

SUMMARY REPORT ON

3-day Online Training Program on Multi-hazard Safety and Disaster Reduction in Industries”

Special Focus on Petrochemical Industry

April 26-28, 2021

Organised Jointly by

**National Institute of Disaster
Management (NIDM),**
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3-day Online Training Program on Multi-hazard Safety and Disaster Reduction in Industries” Special Focus on Petrochemical Industry April 26-28, 2021

Introduction & Objective

The industrial accidents that have happened across the country in recent past have highlighted the importance and need of training and capacity building for the strict compliance to the Guidelines/ SOPs process within Industries. The need for this adherence and compliance is further amplified to ensure adequate measures are taken for industrial safety, as this has been an unprecedented situation due to the pandemic COVID-19.

In the pursuit of academic excellence in the field of Industrial Safety and Disaster Risk Reduction and Management, National Institute of Disaster Management (NIDM) in collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI) envisages to promote safety culture and build capacities and resilience by highlighting & discussing critical issues with the involvement of top renowned speakers from Government, Non-Government, International Agencies and leading Industries.

In the pursuit of academic excellence in the field of Industrial Safety and Disaster Risk Reduction and Management, National Institute of Disaster Management (NIDM) in collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI) organisation a 3 day Online Training Programme to promote safety culture and build capacities and resilience by highlighting & discussing critical issues with the involvement of top renowned speakers from Government, Non-Government, International Agencies and leading Industries.

This training module on Industrial safety: Multi Hazard Scenario with Special Focus on COVID has been developed for use by different institutions/ professionals/ students/ industries dealing with the subject in the country at various levels. The aim of this programme was to raise the level of awareness and preparedness as well as to enhance analytical skills and professional competencies of different key stakeholders in various areas of Industrial safety and Disaster Risk Management. The e-learning courses was first of its kind in India which has helped hundreds of different users in enhancing knowledge base on the subject.

The courses provide excellent opportunities to learn about the Industrial Safety and Disaster Risk Reduction under professional guidance. The training materials may also be accessed through online course platform after completion of the course. Participants are provided certificates jointly issued by the NIDM and FICCI.

3-day Online Training Program on Multi-hazard Safety and Disaster Reduction in Industries” *Special Focus on Petrochemical Industry* April 26-28, 2021

AGENDA

Day 1: Monday, April 26, 2021

| Time | Resource Person |
|---|---|
| Moderator: Mr Rubaab Sood, Head, Disaster Risk Management, FICCI | |
| 2:00 PM – 2:30 PM | Lead Lecture by Dr Anil K Gupta, Professor & Head, ECDRM, NIDM, Government of India |
| 2:30 PM – 3:00 PM | Inaugural Session Welcome Address by Mr Rubaab Sood, Head, Disaster Risk Management, FICCI Opening Remarks by Prof Anil K Gupta, Professor & Head, ECDRM, NIDM, Government of India Special Remarks by Lt Gen (Dr) J R Bhardwaj Chairman, CIDM and Former Member, NDMA, Government of India Inaugural Address by Major General M K Bindal Executive Director, NIDM Government of India * |
| 3:00 PM – 3:45 PM | Presentation by Mr Gaurav Sharma, Manager, Fire and Safety, Indraprastha Gas Limited (IGL) |
| 3:45 PM – 4:30 PM | Presentation by Mr Deepak Pande, Head, EHS, Deepak Fertiliser and Petrochemicals Corp Ltd |
| Question and Answer: 15 mins | |

Day 2: Tuesday, April 27, 2021

| Time | Resource Person |
|-------------------------------------|--|
| 2:00 PM – 3:00 PM | Presentation by Mr Joydev Lahiri, CGM, Engineering and HSE, Oil India Limited |
| 3:00 PM – 3:30 PM | Presentation by Mr. Siyad B, Officer in Charge, Occupational Safety and Health Training Institute, Department of Factories and Boilers, Government of Kerala |
| 3:30 PM – 4:00 PM | Presentation by Mr Vipin P M, Inspector of Factories and Boilers, Department of Factories and Boilers, Government of Kerala |
| Question and Answer: 30 mins | |

Day3: Wednesday, April 28, 2021

| Time | Resource Person | |
|-------------------------------------|---|--|
| 2:00 PM – 2:40 PM | Presentation by Mr Pranab Ghosh, Head of HSE, Asset Integrity & Sustainability, Adani Total Gas Ltd | |
| 2:40 PM – 3:20 PM | Presentation by Mr N Bose babu, CEO, GSPL India Transco Limited | |
| 3:20 PM – 4:00 PM | Presentation by Mr R Hrishikesh Mahadev, Technical Advisor, Improvement to Site Conditions in India (ISCI) and Sustainable and Environment-friendly Industrial Production (SEIP), Sustainable Urban and Industrial Development, GIZ | |
| Question and Answer: 15 mins | | |
| 4:15 PM – 4:30 PM | Vote of Thanks | Dr Anil K Gupta, Professor and Head, ECDRM, NIDM, Government of India Mr Rubaab Sood, Head, Disaster Risk Management, FICCI |

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April 26, 2021 Day 1 Summary

The 3 Day Online Training Programme **began with the welcome address by Mr. Rubaab Sood, Head, Disaster Risk Management, FICCI.** Further Mr Sood spoke on the importance of the Online Training Program and mentioned about the stakeholders and the delegates who play a very important part in promoting safety in the country. He welcomed all the key speakers and thanked them for joining this initiative in the time of COVID on OTP on **Multi-hazard Safety and Disaster Reduction in Industries.**

Dr Anil K Gupta, Professor & Head, ECDRM, NIDM, Government of India said that a range of industries have joined the conference, he gave his best wishes to all Speakers and said that this is a great way to contribute and share knowledge towards enabling industrial safety and propagate the culture of safety and prevention within Industries and businesses. He said in the past, due to natural disasters many industries got affected. He said that the present thought process is that these Industries need to minimize human errors. Hence, we have to work towards business continuity and make business resilient. He added that Bhopal disaster was one of the biggest industrial disaster we have seen. After Bhopal disaster, many significant legislations came in.

Lt Gen (Dr) J R Bhardwaj Chairman, CIDM and Former Member, NDMA, Government of India said that industrial safety is a big issue, which have been addressed throughout the covid times on this CIDM FICCI platform and still there are minor to moderate type of accidents occurring here and there in the large number of industries. He said luckily major disaster has not occurred, because trainers and govt stake holders have put their best efforts to avoid major accidents. The main role that follows beside the direction and training coming from various institutions. He further added that it is a multi-hazard and multi-dimensional kind of approach, to make zero tolerance level in the chemical industry from safety point of view. He said that we need to take care of people around us as well as reduce human errors.

Mr. Gaurav Sharma, Manager, Fire and Safety, Indraprastha Gas Limited (IGL) on overview of safety management system in city gas distribution said that IGL is incorporated in 1998 and took over City Gas distribution project in 1999 from GAIL India Ltd. He said that we are working with the objective to provide Clean Energy Solution through Customer Centricity Innovation Technology and Diversification with international presence. He also said that IGL is working on a mission to provide safe, reliable & clean energy solutions to improve quality of life and enhance stakeholders value.

Mr Deepak Pande, Head, EHS, Deepak Fertiliser and Petrochemicals Corp Ltd said that disaster is a catastrophe, mishap, calamity, or grave occurrence affecting any area from natural or manmade causes or by accident or negligence which result in substantial loss of life or human suffering. He spoke on Preparedness Measures and said that we need to conduct mock drills in different hazardous conditions like gas leak, fire, toxic exposure etc. There is a need to develop communication protocols and there is a need to conduct combined mock dill with neighboring plants.

April 27, 2021 Day 2 Summary

Mr Joydev Lahiri, CGM, Engineering and HSE, Oil India Limited said that we have different type of Industries in India like Oil & Gas/ Petrochemicals, Metal and Mining, Cement, Aviation, FMCG, E-Commerce and many more. He said that in 2020 around 501 million workers were employed in these Indian Industries. He added that We are an organization, who generate 2nd largest employment after China. He said that some of the industries like Transport, Chemicals, Mining, Railways are the most dangerous/ Accident prone industries, whereas Construction industry experienced the most deaths at workplace. Agriculture, Forestry, Fishing and Hunting experienced the highest death rate per 100,000 workers. He said globally 2.78 million workers die each year. He tells us that both Oil and Gas fires are difficult to extinguish than any other, due to enormous continuous fuel supply for the fire. He said Petrochemical industry have numerous environmental, health and safety hazards.

Mr. Siyad B, Officer in Charge, Occupational Safety and Health Training Institute, Department of Factories and Boilers, Government of Kerala spoke on Multi hazard, safety & disaster reduction in petrochemical industries. He said most of the time we are expecting the unexpected things, knowingly or unknowingly it happens. He said petrochemical process is completed through a series of physical & chemical reactions. He said physical reaction is what we can see. He told us about major hidden hazards like, Static Energy, Rollover phenomenon, Boil over etc.

April 28, 2021 Day 3 Summary

Mr. Pranab Ghosh, Head of HSE, Asset Integrity & Sustainability, Adani Total Gas Ltd said as they have faced an emergency, so they focus on not landing up with any emergencies. He said that Adani Gas is a joint venture co with Indian Oil and Adani Total. He said that Adani has spread his gas in 15 states, 71 districts among 8% population are using the service of Adani Gas. He said that with the support of all stakeholders the company is doing great work. The gas is used by 5,000 commercial industrial customers and 500,000 domestic customers. He said that this kind of training session will give us more ignition to our mind to do more work in this field. We are always ready to contribute to this nation.

Mr N Bose babu, CEO, GSPL India Transco Limited spoke on gas pipeline network in Asian

countries and he said that Asian countries are sharing 1,88,522 km of gas pipelines. He discussed about manmade disasters and he gave an example of explosion where Fatality was around 14 people. He mentioned that it happened due to gas leakage and a total of 40 people were injured. He said that multi hazard pose a serious threat to human life and loss of property, if we analyze risk then we can reduce the risk of Multi hazard.

Mr R Hrishikesh Mahadev, Technical Advisor, Improvement to Site Conditions in India (ISCI) and Sustainable and Environment-friendly Industrial Production (SEIP), Sustainable Urban and Industrial Development, GIZ spoke on Climate Risk Assessment of Oil and Gas industry and he said that there is difference between Climate change and weather change. Weather change happens in a day and also in hour and all these leads to seasonal change, but climate change happens once in a period like decades. He said in last 100 years we have seen an increase in temperature up to 0.56 degree Celsius, most warming occurs in the post monsoon and winter seasons. He said by the end of 21st century, there will be increase in temperature about 2 to 3 degree Celsius across the country. He also said that in Chennai floods nearly 50,000 people lose their jobs and around 10,000 production units are hit due to flood.

Vote of Thanks and Closing Remarks:

Dr Anil K Gupta, Professor & Head, ECDRM, NIDM, Government of India, Dr. Muzaffar Ahmed, Former Member, NIDM and Mr. Rubaab Sood, Head, Disaster Risk Management, FICCI thanked everyone on behalf of NIDM and FICCI for their patience and listening to all the talks by eminent sectoral experts during the 3-day online training program.

Dr Muzaffar Ahmad, Former Member, National Disaster Management Authority, Government of India gave the closing remarks and appreciated the joint endeavor of NIDM and FICCI towards online training program on Multi-hazard Safety and Disaster Reduction in Industries” Special Focus on Petrochemical Industry.

The Session was moderated by Mr. Rubaab Sood, Head, Disaster Risk Management, FICCI.

More than 350 participants from industry and academia attended the course online on all the three days of the program.

3-day Online Training Program on Multi-hazard Safety and Disaster Reduction in Industries” *Special Focus on Petrochemical Industry* April 26-28, 2021

Banner



nidm
Resilient India - Disaster Free India
National Institute of Disaster Management (NIDM)
Ministry of Home Affairs, Government of India

FICCI

FICCI CIDM in partnership with NIDM
presents
“3-day Online Training Programme on Multi-hazard Safety and Disaster Reduction in Industries”
26-28 April 2021, 02:00 PM – 04:30 PM

Opening Remarks by

- Lt Gen (Dr) J R Bhardwaj**
Chairman, CIDM and Former Member, NIDMA, Government of India
- Major General M K Bindal**
Executive Director NIDM, Government of India

Eminent Speakers

- Mr Gaurav Sharma**
Manager, Fire and Safety Indraprastha Gas Limited (IGL)
- Mr Deepak Pande**
Head, EHS Deepak Fertiliser and Petrochemicals Corp Ltd
- Mr Pranab Ghosh**
Head of HSE, Asset Integrity & Sustainability, Adani Total Gas Ltd
- Dr Anil K Gupta**
Professor & Head - ECDRM, NIDM, Government of India
- Mr Joydev Lahiri**
CGM - Engg & HSE Oil India Limited
- Mr N Bose Babu**
CEO GSPL India Transco Limited
- Mr R Hrishikesh Mahadev**
Technical Advisor, Sustainable & Environment Friendly Industrial Production (SEIP), GIZ

Download Agenda : <https://bit.ly/3nmXpka>

Register at : <https://training.nidm.gov.in/>

PREVENTION COVID-19

- Wash your Hands frequently
- Clean Surface Regularly
- Practice Social Distancing
- Wear a Mask
- Eat Healthy
- Sneeze Into your Elbow
- Avoid touching your Face

Organising Team

- Dr Anil K Gupta, Professor & Head – ECDRM, NIDM, Government of India
- Mr Rubaab Sood, Head Disaster Risk Management, FICCI
- Mr Akhil Gupta, Joint Director, FICCI
- Mr Mainak Majumdar, Deputy Director, FICCI
- Mr Varun Sharma, Research Associate, FICCI
- Mr Harshit Mohan Sharma, Young Professional, NIDM

**3-day Online Training Program on Multi-hazard Safety and
Disaster Reduction in Industries”
Special Focus on Petrochemical Industry
April 26-28, 2021**

Key Takeaways

1. Maintaining adequate inventory of safety equipment, firefighting equipment etc.
2. Developing dedicated action plans for different applicable disaster.
3. Developing strict quality control/ assurance protocols for vendor/ contractor qualification.
4. It is evident that we must adopt all safety measures in all industrial fronts to avoid accident and disaster and save human lives, property as well as the environment.
5. One Call Emergency Centre need to be created for Oil & Gas Operations, Including pipelines – which will facilitate individual operators to communicate its operational urgencies.
6. Purge storage tanks with an inert gas to remove oxygen.
7. Add anti-static agent to the liquids.
8. Verify that storage tank level floats are effectively bonded.
9. Use social media platform for early warning & disaster management.
10. Off-site drill for natural calamities.

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Registration List: 557 Participants

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**3-day Online Training Program on Multi-hazard Safety and
Disaster Reduction in Industries”
Special Focus on Petrochemical Industry
April 26-28, 2021**

Photographs





CONSUMER SAFETY AWARENESS CAMPS Clause 4.4.2

- Validation of CNG cylinders is ensured by checking the Compliance Plates affixed in CNG vehicle before dispensing CNG.
- Massive Safety Awareness is created among the customers through Safety Clinics, Safety films, Cautionary Boards, displaying banners and slogans, stickers, pamphlets, press, FM Radio and advertisements.
- Safety Clinics for CNG consumers are organized for checking CNG kits



- Safety awareness information is broadcasted through FM radio

HS (Harshit Sharma) | GS (gaurav sharma) | PN (Prof Anil K Gupta Ho)

Via CiscoWebex



Mitigation Measures

- Ensuring engineered controls for credible major hazards, for example, *high high temperature interlock for preventing runaway reactions with due redundancy of instruments*
- Ensuring administrative controls for credible minor hazards, for example, *use of appropriate PPEs while doing sampling*
- Conducting internal/ external audits at defined intervals, for example, *conducting structural audits for prilling tower structure to ensure its integrity*
- Maintaining practical incident investigation protocols

KPIs:

- Number of audit recommendations unresolved
- Number of near miss/ incidents reported
- Number of unresolved corrective/ preventive actions

Contact: +91 9920942161 Email id: deepak.pande@dfpcl.com

there are some.
Concerns then we conduct structural audit based on the

DP

Deepak Pande



Akhil Gupta

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+3

Via CiscoWebex

External Communication Clause 4.4.3.1





HS

Harshit Sharma



Akhil Gupta

GS

gaurav sharma

PN

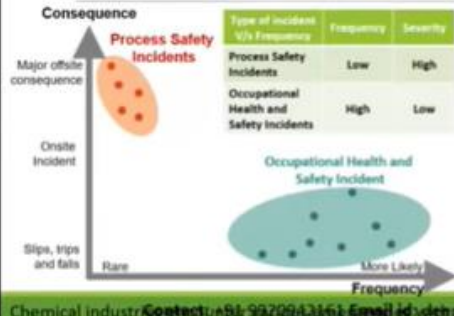
Prof Anil K Gupta Ho



+2

Via Cisco Webex

Applicable Disasters



| Type of Incident | Frequency | Severity |
|--|-----------|----------|
| Process Safety Incidents | Low | High |
| Occupational Health and Safety Incidents | High | Low |

- Other chemical industries, engineering and ancillary industries witness occupational health and safety incident related emergencies more predominantly than petrochemicals and agrochemical industries.
- This is because petrochemicals and agrochemical industries handle, process and store hazardous chemicals like flammable and explosive and toxic in very high volumes.
- These hazardous chemicals are also processed at critical process parameters.

Chemical industry... occupation health and safety incidences. Their frequency is hi. But the see where it is comparatively

DP

Deepak Pande

GS

gaurav sharma

PN

Prof Anil K Gupta Ho

Via Cisco Webex

3-day "Certificate" Online Training Program

Organised Jointly
By
nidm
National Institute of Disaster Management (NIDM)
and
FICCI
Chemical & Industrial Board, FICCI

Multi-hazard Safety and Disaster Reduction in Industries – Special Focus on Petrochemical Industry

MM

Mainak Majumdar

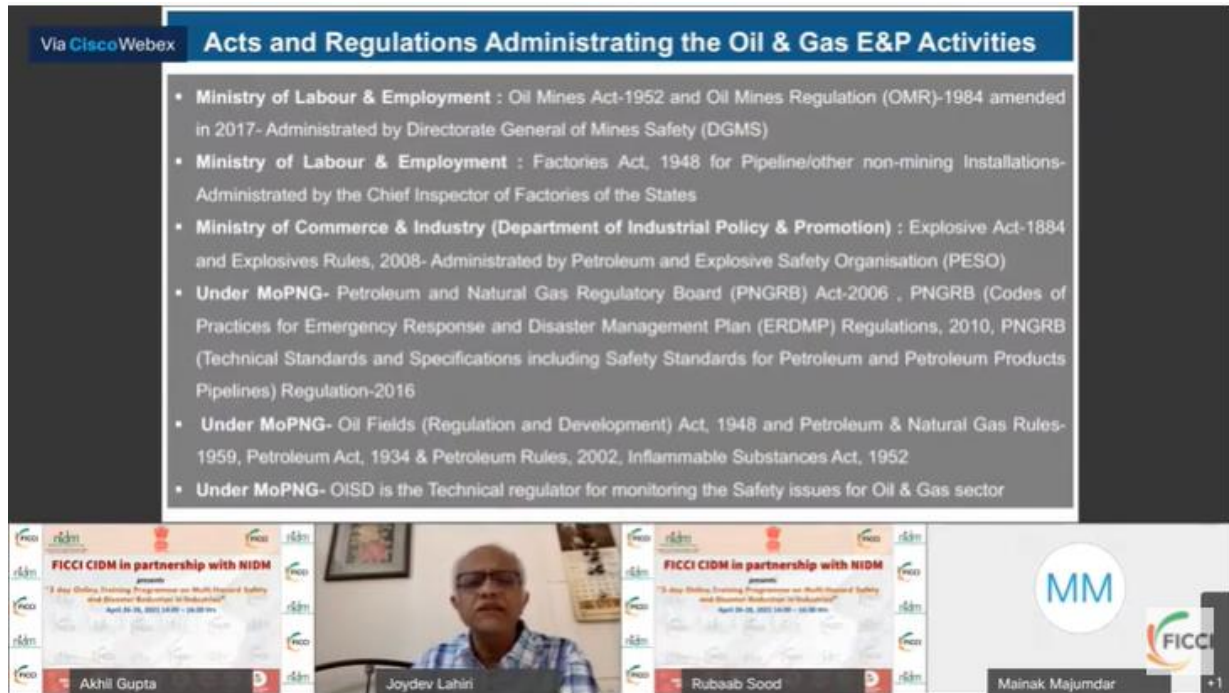
Akhil Gupta

Joydev Lahiri

Rubaab Sood

Via Cisco Webex **Acts and Regulations Administrating the Oil & Gas E&P Activities**

- Ministry of Labour & Employment : Oil Mines Act-1952 and Oil Mines Regulation (OMR)-1984 amended in 2017- Administrated by Directorate General of Mines Safety (DGMS)
- Ministry of Labour & Employment : Factories Act, 1948 for Pipeline/other non-mining Installations- Administrated by the Chief Inspector of Factories of the States
- Ministry of Commerce & Industry (Department of Industrial Policy & Promotion) : Explosive Act-1884 and Explosives Rules, 2008- Administrated by Petroleum and Explosive Safety Organisation (PESO)
- Under MoPNG- Petroleum and Natural Gas Regulatory Board (PNGRB) Act-2006 , PNGRB (Codes of Practices for Emergency Response and Disaster Management Plan (ERDMP) Regulations, 2010, PNGRB (Technical Standards and Specifications including Safety Standards for Petroleum and Petroleum Products Pipelines) Regulation-2016
- Under MoPNG- Oil Fields (Regulation and Development) Act, 1948 and Petroleum & Natural Gas Rules-1959, Petroleum Act, 1934 & Petroleum Rules, 2002, Inflammable Substances Act, 1952
- Under MoPNG- OISD is the Technical regulator for monitoring the Safety issues for Oil & Gas sector



Via Cisco Webex

Multi_hazard safety & Disaster reduction in Petrochemical Industries

Siyad B. M.Tech,
Occupational Safety & Health Training Institute
Dept. of Factories & Boilers
Govt. of Kerala



