MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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BLAST RESISTANCE BUILDINGS FOR OIL AND GAS FIELD TRAINING

"Design and Construct Safer Facilities — Master the Principles of Blast-Resistant Building Design for Oil & Gas Environments."

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

In the oil and gas industry, safety and structural integrity are of paramount importance. Explosive hazards, accidental overpressures, and fire risks demand the development of blast-resistant buildings that can protect personnel, critical equipment, and operations. The Blast Resistance Buildings for Oil and Gas Field Training provides participants with a comprehensive understanding of blast loads, structural responses, material behavior, and modern design practices for buildings located in high-risk zones.

This training program combines theoretical fundamentals with real-world case studies to help engineers, designers, and safety professionals design and assess buildings for blast resistance. It focuses on risk assessment, blast load calculations, structural detailing, and compliance with international standards such as API RP 752/753 and ASCE guidelines.

Objectives

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

- Understand the nature and types of blast loads in oil and gas environments.
- Learn key design principles for blast-resistant structures and components.
- Analyze building layouts for optimal safety and damage mitigation.
- Apply API RP 752/753, ASCE, and other international standards for blast design.
- Evaluate structural and non-structural performance under dynamic loads.
- Integrate blast mitigation and protection systems in design.
- Conduct risk assessments and develop safety management strategies.
- Use simulation tools for assessing blast effects and building performance.

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Why Attend

With safety regulations tightening across the oil and gas sector, expertise in blast-resistant building design is becoming increasingly valuable. This course offers a blend of theoretical and applied knowledge, helping participants master the techniques required to design safe and compliant facilities. Engineers and safety managers will gain practical insights into improving resilience, reducing risks, and ensuring the safety of assets and personnel in hazardous zones.

Target Audience

This course is suitable for:

- Structural and Civil Engineers
- Design Engineers and Architects
- HSE (Health, Safety & Environment) Professionals
- Project Managers and Construction Supervisors
- Risk Assessment and Safety Consultants
- Facility and Maintenance Engineers
- Oil and Gas Field Operations Personnel
- Engineering Students specializing in structural or safety design

Individual Benefits

- Develop technical expertise in blast-resistant design principles.
- Understand the behavior of materials and structures under explosion loads.
- Gain knowledge of international safety codes and compliance frameworks.
- Strengthen your capability to assess risks and propose protective solutions.
- Enhance your professional value and employability in oil and gas projects.
- Gain confidence to contribute to safer facility planning and design.

Organizational Benefits

- Improve safety performance and risk management at project sites.
- Ensure compliance with international design and safety standards.
- Reduce potential for structural failures and human casualties.
- Enhance resilience of critical buildings and operational facilities.
- Minimize financial and reputational losses through proactive safety design.
- Build in-house expertise for design, audit, and safety assurance.

Instructional Methodology

The training uses an interactive, engineering-based approach through:

- Technical presentations with design fundamentals and formulas
- Case studies from real oil and gas facility incidents
- Practical examples of blast calculations and performance evaluation
- Group exercises on layout planning and mitigation strategies
- Video demonstrations of structural response under blast loads
- Open discussions and Q&A sessions with subject experts

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Course Outline

Module 1: Introduction to Blast Phenomena and Explosion Mechanisms

Module 2: Blast Loads and Pressure-Time Characteristics

Module 3: Structural Response and Behavior of Materials under Blast Loading

Module 4: Design Principles for Blast-Resistant Buildings

Module 5: Standards and Guidelines (API RP 752/753, ASCE, UFC, and ISO Codes)

Module 6: Structural Detailing, Reinforcement, and Component Protection

Module 7: Dynamic Analysis and Modeling Techniques

Module 8: Risk Assessment and Layout Optimization for Oil & Gas Facilities

Module 9: Case Studies — Lessons Learned from Real Incidents

Module 10: Capstone Project — Designing a Blast-Resistant Control Building

Certification

Upon successful completion, participants will receive a Certificate of Competency in Blast Resistance Buildings for Oil and Gas Field Design, recognizing their understanding of advanced safety design principles, standards, and practices for critical infrastructure protection.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**