COURSE OVERVIEW SE0013
Industrial Building Design
Blast Resistance and Resilient for Oil and Gas Field

Course Title
Industrial Building Design: Blast Resistance and Resistance and Resilient for Oil and Gas Field

Course Date/Venue
October 27-31, 2025/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
SE0013

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of industrial building design of blast resistance and resilient for oil and gas field. It covers the design management process and controlling the design of the industrial projects; the load on the industrial structure; the blast load effect and calculation, pressure versus time characteristic and load combination with blast load; the concrete and steel structure design to resist blast; the CFRP principal and design including doors and resistance specs to resist blast load; and the precaution in control room design and static and dynamic analysis for blast load.

During this interactive course, participants will learn the use of fire proofing materials in case of fire; the reinforced concrete tank design, design of steel tanks ring beam and pipeline support design; the design of foundation under machines and the reinforced concrete wall design principle; the pipeline anchor block and the reasons of fails and cracks of concrete structure; the precaution in repair of concrete structure and construction precaution to achieve design requirement; and the proper inspection and monitoring procedure to control the construction.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on industrial building design of blast resistance and resilient for oil and gas field
- Discuss the design management process and control the design of the industrial projects
- Define the load on the industrial structure and identify the blast load effect and calculation, pressure versus time characteristic and load combination with blast load
- Illustrate concrete and steel structure design to resist blast
- Explain CFRP principal and design including doors and resistance specs to resist blast load
- Apply precaution in control room design and static and dynamic analysis for blast load
- Use fire proofing materials in case of fire, reinforced concrete tank design, design of steel tanks ring beam and pipeline support design
- Illustrate the design of foundation under machines and explain the reinforced concrete wall design principal
- Design pipeline anchor block and identify the reasons of fails and cracks of concrete structure in industrial
- Apply precaution in repair of concrete structure and construction precaution to achieve design requirement
- Employ proper inspection and monitoring procedure to control the construction

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of industrial building design of blast resistance and resilient for oil and gas field for professional engineers and analysts in the oil, petrochemical, civil, mechanical and power generation industries as well as architects, aerospace and defense engineering professionals, security managers and researchers.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Haward's certificates are accredited by the following international accreditation organizations:

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

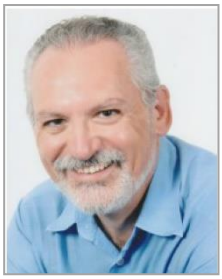
  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Steve Magalios, CEng, PGDip (on-going), MSc, BSc, is a **Senior Civil Engineer** with almost **30 years** of extensive **On-shore & Offshore** experience in the **Oil & Gas**, **Construction**, **Dynamic Evaluation**, **Structural Analysis & Design** (**STAAD PRO**), **Land Surveying** & Property Evaluation, **Refinery** and **Petrochemical** industries. His expertise widely covers in the areas of **Blast** Simulation, **Blast** Resistant & Resilient Design, Building Life Assessment & Retrofit Solutions for **Blast Resistance**, **Seismicity** Modelling, **Seismic Design** for Buildings, Advanced **Seismic & Wind Design** of **Reinforced Concrete**, Industrial Building Design, **Blast Resistance & Resilient** for Oil & Gas Field, **Concrete Structures & Building Rehabilitation**, **Reinforced Concrete Structures Protection**, **Concrete** Structure Inspection & Repair, **Concrete** Inspection & Maintenance, **Concrete Maintenance & Reliability Analysis**, Design and Behaviour of **Steel Structures**, **Advanced Steel Design & Stability** of **Structures Concrete Structural** Design, **Dynamic Analysis** of **Rotating Equipment** Foundations & **Structural Steel Piperacks**, **Concrete** Technology, **Construction** Planning, **Construction & Concrete Works** Maintenance, Advanced **Building Construction** Technology, **Geosynthetics & Ground Improvement** Methods, **Bench** Design, **Benching**, **Land Survey and ArcGIS for Earthworks & Management**, **ArcGIS** for Surveying, Computer Aided Design (**CAD**), **AutoCAD Civil 3D**, **GIS & Mapping**, **Earth Measurements**, **Earthwork** & **Structural Maintenance**, System Safety Program Plan (**SSPP**) Inspection, **Building & Road** Design Skills, **Civil Engineering Design**, **Structural Reliability** Engineering, **Road** Construction & Maintenance, **Road** Pavement Design, **Road** Maintenance, **Drainage** System Operations & Maintenance, **Blueprint** Reading & Interpretation, **Blue Print** Documentation, Mechanical **Drawings**, **P&ID**, **Flow Diagram** Symbols, **Cartographic** Representation, Soil Classification, **Project Engineering** & Design, **Construction** Management, **Project Planning** & Execution, **Site Management**, **Site Supervision**, **Project Evaluation**, **FEED** Management, HSE Plan & Procedures, **Construction** Planning, Methods & Management, **Sloping**, **Embankments**, **Construction** Planning, **Construction Quality** Management, **Project Risk** Assessment, **Project Quality** Plans, **Excavation**, **Backfill & Compaction**, **Excavation & Reinstatement**, **Excavation Safety** for Construction, **Groundworks Supervision**, **Construction Quality** Remote Sensing, Construction Materials, Construction Surveying, **Detailed Engineering** Drawings, Codes & Standards Quality Plan & Procedures, Safety & Compliance Management, Permit-to-Work Issuer, ASME, API, ANSI, ASTM, BS, NACE, ARAMCO & KOC Standards, MS Office tools, **AutoCAD**, **STAAD-PRO**, GIS, ArcInfo, ArcView, Autodesk Map and various programming languages and software such as **SHOTPlus**, FORTRAN, BASIC and AUTOLISP. Currently, he is the **Chartered Professional Surveyor Engineer & Urban-Regional Planner** wherein he is deeply involved in providing exact data, measurements and determining properly boundaries. He is also responsible in preparing and maintaining sketches, maps, reports and legal description of surveys.

During his career, Mr. Magalios has gained his expertise and thorough practical experience through challenging positions such as a **Project Site Construction Manager**, **Construction Site Manager**, **Project Manager**, **Deputy PMS Manager**, **Head of the Public Project Inspection Field Team**, **Technical Consultant**, **Senior Consultant**, **Consultant/Lecturer**, **Construction Team Leader**, **Lead Pipeline Engineer**, **Project Construction Lead Supervising Engineer**, **Civil Engineer**, **Lead Site Engineer**, **Senior Site Engineer Lead Engineer**, **Senior Site Engineer**, **R.O.W. Coordinator**, **Site Representative**, **Supervision Head** and **Contractor** for international Companies such as the Penspen International Limited, Eptista Servicios de Ingeneria S.I., J/V ILF Pantec TH. Papaioannou & Co. – Emenergy Engineering, J/V Karaylannis S.A. – Intracom Constructions S.A., Ergaz Ltd., Alkyonis 7, Palaeo Faliro, Piraeus, Elpet Valkaniki S.A., Asprofos S.A., J/V Depa S.A. just to name a few.

Mr. Magalios is a **Registered Chartered Engineer** and has a **Master's** and **Bachelor's** degree in **Surveying Engineering** from the **University of New Brunswick**, **Canada** and the **National Technical University of Athens**, **Greece**, respectively. Further, he is currently enrolled for **Post-graduate** in **Quality Assurance** from the **Hellenic Open University**, **Greece**. He has further obtained a Level 4B Certificates in Project Management from the National & Kapodistrian University of Athens, Greece and Environmental Auditing from the Environmental Auditors Registration Association (EARA). Moreover, he is a **Certified Instructor/Trainer**, a **Chartered Engineer** of Technical Chamber of Greece and has delivered numerous trainings, workshops, seminars, courses and conferences internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: ***Monday, 27th of October 2025***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Design Management Process***
0930 – 0945	*Break*
0945 - 1030	***Control the Design of the Industrial Projects***
1030 - 1230	***Define the Load on the Industrial Structure***
1230 - 1245	*Break*
1245 - 1420	***Blast Load Effect & Calculation***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: ***Tuesday, 28th of October 2025***

0730 – 0830	***Pressure versus Time Characteristic***
0830 – 0930	***Load Combination with Blast Load***
0930 – 0945	*Break*
0945 – 1100	***Concrete & Steel Structure Design to Resist Blast***
1100 – 1215	***CFRP Principal & Design***
1215 – 1230	*Break*
1230 – 1420	***Doors & Resistance Specs to Resist Blast Load***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: ***Wednesday, 29th of October 2025***

0730 – 0830	***Precaution in Control Room Design***
0830 – 0930	***Static & Dynamic Analysis for Blast Load***
0930 – 0945	*Break*
0945 – 1100	***Fire Proofing Materials in Case of Fire***
1100 – 1215	***Reinforced Concrete Tank Design***
1215 – 1230	*Break*
1230 – 1420	***Design of Steel Tanks Ring Beam***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4:	***Thursday, 30th of October 2025***
0730 – 0930	***Pipeline Support Design***
0930 – 0945	*Break*
0945 – 1100	***Design of Foundation Under Machines***
1100 – 1215	***Reinforced Concrete Wall Design Principal***
1215 – 1230	*Break*
1230 – 1420	***Design of Pipeline Anchor Block***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5:	***Friday, 31st of October 2025***
0730 – 0930	***Reasons of Fails & Cracks of Concrete Structure in Industrial***
0930 – 0945	*Break*
0945 – 1100	***Precaution in Repair of Concrete Structure***
1100 – 1230	***Construction Precaution to Achieve Design Requirement***
1230 – 1245	*Break*
1245 – 1345	***The Inspection & Monitoring Procedure to Control the Construction***
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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