Advanced Casing Design

21 - 25 May 2017
Dubai, United Arab Emirates

This training course will feature:

- Understand the main functions, characteristics and different type of casing
- Understand the geometric characteristics and properties of casing, and how these can affect performance
- Appreciate the requirements for casing seat selection with regard to subsurface information

This course is Designed, Developed, and will be Delivered under ISO Quality Standards
WHY CHOOSE THIS TRAINING COURSE?

This course covers the relevant subjects required to understand the structural mechanics of down hole tubular. Material aspects, connection selection, performance properties, load cases, design factors, and buckling are just a few of the many topics that are covered.

The course is designed to concentrate on the fundamentals, takes delegates through the key drivers behind casing design for exploration, appraisal and development wells and their associated risks, challenges and solutions. It introduces manufacture techniques, specifications, loading, design, and problems of casing strings. It helps attendants to understand casing techniques and the knowhow of the casing strings.

The course also provides explanations and examples of all the aspects of oilfield tubular design. Both uniform and non-uniform loading is covered. Combination loading considerations are envisioned and design procedures are outlined and practiced. Design of tubulars for use in a corrosive environment is new addition.

Participants will be able to design casings for any well: onshore, offshore, high pressure and high temperature wells, horizontal and multilateral wells.

WHO IS THIS TRAINING COURSE FOR?

This training course is suitable to a wide range of professionals but will greatly benefit:

- Drilling Supervisor
- Site Drilling Engineers
- Project Engineers
- Operation Engineers

WHAT ARE THE GOALS?

By the end of this training course, participants will be able to:

- Conduct casing design calculations for different load cases via different methods
- Understand how buckling affects casing design limitations and show an appreciation for mitigating its effects
- Appreciate the effects of temperature and wear on casing design
- Understand how corrosion can reduce casing life/ performance, recognize signs of corrosion

HOW WILL THIS TRAINING COURSE BE PRESENTED?

This training course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. It includes the following:

- The basis for the published API tubular strengths
- How to design drive pipe to sustain a compressive load
- How to design conductor, intermediate, drilling liners, and production casing strings for burst, collapse and tension
- How to select connections
- How to take biaxial and triaxial loading into account
- How to design for bending, point loading, ballooning, and buckling
- How to take wear into consideration
- How temperature reduces yield strength
- Recommended sequence for combination considerations
- A complete integrated procedure for designing oilfield tubulars

Quality Certifications

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Daily Topics

DAY ONE
Casing Profile and Casing Setting

- Introduction
- Purpose of Casing
- Casing Profiles and Drilling Scenarios
  » Casing Profiles, Onshore Wells, Offshore Wells
    - Surface Wellhead, Offshore Wells - Surface Wellhead & Mudline Suspension
  » Offshore Wells - Subsea Wellhead; Drive, Structural & Conductor Casing, Surface Casing, Intermediate Casing, Production Casing, Liner
- Design Requirements
- Selection of Casing Seats
- Conductor Casing, Surface Casing, Intermediate Casing, Drilling Liner, Production Casing
- Differential Sticking, Geologic Factors
- Casing and Relative Hole Sizes, Standard Casing and Hole Sizes
  » Pipe Mechanics
  » Pipe Designation Size, Weight, Grade, H2S and CO2 Service
- Tubular Range Lengths & Colour Coding
- Range lengths
  » API tubular marking and color coding
  » Markings
  » Color Coding
- Mechanical Properties of Steel
  » General
  » Stress-Strain Diagram
  » Heat Treatment of Alloy Steels
  » Exercise on casing seat selection

DAY TWO
Material Aspects and Performance Properties

- Connections, API, Proprietary
- Tension, Compression, Internal Yield Pressure
- Collapse, Yield Strength and threshold
- Fundamental Design Principles
  » Burst, Collapse, Tension / Compression
  » Triaxial, Buoyancy and Buoyancy Force
  » Buckling
- Class Exercise

DAY THREE
Casing Loading and Design Considerations

- Tubular Selection - Costs, Service Load Cases
- Standard Load Cases
- Service Life Design Load Equations
  » Calculating Procedures, Summary of Equations
  » Burst, Collapse, Axial Force (Tension/Compression)
  » Triaxial Equivalent Stress Intensity, Example String Design (Hand Calculation, Class Exercise)
- Production Casing and Tubing
- Load Capacity Diagrams
  » Load vs. Depth, Design Factor vs. Depth
  » Triaxial Load Capacity
- Introduction to TDAS / EXP
  » The Well Plan, Design / Analysis
  » Exercise

DAY FOUR
Special Design Condition

- Casing Wear, Landing Considerations for Long Strings to Prevent Buckling
- Liner Buckling Due to Set Down (Compression)
- Compression and Burst, String to String Load Transfers, Multi String Affairs, Shock Rebound Loads, Trapped annulus pressure build up, and other trapped fluid concepts
- Well head growth
- Kick Tolerance
- Torque and Drag, Casing floatation, ERD applications
- API Standards Overview
- Quality providers / Users
  » Documents for P.O. Generation
  » API Standards
  » Specifications, Recommended Practices, Bulletins
  » Using API Specifications
  » Basic Handling and Running
  » Running Procedures, Running Equipment
  » Make up, Thread Compounds
  » Special Running Procedures for CRA products

DAY FIVE
Casing Design Workshops

- Solving Examples
  » Surface casing
  » Intermediate Casing
  » Production casing
  » Liner

Quality Certifications

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Advanced Casing Design

Please use BLOCK CAPITALS to fill in this form. It is important that you read carefully through all information before starting to complete the form.

REGISTRATION DETAILS

Family Name

First Name (Mr./Ms.)

Position

Company

Mailing Address

Telephone

Mobile

Fax

Email

AUTHORISATION

Authorised by

Position

Mailing Address

Telephone

Mobile

Fax

Email

HOTEL ACCOMMODATION

Hotel accommodation is not included in the Registration Fee. A reduced corporate rate and a limited number of rooms are available for attendees wishing to stay at the hotel venue.

Please make your request for accommodation at least 3 weeks prior to the commencement of the course.

CERTIFICATION

A Certificate of Completion will only be awarded to those delegates who attend the entire course

CANCELLATIONS & SUBSTITUTIONS

You must notify the Registrar of cancellations at least 2 weeks before a scheduled seminar in order to be eligible for a credit. If you cannot attend, you may send a replacement from your organisation at no charge. There is a $250 handling charge for all cancellations or rescheduling. We reserve the right to cancel a seminar due to low enrollment. All registrants will be notified in advance and a full refund will be provided upon request.

DISCLAIMER

Circumstances beyond the control of PetroKnowledge may necessitate postponement, change of venue or substitution of the instructor. As such, PetroKnowledge reserves the right to implement such amendments.

COURSE SCHEDULE

21 - 25 May 2017

Dubai, United Arab Emirates

REGISTRATION FEES

US$ 4,500/- per participant

This fee is inclusive of Documentation, Lunch and Refreshments

MODE OF PAYMENT

☐ Please invoice my company
☐ Please invoice me
☐ Cheque payable to “PetroKnowledge Limited”

WAYS TO REGISTER

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