



Buried Piping – Design, Analysis & Engineering (2 days)

Course Topics Analysis and design of hot and ambient buried piping systems subject to typical load cases, thrust support conditions, various soil properties, and insulating and bumper pipe protection. Seismic analysis, settlement, buckling, thermal expansion, vibration and fatigue will be addressed using common calculations and the CAESAR II pipe stress program.

Course Objectives Upon completing the course the attendee will recognize the different modeling, load, and analysis requirements involved in the design and analysis of buried piping systems. Proper CAESAR II modeling techniques will be studied for the different soils and soil entry methods. Multiple practical examples will be reviewed so that common problems can be avoided.

- Course Agenda**
- Critical aspects of buried piping as it relates to stress analysis and design.
 - Design codes for buried piping and the impact on stress analysis.
 - Typical field and design issues.
 - Differences between buried steel and fiberglass piping.
 - Typical difficulties with hot buried pipe.
 - Overburden buckling design.
 - Thrust block design for buried LNG piping.
 - Buried pipe soil settlement and pipe failure.
 - Typical failures in buried piping systems.
 - Seismic analysis of buried systems.
 - Soil entry, compaction, specification and analysis using CAESAR II.
 - Rope bends, B31G and Soil Sensitivity effects on analysis.
 - Foam insulated buried pipe issues with stress analysis and CAESAR II.
 - Understanding and modeling soil mechanics behavior in CAESAR II.
 - Examples and solutions for typical buried piping problems.

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

Course outline and structure co-developed by Dynaflow Research Group & Tony Paulin, Jr. P.E.

Course content developed by Dynaflow Research Group

Course instruction will be carried out by an experienced Dynaflow Research Group trainer, who has extensive knowledge in buried piping built up through regular consultancy assignments in this area.

REGISTRATION FORM

Buried Piping
2-day Training Seminar
May 9-10, 2016
Cost: \$1,500.00 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

Cancellation policy: Paulin Research Group ("PRG") will provide a full refund for cancellations made at least two weeks prior to the seminar. A 50% refund will be given for any cancellations made after that date. PRG reserves the right to cancel this seminar up to two weeks prior to the starting date, based on requirements for minimum registrations at that time. PRG will not be held responsible for any losses you may incur related to travel arrangements due to such cancellation. Your submission of this registration form will serve as acceptance of this cancellation policy in whole, and also serve as your agreement that no other terms, conditions, or contract shall apply to this transaction in any manner.