



B31.3 Code Applications for Designers, Analysts and Managers (4 days)

- Course Topics** All aspects of B31.3 Code Design and Analysis as it relates to the design, analysis and qualification of plant piping systems and components. CAESAR II is used in the course to illustrate updates to the Code and practical applications. Pressure design, Load Case Setup, Expansion Loads, Occasional Loads, Design issues for practical piping systems, Current B31.3 changes and issues, and Flange Loads.
- Course Objectives** This course will provide an increased understanding of basic B31.3 Code rules as they relate to the design and analysis of piping systems. Attendees will be able to recognize and correct common problems and will leave with a library of Excel spreadsheets to assist in the validation and design of piping systems.
- Instructor is Mr. Glynn Woods, P.E. of GCS Engineering and a member of the B31.3 Subgroup on Piping Design and has taught B31.3 piping courses for ASME for more than 15 years. Glynn has over 35 years' experience as a pipe designer and analyst, Code committee member, and component manufacturer.
 - Applies B31.3 Code rules for establishing analysis conditions using the CAESAR II pipe stress program.
 - Background of the B31.3 Code with emphasis on more rigorous analysis and how to use newer Code rules, for example, should the high temperature weld factor W be included in any circumferential weld analysis
 - Practical explanation of support modeling in CAESAR II and how to interpret loads, moments, friction and liftoff
 - Load Case Development for CAESAR II. Where dozens of load cases are possible, Glynn explains how to satisfy the B31.3 Code criteria using P&IDs and process information.
 - Evaluation of vendor pressure designs, common mistakes, and allowable external loads for valves and equipment.
 - Workshops include pressure design and common B31.3 Code calculations. Excel spreadsheets are provided.
 - The most common B31.3 questions and mistakes are reviewed from Mr. Woods personal library of photos and slides
 - Pipe stress common problems are reviewed and evaluated by example. Critical systems are determined and reviewed by example. Glynn presents good and bad pipe stress reports, and describes what is typically accepted by the client for B31.3 Code compliance of a piping system. Problems are worked with real piping results and reports.
 - Key issues of pipe stress using CAESAR II are covered including safety relief load evaluation and common support design issues.
 - Review of a 35 year record of addressing piping failures and common causes so that attendees can recognize these important situations. Cases where systems can continue to operate are compared to cases where units must be shut down for safety.
 - CAESAR II piping models that illustrate typical errors in analysis and construction will be reviewed. (Prebuilt models will be reviewed jointly by the class)
 - Attendees will be given the chance to pose questions regarding specific problems.
 - Two Featured Lectures by Mr. Tony Paulin covering more applicable data and recent Code advancements

Note: Items may change, be moved to different days, or skipped based on course progress and software

Course outline and structure co-developed by GCS Consulting Services & Tony Paulin, Jr. P.E.
Course content developed by GCS Consulting Services
Course instruction will be carried out by Mr. Glynn Woods of GCS Consulting Services

REGISTRATION FORM

**B31.3 Code Applications for Designers,
Analysts and Managers
4-day Training Seminar**
Monday April 25 – Thursday April 28, 2016
Cost: \$2,400.00 USD

Seminar Location: **PRG Training Room**
11221 Richmond Ave.
Suite C-103
Houston, TX 77082
281-920-9775

Recommended Hotel: Holiday Inn Westchase
10609 Westpark Dr.
Houston, TX 77042
713-532-5400

A rental car is recommended, however the hotel will provide van service to our offices if pre-arranged with the hotel manager upon check-in.

Name

Company

Address

City, State, Postal Code

Phone Number

Email Address:

PAYMENT OPTIONS:

Check Enclosed

Purchase Order No.: _____

Mastercard / VISA / American Express (Circle One)

Exp Date

Card Number

Security Code

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