



Energizing Engineering - Empowering Engineers



ISO 9001 : 2008

Institute of Piping Engineering & Building Services

CERTIFICATE ONLINE TRAINING COURSE



ASME B 31.1 POWER PIPING DESIGN, CONSTRUCTION & INTEGRITY

Course Speaker:

Mr. Mohammed Kamal Uddin Ahmed

Pipeline & Pumps Specialist.

Certified Engineer – Saudi Aramco, KSA.

International Trainer & Course Speaker.

ABOUT TRAINING PROGRAM

ASME B31.1 Code was written with power piping in mind. It was intended to cover the fuel gas and oil systems in the plant (downstream of the meters), central and district heating systems, in addition to the water and steam systems in power plants.

The applications considered in the preparation of ASME B31.1, include piping typically found in electric-generating stations, industrial and institutional plants, geothermal heating systems, and central and district heating and cooling systems.

This comprehensive 4 day course brings you updated information on current Power Piping Code requirements and provides insight into how these requirements have evolved. This course explores the background, rules and trends in piping design, analysis, and fabrication - vital elements of power, industrial and institutional plant construction and maintenance - within the context of meeting the requirements and intent of ASME B31.1 and its appendices.

The course will also cover materials selection and limitations, fabrication rules and their bases, welding qualification requirements, and inspection, examination, and testing requirements.

The participants will use the ASME Code equations and Data tables at the end of each session and work on sample problems including , design pressure and temperatures, component selection, pipe wall thickness calculation, flexibility calculations, material selection, pressure testing calculations, support span calculations , calculation of stresses, introducing flexibility in piping systems, expansion loop sizing, valve selection, P-T ratings, etc.

The **Online Training Course** is developed by the faculty of **IPEBS**, who are International Course Speakers and have more than 20 years work & training experience individually.

COURSE OBJECTIVES

- ✓ To understand Scope & Organization of the Code.
- ✓ Understand basic & technical terms of Power Piping Code – ASME B 31.1
- ✓ Understand Pressure design & Flexibility Analysis of Piping Systems.
- ✓ Piping Layout and Simplified Analysis Techniques
- ✓ Code Limitations of the use of Piping Components & Joints
- ✓ Material Selection & Limitations
- ✓ Design Requirements for Specific Piping Systems
- ✓ Set Rules for correct Fabrication, Erection, Inspection & Testing Requirements.
- ✓ How to conduct & certify Pressure Testing

PROGRAM FEATURES

- ✓ In-depth course content for easy understanding.
- ✓ Blended Learning: Online contact with faculty.
- ✓ Accessibility to Course Faculty & Counseling Services.
- ✓ Job oriented training program.
- ✓ Student will be job ready, after the course.
- ✓ Student will acquire skills and knowledge similar to Working Professional.

WHO SHOULD ATTEND

- **Graduating College Students in the following disciplines**

- ✓ Mechanical Engineers
- ✓ Chemical Engineers
- ✓ Petroleum Engineers
- ✓ Production / Industrial Engineers
- ✓ Diploma / ITI

- **Working Professionals**

- ✓ Piping Design / Layout Engineers
- ✓ Pipeline Engineers
- ✓ Pipeline Contractor
- ✓ Mechanical Engineers
- ✓ Pipeline Operators
- ✓ QA / QC Engineers
- ✓ Plant Engineers
- ✓ Inspection & Maintenance Engineers
- ✓ Piping QA / QC Engineers

- **Corporate / Organizations**

- ✓ EPC Companies
- ✓ Piping Equipment Manufacturing Companies
- ✓ Piping Consultants
- ✓ Piping Contractors
- ✓ Thermal Power Plants Industry
- ✓ Ship Building / Marine Industry

Detailed Course Content:

Module – 1

- History of Piping Codes
- ASME B 31.1 – Scope
- Organization of Code
- Piping Failure Modes
- Piping Design Conditions (design pressure & temp)
- Pressure Design of Straight Pipe & Components

Module – 2

- Providing Adequate Piping Flexibility
- Cold Spring
- Stress Intensification Factors
- Pipe Support Design
- Scope & Design Workshop

Module – 3

- Pipe Fluid Service Requirements
- Limitation on Piping Components, Valves & Joints
- Requirements for Specific Piping Systems
- Requirements for Boiler External Piping (BEP)
- Materials limitations & Selection – (B 31.1 Material Requirements)
- Piping Fabrication & Examination
- Code Requirements on Fitups prior to welding
- Welding Requirements

Module – 4

- NDT of Piping Systems & Acceptance Criteria
- Welding Qualifications (Accepted Level of Discontinuities)
- Hydrostatic & Pneumatic Testing Requirements
- Inspection Examination & Testing
- Non – Metallic Piping System Requirements
- Materials , Fabrication & Examination Workshop

Course Fee Details:

Course Title	Fee for Indian Participants	Fee for International Participants
ASME B 31.1 Power Piping Design, Construction & Integrity – Online Training Course	INR 25,000/-	USD 500/-

For making e – payment for the course fee please find **IPEBS** Bank account details below.

Account Name	IPEBS
Account Number	03182020005287
Bank Name	HDFC
Branch	ABIDS
RTGS / NEFT / IFSC Code	HDFC0004125
SWIFT Code	HDFCINBB

IPEBS Corporate Training Clients:

Company Name	Location	Company Name	Location
Intergraph Consultants	India	SPPC	Sudan
Port of Sohar	Oman	CFPE Technology Solutions	Malaysia
Uhambiso Consultant	South Africa	Qatar Petroleum Technical Center	Qatar
Newtech Consulting Group	Sudan	Petro Vietnam Marine Shipyard	Vietnam
Yashada Consultant	India	Locus Technologies	India
Telstar Life Science Pvt Ltd	India	RasGas	Qatar
BHEL	India	ICB Technimont	India & Italy
IDC Training House SDN BHD	Malaysia	LG-Digitech	Sudan
Sakhlain Energy	Russia	Infotech Enterprises	India
Aveon Offshore	Nigeria	Petroleum Operating Company	Sudan
BPCL	Bhutan	Dr. Reddy's Labs	India
Saitech Engineers	India	Vasavi Power Services	India
Riyan Architects	Maldives	Siddhi Consulting	India
Oryx GTL	Qatar	Qatar Petroleum	Qatar
WNPOC	Sudan	Centroid Technical Services	Sudan
GNPOC	Sudan	MG – Vowgas Group	Nigeria
Fleming gulf	UAE	DAL Group	Sudan

Terms & conditions:

CANCELLATIONS: IPEBS does not provide refunds for Cancellations done after registration & fee payment. However, credit maybe granted to a later program. This credit will be available for up to one year from the date of issuance.

COURSE MATERIAL AGREEMENT: It is the intention of **IPEBS** that the course text and materials supplied to participants at **IPEBS** courses are prepared and issued for the participants' sole use. Codes and standards constantly change and interpretations are issued by the publishing societies. Information contained in **IPEBS** course materials is based on the best available data obtained by **IPEBS** at the time of publication. **IPEBS** is in no way responsible for subsequent use regardless of intention.

PROGRAM CHANGE POLICY: Please note that instructors and topics were confirmed at the time of publishing this document; however, circumstances beyond the control of the training organizers may necessitate substitutions, alterations or cancellations

of the instructors and/or topics. As such, **IPEBS** reserves the right to alter or modify the instructors and/or topics if necessary. Any substitutions or alterations will be updated on our web site.

COURSE CANCELLATION BY IPEBS: IPEBS reserves the right to cancel any course due to circumstances beyond our control. All tuition fees will be refunded in the event of cancellation. **IPEBS** liability is limited to only those tuition fees paid in advance.

FORCE MAJEURE: Except for the obligations to make money payments as outlined hereunder, neither party shall be responsible to the other for delay or failure to perform any of the terms and conditions, or other activities, of this agreement if such delay or failure is caused by strike, war, act of God, or force majeure.

Frequently Asked Questions – FAQ's

Duration of the course?

Ans: Course Duration is 04 Days.

Daily Class Duration?

Ans: Morning 09:00am to 05:30pm with appropriate Lunch & Tea breaks.

Requirement for the Course?

Ans: Computer / Laptop with good internet connection, Camera and Mic.

Support from IPEBS?

Ans: Faculty assigned to all registered participant of the course. Faculty not only helps to clear the participant's queries while doing the course but also monitors the progress of the participant to help in successful completion of the course.

Mode of Payment?

Ans: You can make the payment through electronic transfer or at **IPEBS** office.

Issue of Certificate?

E - Certificate will be issued by **IPEBS** only on successful completion of the course & will be sent via email to the participant.

Training Methodology?

Ans: Online streaming of lectures, contact with faculty by email or chat groups.

Training Material?

Ans: Printed Material – Course / Class handouts will be provided in printed format and shipped (within India) to the participants.

Soft Copy Material - Data tables, charts, Nomographs, drawings, concept theory, design calculations and practice exercise's will be provided in soft copy.

Demonstration software's and excel spread sheets will be provided.

**** International Shipping charges of printed material - course / class handouts to be borne by participants.**