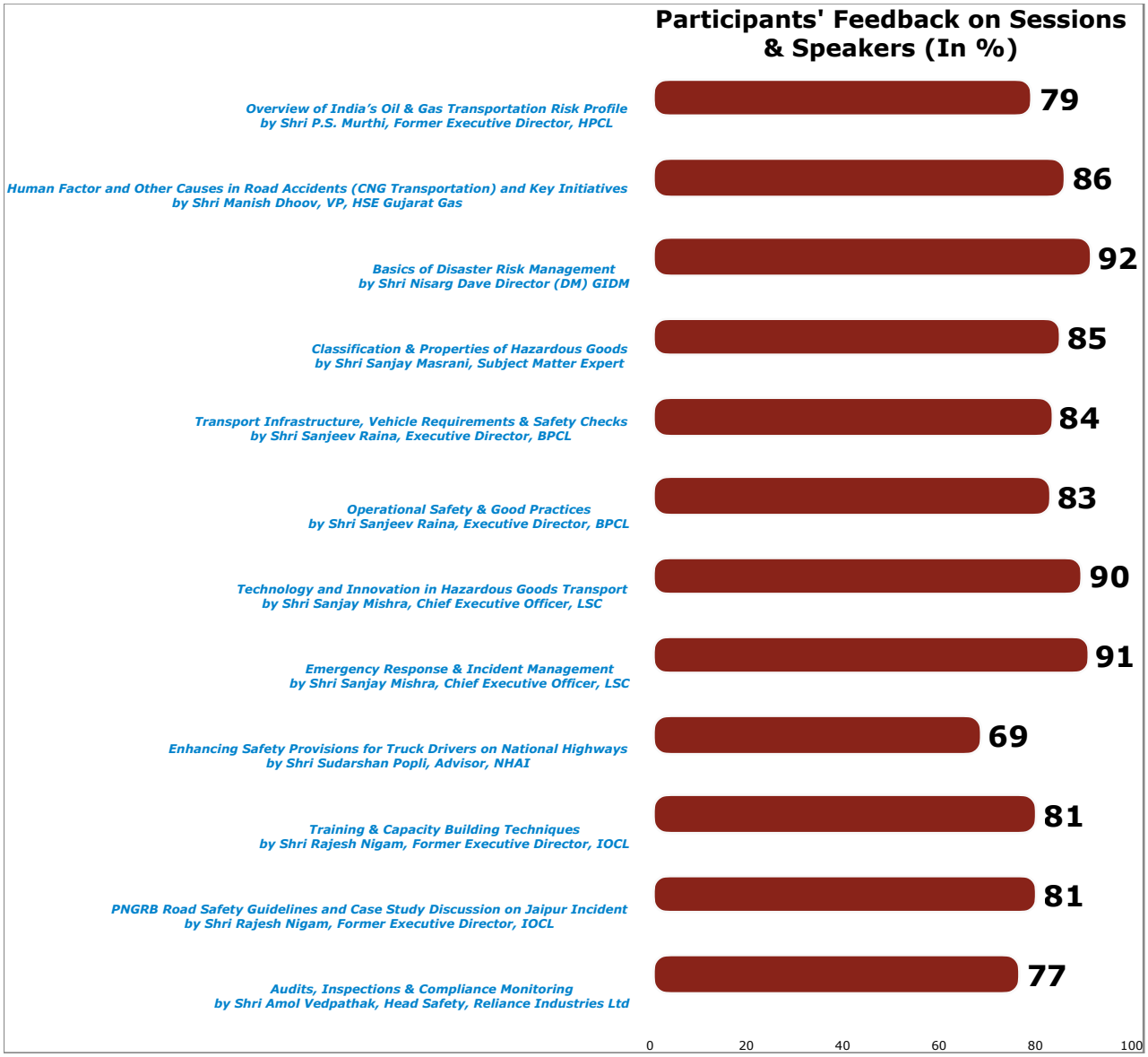
Feedback of the Program

Feedback for the programme was collected through an online system, enabling participants to submit their responses digitally. Participants evaluated the sessions and speakers across key parameters including content quality, clarity of presentation, relevance to safe transportation and field operations, engagement and interaction, effectiveness of training aids and methodology and overall satisfaction with the training. This online approach ensured a quick, organised and comprehensive feedback collection for accurate programme assessment.

Speaker Evaluation

Participants evaluated every session based on the quality of content shared, its relevance to transportation of hazardous goods, the clarity and depth of explanations, and the practical applicability of the information presented. These ratings provided valuable insights into how well each topic met participant expectations and contributed to their learning objectives. The

detailed percentage-based session-wise ratings, which reflect the strengths and areas for further enhancement across individual sessions, are presented in the graph below.



Recommendations & Conclusion

The training programme was well received by participants and experts. It was recommended to include topics related to CNG and LNG for CGD companies. Furthermore, site visits and group discussions were suggested for the upcoming programs. The positive aspects of the programme were highlighted, particularly the GIDM facilities, hospitality and domain experts. It is clear that this training programme on safe road transportation of hazardous goods should be continued and capacity building should be expanded.

****

Annexure 1: Program Note

1. Background

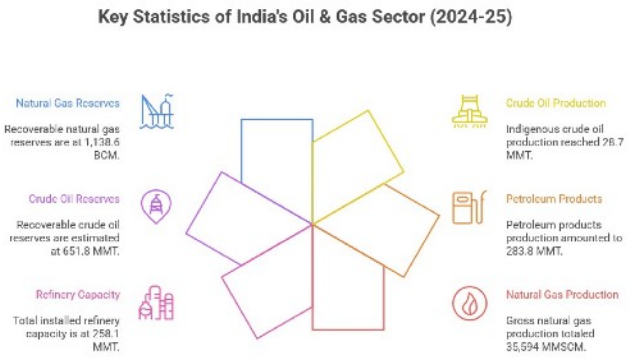
India's oil and gas sector is witnessing exponential growth, backed by a robust investment environment, strong policy push for energy access and sustainability, and the country's rapidly rising energy demand. As the world's third-largest oil consumer, India is projected to lead global oil demand growth between 2023 and 2030 and contribute nearly 25% of the global energy demand increase between 2020 and 2040.

India's downstream oil and gas sector relies heavily on road transportation for the distribution of petroleum products, LPG, and natural gas. Despite the presence of a growing pipeline and rail network, a substantial volume of fuel movement— especially at the regional and last-mile level—is still carried out through road tankers. This logistical dependence on road transportation makes it imperative to ensure that safety protocols and best practices are deeply embedded at every level of supervision and implementation.[1]

The hazardous nature of petroleum products, coupled with India's vast and dense transportation network, poses a significant risk to public health, safety, and the environment. Recognising this, the Petroleum and Natural Gas Regulatory Board (PNGRB) has issued comprehensive Guidelines for Safe Road Transportation of Hazardous Petroleum Products, which form the basis of this training module.

2. Sectoral Overview and Risk Landscape

India's oil and gas sector is a critical pillar of the national economy, contributing significantly to industrial output, employment, and energy security. With rising energy demand and India's expanding role in global energy markets, the sector is rapidly growing. However, with this scale and momentum comes a growing landscape of operational risks.



According to the Petroleum Planning & Analysis Cell, India's total installed

[1] https://www.investindia.gov.in/sector/oil-and-gas

refining capacity currently stands at 258.1 million metric tonnes per annum, placing the country among the top four refining nations globally. In the financial year 2024– 25, indigenous crude oil production reached 28.7 million metric tonnes, while petroleum products production touched 283.8 million metric tonnes. The gross production of natural gas stood at 35,594 million standard cubic meters, reflecting the sector's extensive operational footprint.

Such volumes translate into an extensive and complex distribution network involving **23 refineries, being the 4th largest refining capacity globally,** over 93,000 petroleum retail outlets, 10,445 kilometers of crude oil pipelines, 24,130 kilometers of petroleum product pipelines, and more than 25,000 kilometers of operational natural gas pipelines across the country.[2]

Despite the availability of pipelines and railways for bulk transport, a **significant portion of regional and last-mile distribution** continues to depend on **road transportation**, especially for petroleum products, LPG, and natural gas. This dependence renders the road network the **most vulnerable segment** of the logistics chain.

While this robust infrastructure highlights the sector's strength and outreach, it also underscores the **magnitude of risk**. Road transportation in particular is prone to operational hazards like traffic congestion, driver fatigue, mechanical failure, poor route planning, and non-compliance with safety protocols—all of which may lead to accidents, environmental pollution, and public endangerment.

The Risk Dimension

The increasing reliance on road tankers to transport hazardous petroleum products introduces a range of **critical safety risks**, including:

- **Driver fatigue and overwork,** particularly on long or overnight hauls.
- **Traffic congestion and poor road infrastructure,** especially in high- density corridors.
- **Inadequate vehicle fitness,** including lack of anti-lock braking systems (ABS), speed governors, or VTS (Vehicle Tracking Systems).
- **Route planning deficiencies,** such as failure to avoid black spots or hazard-prone zones.

[2] https://www.investindia.gov.in/sector/oil-and-gas

- **Operational violations**, such as over-speeding, unauthorized halts, or non-compliance with safety norms.
- **Environmental hazards** from spills or explosions following an accident.

The consequences of even minor lapses in these areas can be severe - ranging from vehicle rollovers and fire incidents to large-scale environmental contamination, casualties, and damage to public infrastructure.

3. Rationale for the Training Program

Given the hazardous nature of petroleum transport and the risks involved, and despite robust infrastructure and regulatory guidelines issued by PNGRB, gaps in on-ground supervision, driver training, and journey management continue to pose operational challenges.

In this evolving landscape, there is a critical need to build capacities that can ensure **safe, secure, and regulation-compliant transportation of hazardous petroleum products**. Middle management personnel, including safety trainers and logistics heads, play a pivotal role enforcing safety protocols, monitoring transport operations, and ensuring compliance with statutory norms and must be equipped with:

- A sound understanding of PNGRB safety guidelines
- The ability to implement Journey Management Plans (JMP)
- Skills to monitor driver behaviour, fatigue, and vehicle compliance
- Competency in emergency preparedness and incident management

This training program is designed to address this gap by enhancing the capacity of supervisors and trainers to implement good practices in journey planning, driver oversight, risk mitigation, and emergency response. It aims to build a strong foundation for proactive safety culture across the oil and gas transportation chain.

4. Learning Objectives

This training module aims to:

- Familiarize participants with PNGRB’s guidelines for safe transportation of hazardous petroleum products.
- Build competency in Journey Management Planning (JMP), risk mapping, and hazard anticipation.
- Strengthen managerial and communication skills to support frontline drivers.

- Promote a safety-first culture by integrating behavioural safety and compliance monitoring.
- Improve preparedness for emergency scenarios and incident response.

5. Target Participant

- Mid-level managers involved in transportation operations within Oil Marketing Companies (OMCs)
- Logistics Managers from gas distribution companies and transport contractors
- Safety Trainers and Officers
- Emergency Response and Incident Managers
- Tanker Operation Heads and Compliance Auditors

6. Program Outline

Date: 26 – 28 November, 2025
Program Mode & Duration: 3 Days Residential Program
Location: GIDM Campus, Raysan, Gandhinagar, Gujarat-382426
Delivery Format: Classroom lectures, case studies, group discussions, simulation-based exercises and practical demonstration/Visits.

7. Training Coverage

This capacity-building program is designed to enhance competencies in managing the safe road transportation of hazardous and dangerous goods (HDG), with a specific focus on petroleum products, LPG, and natural gas. The training will cover:

- Overview of India's oil & gas transport ecosystem and associated risk landscape
- PNGRB guidelines and statutory regulations governing HD Groad transportation
- Journey Management Planning and route risk assessment
- Vehicle safety systems, inspections, and crew fitness
- Emergency response, TREM card usage, and incident handling
- Coordination with transporters, emergency services, and local authorities
- Public safety measures along HDG routes
- Training techniques for behavior change and field-level awareness
- Audits, Inspections & Compliance monitoring

8. Faculty

The faculty would be from PNGRB, GIDM, Senior Safety and Transport Officers from Oil PSUs, experts from Industry and academia.

9. Outcome and Certification

Participants who complete the module will be awarded a **Certificate of Completion** endorsed jointly by **GIDM and PNGRB**, validating their competencies in the safe transportation of hazardous petroleum products.

*****

Agenda of the Program

Program Agenda Safe Road Transportation of Hazardous & Dangerous Goods Date: 26-28 November 2025		
Time	**Session**	**Speaker**
Day 1 (26.11.2025)		
10:00 – 10:15	**Registration** **Welcome & Inauguration** • Welcome, Objectives, Expected Outcomes • Pre-Test of Participants	**GIDM**
10:15 – 10:30	**Inaugural Address by PNGRB**	**Shri. Narayan Das**, Member, PNGRB
10:30 – 11:30	**Overview of India's Oil & Gas Transportation Risk Profile:** • Sector profile, transportation mix • Distribution channels & infrastructure mapping • Accident data trends and high-risk zones	**Shri P.S. Murthi** Former Executive Director, HPCL
11:30 – 11:45	***Tea/Coffee***	
11:45 – 13:00	**Human Factor and Other Causes in Road Accidents (CNG Transportation) and Key Initiatives** • Clauses of PNGRB Road Safety Guidelines • Key mandates for entities • Implications for supervisors	**Shri Manish Dhoov** VP, HSE Gujarat Gas
13:00 – 14:00	***Lunch***	
14:00 – 15:15	**Basics of Disaster Risk Management** • Basic Concepts of Disaster Risk Management • Current Disaster Trends in India • Reasons for Disasters & Key Risk-Reduction Measures	**Shri Nisarg Dave** Director (DM) GIDM
15:15 – 15:30	***Tea/Coffee & Snacks***	
15.30 – 16.45	**Classification & Properties of Hazardous Goods:** • Types of petroleum products and gaseous fuels (Petrol, Diesel, LPG, CNG, LNG, ATF) • Classification under UN Dangerous Goods System • Flash points, flammability, toxicity, vapor pressure, density • Material Safety Data Sheets (MSDS)	**Shri Sanjay Masrani** Subject Matter Expert

Day 2 (27.11.2025)		
10:30 – 11:45	**Transport Infrastructure, Vehicle Requirements & Safety Checks** • Design and construction of road tankers, bullet tanks and cylinders • PESO-approved vehicle design for petroleum and gas • Maintenance, calibration and periodic testing requirements • Vehicle fitness and safety checks: Inspection criteria, role of testing centers & certifying agencies, and digital tools for recordkeeping of inspections • Vehicle tracking and monitoring systems (AIS 140, GPS) • Tank lorry fittings: safety valves, bonding, earthling, grounding	**Shri Sanjeev Raina,** Executive Director, BPCL
11:45 – 12:00	***Tea/Coffee***	
12:00 – 13:15	**Operational Safety & Good Practices:** • Safe loading/unloading procedures • Journey Management Planning (JMP), risk assessment and scheduling Driver fatigue • management and trip discipline • Fire prevention, spill control, and hazard identification • Safety signage, PPE, and in-vehicle safety kits	**Shri Sanjeev Raina** Executive Director, BPCL
13:15 – 14:00	***Lunch***	
14:00 – 15:15	**Technology and Innovation in Hazardous Goods Transport:** • Use of telematics, IVMS, and geo-fencing • Automatic braking, rollover prevention, , and fatigue alert systems • Digital documentation and e-permits • Automation at terminals and depots	**Shri Sanjay Mishra,** Chief Executive Officer, LSC
15:15 – 15:30	***Tea/Coffee & Snacks***	
15.30 – 16.45	**Emergency Response & Incident Management:** • On-site and off-site emergency preparedness • ERDMP (Emergency Response and Disaster Management Plan) guidelines by PNGRB • Incident reporting and investigation techniques • First responder actions (drivers, crew, and depot staff) • Coordination among transporters, emergency services, police, local authorities, and regulatory agencies, Communication protocols during emergencies and crisis communication with media & public	**Shri Sanjay Mishra,** Chief Executive Officer, LSC

Day 3 (28.11.2025)		
9:40 – 10:30	**Enhancing Safety Provisions for Truck Drivers on National Highways** • Highlight key safety challenges faced by truckers • Existing safety provisions and infrastructure • Present practical improvements and policy recommendations • Showcase successful case studies or good practices from India	**Shri Sudarshan Popli** Advisor, NHAI
10:30 – 11:45	**Training & Capacity Building Techniques:** • Principles of adult learning and pedagogy • Training delivery methods: classroom, e-learning, on-the-job • Assessment and feedback techniques • Trainer's role in behavior change and risk perception, Integrating public safety into training, covering awareness campaigns, signage, and evacuation protocols for high-risk areas • Engaging communities along HDG routes through localized safety messaging and drills,Role of trainers in fostering a safety-first culture across personnel and public interfaces	**Shri Rajesh Nigam** Former Executive Director, IOCL
11:45 – 12:00	***Tea/Coffee***	
12:00 – 13:15	**Training & Capacity Building Techniques** • Discussion on Jaipur Incident • Root cause analysis and contributing factors • Corrective actions taken and regulatory responses, Key lessons learned for improving road safety and emergency preparedness in	**Shri Rajesh Nigam** Former Executive Director, IOCL
13:15 – 14:00	***Lunch***	
14:00 – 15:15	**Audits, Inspections & Compliance Monitoring:** • Checklists for driver, vehicle and terminal audits • Compliance documentation: trip logs, permits, SDS, etc. • Internal and third-party audits • PNGRB and PESO inspection procedures	**Shri Amol Vedpathak** Head Safety, Reliance Industries Ltd.
15:15 – 15:30	***Tea/Coffee***	
15.30 – 16.15	***Closing***	

Annexure 2: Participants List

#	Participant Name	Designation	Department
1	Vellai Samy V	Senior Executive Logistics	Shv Energy Private Limited
2	Gaurav Dutta	Manager (Operation & Safety)	Indian Oil Corporation Limited (IOCL)
3	Mohd Zain Ul Aabdeen Qureshi	Senior Safety officer	Indian Oil Corporation Limited (IOCL)
4	Sanjeev Hembrom	Assistant Manager (LPG-Safety)	Indian Oil Corporation Limited (IOCL)
5	Mesenene Kiran	Operations Officer	Indian Oil Corporation Limited (IOCL)
6	Ankit Kulhari	AM (Ops-Safety)	Indian Oil Corporation Limited (IOCL)
7	Hitendra Singh	Manager (Operations-Safety)	Indian Oil Corporation Limited (IOCL)
8	Akash Sharma	Operations Safety	Indian Oil Corporation Limited (IOCL)
9	Sonu Patel	Assistant Manager (LPG-Safety)	Indian Oil Corporation Limited (IOCL)
10	Pramod Prajapati	Manager (LPG-Safety)	Indian Oil Corporation Limited (IOCL)
11	Prakash Singh	Assistant Manager (LPG-Safety)	Indian Oil Corporation Limited (IOCL)
12	Asghar A Shaikh	Senior Manager (Operation & Maintenance)	Mahanagar Gas Limited
13	Pradeep Atmaram Sawant	Deputy Manager	Mahanagar Gas Limited
14	Pankaj Barange	Manager HSE	Mahanagar Gas Limited
15	Harsh Joshi	Manager	Mahanagar Gas Limited
16	Bhushan Vaishnav	Area Manager - MCO	Nayara Energy Limited
17	Sunil Sandhu	Logistics Coordinator	Nayara Energy Limited
18	Ayush Gandhi	Assistant Manager	IRM Energy Limited
19	Abhishek Pandav	Senior Engineer	IRM Energy Limited
20	Meetkumar Kamleshbhai Faldu	Senior Engineer	IRM Energy Limited
21	Darshankumar Trentiya	Deputy Manager	IRM Energy Limited
22	Mukesh Kumar Verma	Deputy General Manager	Reliance BP Mobility Ltd
23	Asish Kumar Parija	Manager Operations	Aegis Vopak Terminals Limited

24	Narsul Kamar	Senior Manager Engg & HSSE I/c	Bharat Petroleum Corporation Limited (BPCL)
25	Mangesh Deokate	HSSE Officer	Bharat Petroleum Corporation Limited (BPCL)
26	Ganesh Dattatray Lawar	HSSE Incharge	Bharat Petroleum Corporation Limited (BPCL)
27	Ashok Kumar Bairwa	Senior Manager Logistics	Bharat Petroleum Corporation Limited (BPCL)
28	Aravanan. R	Manager HSSE	Bharat Petroleum Corporation Limited (BPCL)
29	Joyel Thomas	Senior Officer Fire & Safety	Konkan LNG Limited
30	Harsh Gupta	Manager	Indraprastha Gas Limited (IGL)
31	Kuldeep Barjatiya	AGM (Add.General Manager)	Indraprastha Gas Limited (IGL)
32	Mayank Mishra	Deputy Manager	Indraprastha Gas Limited (IGL)
33	Anand Kurjibhai Pokiya	Associate Field Officer	Shell Energy India Private limited
34	Dhinal Bharatkumar Patel	Senior Manager	Adani Total Gas Limited
35	Rahul Raj	Junior Executive Officer	Hindustan Petroleum Corporation Limited (HPCL)
36	Umesh kumar	Junior Executive Officer	Hindustan Petroleum Corporation Limited (HPCL)
37	Vishnu Baghel	Junior Executive Operations	Hindustan Petroleum Corporation Limited (HPCL)
38	Bhojesh Nirapure	Manager Operations	Hindustan Petroleum Corporation Limited (HPCL)
39	Dhruvkumar Nareshkumar Bardoliwala	Process Field Officer	Shell Energy India Private Limited

GUJARAT INSTITUTE OF DISASTER MANAGEMENT

BUILDING RESILIENCE