



Piping Design & Pipe Stress Analysis Seminar

Presented by South Texas Seminars

3 Days: Tuesday — Thursday: 8:30 AM—5:00 PM - February 7 — 9, 2012

Dr. Quy Truong, P.E., Vice-President, Refinery Technology, Inc.—Seminar Coordinator

Meetings at Refinery Technology, Inc. , 14550 Torrey Chase Blvd.—Suite 650 — Houston



FEES:

ASME Member:

\$1495.00

Non-Member:

\$1570.00

**Registration fees
must be paid prior
to the first
Meeting**

**Refreshments
provided**

**22.5 PDH
credits**



I. Introduction to ASME B31 Pressure Piping Codes

Development of ASME B31 Piping Codes
ASME B31.3 Process Piping Code (Code design philosophy, Intents, Contents, Coverages, Safeguards, etc.)
ASME B31.1 Power Piping and Other Codes
Piping Code Impact on Design

II. ASME B31.3 Rules for Piping Design & Pipe Stress Analysis

Design Criteria and Conditions
Types of Loadings and Stresses
Analysis Requirements for Sustained, Thermal expansion & Occasional Loadings
Stress Intensification Factor
Internal and External Pressure Design for Piping and Special Piping Components
Branch Connection Calculations

III. Methods of Pipe Stress Analysis

Approximate Methods
Elastic Center Method and Truong Method
Flexibility and Stiffness Methods
Computer Modeling Techniques

IV. Piping Layout and Pipe Supports

Piping Connected to Rotating, Strain Sensitive Equipment; Yard Piping
Types of Supports
Allowable Pipe Span Calculations and Allowable Loads at Supports
Spring and Trunnion Support Design

V. Allowable Loads at Equipment Nozzles

Equipment Types
Reasons for Load Limits
Industry Standards (API-610, API-617, API-618, NEMA SM-23)
Practical Considerations

VI. ASME Flanges and Special Calculations

Design Calculations and Selections of ASME Part A Flanges
Precautions and Practical Considerations
Analysis of Refractory Piping Systems
Bimetallic Joint Stress Calculations

VII. ASME High Pressure Clamp Connections

Design of ASME High Pressure Clamp Connections
Precautions and Practical Considerations

VIII. Piping Vibrations

Dynamic Phenomena in Reciprocating Compressor and Pump Piping Systems
API – 618 Criteria
Extent of Piping Subjected to Vibration
Required Natural Frequency of Piping and Frequency Calculation
Acoustic Pulsation Study (Analog or Digital Computer) and Mechanical Study
of the Compressor Manifold System
Pipe Supports for Vibration
Supports for Pulsation Dampeners



South Texas Section
American Society of Mechanical Engineers
Piping Design & Pipe Stress Analysis
Daytime — Houston, Texas
February 7 - 9, 2012: 3 Daytime Sessions

Piping Design Seminar: Tuesday — Thursday

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Location: Refinery Technology, Inc.

14550 Torrey Chase Blvd.—Suite 650

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Emphasis will be on methods which provide solutions to actual problems that arise in the practice of engineering, from the fundamental concepts which provide the basis of the discipline to applications in design and failure analysis.

The Seminars include session notes, publications, binders, and refreshments. A \$75.00 refund will be made to each registrant who applies for ASME membership prior to the completion of the Seminar.

Full refunds will be made for cancellations received thirty days prior to the first meeting of the Seminar. After that date, a \$500.00 cancellation fee will be charged. No refunds will be made for cancellations made within 14 days prior to the first meeting.

Registration fees must be paid prior to the first meeting. prior to the first Seminar meeting.

To pay:
 Make check payable to
 South Texas Section of ASME
 To Charge by Credit Card: call
 Kathy Smith at 713-523-4565 or
 southtexasseminars@comcast.net

**Mail Registration Form
 (with check included) to:**
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 charged

South Texas Seminars Registration Form

Name: _____

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ASME Membership # (required for member rate) _____

Seminars:

Piping Design

Daytime —

Amount enclosed :
