TRAINING TITLE

INDUSTRIAL BUILDING DESIGN: BLAST RESISTANCE AND RESILIENT FOR OIL AND GAS FIELD

Training Duration

5 days

Training Venue and Dates

HSE346	**Industrial Building Design: Blast Resistance and Resilient for Oil and Gas Field**	**5**	**15-19 Dec 2025**	**$5,500**	**DUBAI, UAE**

In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- **$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch**

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

This course provides an in-depth understanding of industrial building design principles, specifically focused on blast resistance and resilience for facilities in the oil and gas industry. Participants will learn about the unique challenges and design considerations for buildings exposed to potential hazards, such as explosions and other extreme events. The course covers the key aspects of safety, structural integrity, and resilient design practices to ensure the protection of personnel, assets, and the environment in oil and gas field operations.

TRAINING OBJECTIVES

By the end of this course, participants will be able to:

- Understand the principles of blast-resistant design for industrial buildings in the oil and gas sector.
- Learn the key design considerations for structural resilience against explosions, fire, and other hazards.
- Gain knowledge of relevant codes, standards, and regulations for blast-resistant design.
- Explore techniques to enhance building safety, integrity, and post-event resilience.
- Develop strategies for mitigating risks and ensuring the continued operation of facilities in hazardous environments.

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

WHO SHOULD ATTEND?

- Structural engineers and designers involved in the design and construction of oil and gas facilities.
- Safety and risk management professionals working in hazardous environments.
- Architects and facility managers responsible for the safety and resilience of industrial buildings.
- Engineers and technical staff involved in operations and maintenance of oil and gas facilities.
- Individuals seeking to understand the principles and practices of blast-resistant building design.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.
Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

COURSE PROGRAM:

Day 1: Introduction to Blast Resistance and Resilient Design

- Overview of industrial building design for oil and gas operations.
- Principles of blast-resistant design: Purpose and importance.
- Risks and hazards in the oil and gas industry: Explosions, fires, and natural disasters.
- Key concepts: Resilience, redundancy, and survivability in building design.
- Understanding relevant codes and standards (API, ASCE, and international regulations).

Day 2: Blast Load Assessment and Structural Response

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

- Methods for assessing potential blast loads: Types of explosions, pressure waves, and blast effects.
- Determining the magnitude and duration of blast loads.
- Structural behavior under blast loading: Elastic and plastic responses.
- The role of material selection in blast resistance.
- Introduction to blast-resistant structural systems: Steel, reinforced concrete, and composite materials.

Day 3: Design Considerations for Blast Resistance

- Architectural and structural design strategies for blast resistance.
- Incorporating blast-resistant walls, windows, and doors.
- Designing for progressive collapse prevention and blast load distribution.
- Reinforcement techniques: Strengthening weak points in building design.
- Detailing considerations: Sealing, ventilation, and escape routes.

Day 4: Resilience and Post-Event Recovery

- Enhancing resilience in building design: Importance of redundancy and robustness.
- Designing for rapid recovery and repair after a blast event.
- Structural repair techniques and materials for oil and gas facilities.
- Integration of blast resistance with overall safety management systems.
- Resilience of utility systems: Power, water, and ventilation during and after an explosion.

Day 5: Case Studies and Risk Mitigation Strategies

- Review of real-world examples of blast-resistant design in the oil and gas industry.
- Lessons learned from past explosions and hazards in industrial buildings.
- Risk management strategies for reducing blast impact: Site location, facility layout, and safety zones.
- Safety management systems and emergency preparedness for blast events.
- Final review: Best practices and implementation of blast-resistant design in oil and gas facilities.

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

NOTE:

Pre-& Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

…….

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com