



## **COURSE OVERVIEW ME0389** **Pipe Stress Analysis CAESAR II Static**

### **Course Title**

Pipe Stress Analysis CAESAR II Static

### **Course Date/Venue**

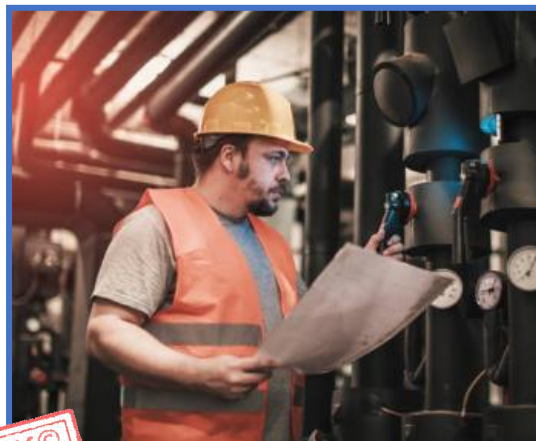
July 27-31, 2025/Crowne Meeting Room,  
Crowne Plaza Al Khobar, an IHG Hotel,  
Al Khobar, KSA

### **Course Reference**

ME0389

### **Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs



### **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:-

100% Hands-on Practical Exercises, Case Studies and Simulation

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

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.

### 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:



**Dr. Tony Dimitry**, PhD, MSc, BSc, is a **Senior Mechanical & Maintenance Engineer** with over **30 years** of industrial experience within the **Petroleum, Oil & Gas, Petrochemical, Nuclear & Power** industries. His expertise covers **CAESAR, Pipe Stress Analysis, Pipeline System Design, Construction, Maintenance and Repair, Facilities & Pipeline Integrity Assessment, Pipeline Welding Practices, Revising Engineering Drawings, Engineering Drawings & Diagrams, AutoCAD & GIS Support, Retailled Engineering Drawings, Codes & Standards,**

**Mechanical Diagrams Interpretation, Reading Engineering Drawings, Process & Project Drawings, Engineering Drawings Interpretation, Piping Layouts & Isometrics, P&ID Reading & Interpretation, 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, Failure Analysis Methodologies, Machinery Root Cause Failure Analysis (RCFA), Preventive Maintenance & Condition Monitoring, Reliability Centred Maintenance (RCM), Risk Based Inspection (RBI), Root Cause Analysis (RCA), Planning & Managing Plant Turnaround, Scheduling Maintenance, Data Archive Maintenance, Master Milestone Schedule (MMS), Piping & Mechanical Vibration Analysis, Preventive & Predictive Maintenance (PPM) Maintenance, Condition Based Monitoring (CBM), Risk Based Assessment (RBA), Planning & Preventive Maintenance, Maintenance Management (Preventive, Predictive, Breakdown), Reliability Management, Rotating Equipment, Scheduling & Cost Control, Maximo Foundation, Maximo Managing Work, Asset Management Best Practices, Resource Management, Inventory Set-up & Management, Work Management, Automatic & Work Flows & Escalations, Vibration Analysis, Heat Exchanger, Siemens, Gas & Steam Turbine Maintenance, Pumps & Compressors, Turbo-Expanders, Fractional Columns, Boilers, Cryogenic Pumps for LNG, Electromechanical Maintenance, Machinery Alignment, Lubrication Technology, Bearing & Rotary Machine, Blower & Fan, Shaft Repair, Safety Relief Valves, Pipelines, Piping, Pressure Vessels, Process Equipment, Diesel Engine & Crane Maintenance, Tanks & Tank Farms, Pneumatic System, Static Equipment, FMEA, Corrosion, Metallurgy, Thermal and Electrical Modelling of Battery Problems. He is also well-versed in various simulators such as i-Learn Vibration, AutoCAD, Word Access, Aspen One, Fortran, VB, C ANSYS, ABAQUS, DYNA3D, Ceasar, Caepipe, MS Project, Primavera, MS Excel, Maximo, Automation Studio and SAP. Currently, he is the **Maintenance Manager** of the PPC Incorporation wherein he is responsible for the maintenance and upgrading of all **Power Station** components.**

During his career life, Dr. Dimitry held a significant positions such as the **Operations Engineers, Technical Trainer, HSE Contracts Engineer, Boilers Section Engineer, Senior Engineer, Trainee Mechanical Engineer, Engineer, Turbines Section Head, Professor, Lecturer/Instructor and Teaching Assistant** from various multinational companies like **Chloride Silent Power Ltd., Technical University of Crete, National Nuclear Corporation, UMIST Aliveri Power Station and HFO Fired Power Station.**

Dr. Dimitry has **PhD, Master and Bachelor** degrees in **Mechanical Engineering** from the **Victory University of Manchester** and the **University of Newcastle, UK** respectively. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and an associate member of the **American Society of Mechanical Engineers (ASME)** and **Institution of Mechanical Engineers (IMechE)**. He has further delivered various 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, 27<sup>th</sup> of July 2025**

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

#### **Day 2: Monday, 28<sup>th</sup> of July 2025**

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

#### **Day 3: Tuesday, 29<sup>th</sup> of July 2025**

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

#### **Day 4: Wednesday, 30<sup>th</sup> of July 2025**

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



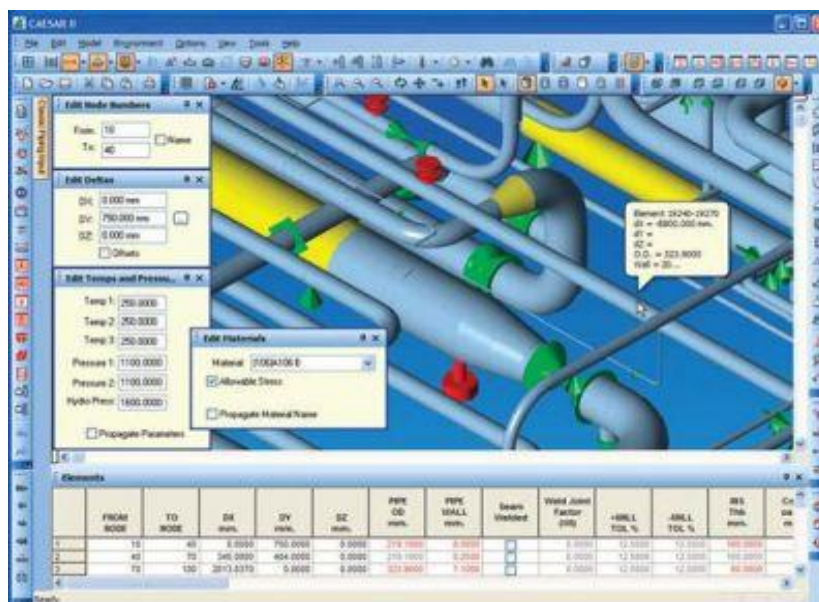
1100 – 1215	<b>Practical Exercises:</b> Participants will have Hands-on Experience Performing Expansion Load Analysis
1215 – 1230	Break
1230 – 1420	<b>Review of Day's Concepts:</b> Review & Discussion of the Day's Learnings
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Four

**Day 5: Thursday, 31<sup>st</sup> of July 2025**

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

Mari Nakintu, Tel: +971 2 30 91 714, Email: [mari1@haward.org](mailto:mari1@haward.org)