



CAESAR II Piping Stress Analysis Information Requirements

23 - 27 Sep 2024
London (UK)



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Ref.: 15161_273653 **Date:** 23 - 27 Sep 2024 **Location:** London (UK) **Fees:** 5800 **Euro**

Introduction:

CAESAR II Piping Stress Analysis Information Requirements to provide premium piping engineering, full-service pipe design, and pipeline/pipe stress analysis services, from initial concept through final construction. Using CAESAR II and pipe stress calculations as per API, ASME B31.3, B31.1, B31.8, B31.4, CSA Z662.

Target Audience:

- Process, Mechanical, and Chemical Engineers.
- Operation and Maintenance Engineers.
- Project Engineers.
- Supervisors and Managers.
- Technical Personnel involved in the inspection.

Course Objectives

At the end of this course the participants will be able to:

- Increase the awareness and understanding of mechanical integrity of process equipment and piping systems depends jointly on the proper design, operation, condition assessment, and maintenance of the equipment, underscoring their vital individual and team roles in managing change.
- Get practical and sound methods and tools to enable them to carry out basic design calculations for pressure equipment following applicable industrial codes, standards, and best practices.
- Get a clear understanding of the degradation mechanisms that process equipment could be subjected to over their operating life, how to identify them, predict and determine their impact, and what appropriate measures can be taken to prevent and control the resultant damage.
- Gain the knowledge and failure analysis skills they need to conduct damage and failure analysis to prevent similar failures from happening.
- Enhance the knowledge and skills in hazard identification and analysis, and risk assessment and management.

Targeted Competencies:

- Piping materials information, including Pipe support details, including Fluid characteristics, including
- "As-exists" conditions, including the following: If warranted, to perform safety valve discharge analysis, the following are required
- If warranted, to perform turbine trip analysis, the following are required
- Information required to perform other transient load analyses would be requested on an as-needed basis

Course Content:

Unit 1: Piping materials information:

- Pipe OD and ID or wall thickness
- Pipe material specification
- Fitting wall thickness or class
- Valve type, pressure ratings, and weights
- Types of valve operators and weights
- Relief valve relieving capacities and dimensional data
- Insulation thickness and density
- Termination point nozzles expansion and allowable loads

Unit 2: Pipe support details:

- Pipe support type and locations
- Spring type support load capacities
- Spring type support load adjustments
- Component bills of materials

Unit 3: Fluid characteristics:

- Design temperature
- Design pressure
- Operating temperature
- Operating pressure

Unit 4: "As-exists" conditions:

- Pipe hanger hot and cold walk down data, such as actual spring settings, hanger condition, interferences, etc
- Pipe system hot and cold walk down data, such as insulation damage, interferences, pipe distortion, movements, etc

Unit 5: Perform safety valve discharge analysis:

- Relief valve relieving capacities and dimensional data
- Pipe snubber details and locations

Unit 6: Perform turbine trip analysis, the following are required:

- Stop and/or Intercept valves' effective closing time
- Stop and/or Intercept valves' details and weights
- Heat balance data, including the flow rate for each pipe size lb./hr.

Unit 7: Perform other transient load analyses would be requested on an as-needed basis:

- It is important to note that the information involving the piping segments supplied by the boiler and turbine manufacturers will likely not be found with the plant piping specifications and will require the review of specific drawings/information associated with the individual suppliers



**Registration form on the :
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Complete & Mail or fax to Mercury Training Center at the address given below

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