COURSE OVERVIEW ME0389
Pipe Stress Analysis CAESAR II Static

Course Title
Pipe Stress Analysis CAESAR II Static

Course Date/Venue
July 27-31, 2024/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

3.0 CEUs (30 PDHs) AWARD

Course Reference
ME0389

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

H-STK© INCLUDED

Course Description

This practical and highly-interactive course includes practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of Pipe Stress Analysis CAESAR II Static. It covers the necessity, governing principles, and key terms of pipe stress analysis; the software interface and basic functions of CAESAR II; the input of a piping system into CAESAR II; and the basic system.

During this interactive course, participants will learn the static analysis theory including the primary and secondary loads and sustained and occasional loads; developing load cases and identify how to set up and solve various load cases for static analysis; checking for errors and creating reports using CAESAR II; the sustained load and expansion loads and their implications and design to accommodate these loads; using the software to perform sustained and expansion load analysis; the seismic analysis, wind loading, or dynamics; the common issues and how to resolve them; and the best practices in pipe stress analysis.

Course Objectives

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

- Apply and gain an in-depth knowledge on CAESAR II static pipe stress analysis
- Discuss the necessity, governing principles, and key terms of pipe stress analysis
- Explore the software interface and basic functions of CAESAR II
- Input a piping system into CAESAR II and create a basic system
- Discuss the static analysis theory including the primary and secondary loads and sustained and occasional loads
- Develop load cases and identify how to set up and solve various load cases for static analysis
- Check for errors and create reports using CAESAR II
- Recognize sustained loads and expansion loads including their implications and design to accommodate these loads
- Use the software to perform sustained and expansion load analysis
- Discuss seismic analysis, wind loading, or dynamics
- Identify the common issues and how to resolve them and apply best practices in pipe stress analysis

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 CAESAR II static pipe stress analysis for mechanical/design engineers, piping vessel maintenance engineers, engineering managers, piping designers, plant managers, draftsmen and those who are involved with piping in the petroleum, chemical, power, gas transmission and related industries.

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 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

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**. 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.

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.

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. Dimitry Rovas, CEng, MSc, PMI-PMP, SMRP-CMRP is a **Senior Mechanical & Maintenance Engineer** with extensive industrial experience in **Oil**, **Gas**, **Power** and **Utilities** industries. His expertise includes **CAESAR**, **Pipe Stress Analysis**, **Pipeline** System Design, Construction, Maintenance and Repair, Facilities & **Pipeline** Integrity Assessment, **Pipeline** Welding Practices, Internal **Corrosion of Pipelines, Pipeline Integrity Management & Risk Assessment**, **Thermal Insulation**, **Insulation** Standards & Regulations, **Insulation** Materials & Selection, **Piping System Insulation**, **Insulation Installation** Techniques, **Insulation** Inspection & Quality Control, **Insulation** Thickness Calculation, **Insulation** & Corrosion Protection, **Heat Exchanger & Boiler Insulation**, **Tanks & Vessels Insulation**, **Pipeline & Piping Insulation**, **Insulation** Testing & Quality Assurance, **Insulation** Maintenance & Repair, **Insulation** Retrofitting, **Impulse Tube** Installation & Inspection, **Parker Compression Fittings**, **Pipes & Fittings**, **PSV Inspection**, **Boiler** Operation, Maintenance & Inspection, **Root Cause Failure Analysis**, **Tank** Design & Engineering, **Tank Shell**, **Tanks & Tank Farms**, **Vacuum Tanks**, **Gas Turbine** Operating & Maintenance, **Diesel Engine**, **Engine Cycles**, **Governors & Maintenance**, **Crankshafts** & Maintenance, **Lubrication** System Troubleshooting & Maintenance, **Engines/Drivers**, **Motor** Failure Analysis & Testing, **Motor** Predictive Maintenance, **Engine** Construction & Maintenance, **HP Fuel Pumps & Maintenance**, **Fired Equipment** Maintenance, Combustion **Techniques**, **Process Heaters**, Glass Reinforced Epoxy (**GRE**), Glass Reinforced Pipes (**GRP**), Glass Reinforced Vent (**GRV**), **Mechanical Pipe Fittings**, **Flange Joint Assembly**, Adhesive Bond Lamination, **Butt Jointing**, **Joint & Spool Production**, **Isometric Drawings**, **Flange Assembly** Method, **Fabrication & Jointing**, Jointing & Spool Fabrication, **Pipe Cuttings**, **Flange Bolt Tightening** Sequence, **Hydro Testing**, **Pump** Technology, Fundamentals of **Pumps**, **Pump** Selection & Installation, **Centrifugal Pumps & Troubleshooting**, **Reciprocating & Centrifugal Compressors**, **Screw Compressor**, **Compressor** Control & Protection, **Gas & Steam Turbines**, **Turbine** Operations, **Gas Turbine** Technology, **Valves**, **Process Control Valves**, **Bearings & Lubrication**, Advanced **Machinery Dynamics**, **Rubber Compounding**, **Elastomers**, **Thermoplastic**, **Industrial Rubber Products**, **Rubber** Manufacturing Systems, **Heat Transfer**, **Vulcanization Methods**, **Process Plant Shutdown & Turnaround**, **Professional Maintenance Planner**, Advanced **Maintenance Management**, **Maintenance Optimization & Best Practices**, **Maintenance Auditing & Benchmarking**, **Material Cataloguing**, **Reliability** Management, **Rotating Equipment**, **Energy Conservation**, **Energy Loss Management** in Electricity Distribution Systems, **Energy Saving**, **Thermal Power Plant** Management, **Thermal Power Plant** Operation & Maintenance, **Heat Transfer**, **Machine Design**, **Fluid Mechanics**, **Heating & Cooling Systems**, **Heat Insulation Systems**, **Heat Exchanger & Cooling Towers**, **Mechanical Erection**, **Heavy Rotating Equipment**, Material Unloading & Storage, Commissioning & Start-Up. Further, he is also well-versed in MS project & AutoCAD, EPC Power Plant, Power Generation, Combined Cycle Powerplant, Leadership & Mentoring, Project Management, Strategic Planning/Analysis, Construction Management, Team Formation, Relationship Building, Communication, Reporting and Six Sigma. He is currently the **Project Manager** wherein he is managing, directing and controlling all activities and functions associated with the domestic heating/cooling facilities projects.

During his life career, Mr. Rovas has gained his practical and field experience through his various significant positions and dedication as the **EPC Project Manager**, **Field Engineer**, **Thermal Insulation Engineer**, **Mechanical Engineer**, **Preventive Maintenance Engineer**, **Senior Thermal Insulation Technician**, **Researcher**, **Instructor/Trainer**, **Telecom Consultant** and **Consultant** from various companies such as the Podaras Engineering Studies, Metka and Diadikasia, S.A., **Hellenic Petroleum Oil Refinery** and COSMOTE.

Mr. Rovas has a **Master's** degree in **Energy Production & Management** and **Mechanical Engineering** from the **National Technical University of Athens** (**NTUA**), **Greece**. Further, he is a **Certified Instructor/Trainer**, a **Certified Maintenance and Reliability Professional** (**CMRP**) from the Society of Maintenance & Reliability Professionals (**SMRP**), **Certified Project Management Professional** (**PMI-PMP**), **Certified Six Sigma Black Belt**, **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), **Certified Construction Projects Contractor**, **Certified Energy Auditor** and a **Chartered Engineer**. Moreover, he is an active member of **American Society for Quality**, Project Management Institute (**PMI**), **Body of Certified Energy Auditors** and **Technical Chamber of Greece**. He has further received various recognition and awards and delivered numerous trainings, seminars, courses, workshops and conferences internationally.

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: ***Sunday, 27th of July 2025***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Pipe Stress Analysis**: Understanding Why it's Necessary, the Governing Principles, & Key Terms*
0930 – 0945	*Break*
0945 – 1100	***Overview of CAESAR II**: Exploring the Software Interface & Basic Functions*
1100 – 1215	***Inputting a Piping System into CAESAR II**: Learn to Create a Basic System*
1215 – 1230	*Break*
1230 – 1420	***Static Analysis Theory**: An Overview of Static Analysis, Why it's Necessary, & What it Reveals About a Piping System*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: ***Monday, 28th of July 2025***

0730 – 0930	***Loads**: Explanation of Primary & Secondary Loads, Sustained & Occasional Loads*
0930 – 0945	*Break*
0945 – 1100	***Developing Load Cases**: How to Set Up & Solve Various Load Cases for Static Analysis*
1100 – 1215	***Practical Exercises**: Participants will have Hands-on Experience Developing Load Cases*
1215 – 1230	*Break*
1230 – 1420	***Error Checking & Report Generation**: Learn to Check for Errors & Create Reports using CAESAR II*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: ***Tuesday, 29th of July 2025***

0730 – 0930	***Understanding Sustained Loads**: Deep Dive into Sustained Loads, their Implications & How to Design to Accommodate these Loads*
0930 – 0945	*Break*
0945 – 1100	***CAESAR II for Sustained Loads**: How to Use the Software to Perform Sustained Load Analysis*
1100 – 1215	***Practical Exercises**: Participants will have Hands-on Experience Performing Sustained Load Analysis*
1215 – 1230	*Break*
1230 – 1420	***Review of Day's Concepts**: Review & Discussion of the Day's Learnings*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4: ***Wednesday, 30th of July 2025***

0730 – 0930	***Expansion Loads**: Deep Dive into Expansion Loads, their Implications, & How to Design to Accommodate these Loads*
0930 – 0945	*Break*
0945 – 1100	***CAESAR II for Expansion Loads**: How to Use the Software to Perform Expansion Load Analysis*

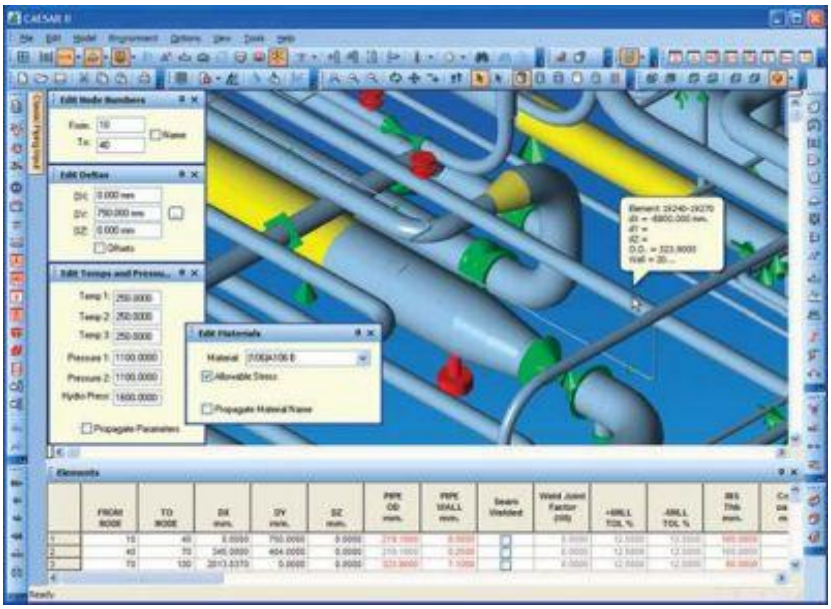
1100 – 1215	***Practical Exercises**: Participants will have Hands-on Experience Performing Expansion Load Analysis*
1215 – 1230	*Break*
1230 – 1420	***Review of Day's Concepts**: Review & Discussion of the Day's Learnings*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5: ***Thursday, 31th of July 2025***

0730 – 0930	***Advanced Topics**: Cover Any Additional Topics such as Seismic Analysis, Wind Loading, or Dynamics (As per Course Objectives & Participant Interest)*
0930 – 0945	*Break*
0945 – 1100	***Practical Exercise**: Participants will have a Hands-on Experience with these Advanced Topics*
1100 – 1215	***Troubleshooting & Best Practices**: Discuss Common Issues & How to Resolve them, Plus Tips for Best Practices in Pipe Stress Analysis*
1215 – 1230	*Break*
1230 – 1345	***Course Wrap-up**: Review of the Week's Concepts, Open Forum for Remaining Questions, Feedback Session, & Next Steps for Further Learning*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the state-of-the-art "CAESAR II Software".



CAESAR II

Course Coordinator

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