Essentials of Deepwater Riser Design

An Overview of Offshore Subsea Industry Risers

Introduction

An introduction to the world of deepwater subsea products is provided by this Course N Carry training course on Essentials of Deepwater Riser Design. The field architecture of offshore and subsea projects consists of a variety of components, including manifolds, controls systems, Christmas trees and risers, which come in a variety of forms and sizes, from drilling to production and injection risers.

In addition to going over the product life cycle and outlining the testing requirements for risers and their components, this five-day Course N Carry Essentials of Deepwater Riser Design training course will cover the fundamentals of riser engineering by identifying the various types of risers, their main components, and the fundamental design methodologies used to identify the appropriate design for each project.

This training session on Course N Carry will emphasise:

- Overview of projects in the ocean and undersea
- Principles of subsea and offshore intervention
- Overview of riser kinds
- Design specifications and riser selection
- Riser drilling and completion
- Sturdy risers, such as steel catenary risers and top tension risers
- Flexible hybrid risers
- Management of Risers Integrity
- Inspection, Repair, and Maintenance (IRM) requirements for Risers

Objectives

After completing this Essentials of Deepwater Riser Design Course N Carry training course, learners will be able to:

- Gain a worldwide perspective on the issues surrounding offshore and subsea architecture.
- Recognise the environmental factors influencing deepwater riser design.
- Identify the various riser types and the corresponding uses for drilling, completion, and production/injection.
- Find out how the various kinds of deepwater risers are installed.

- Ascertain the deepwater riser systems' integrity requirements and comprehend the topics included in inspection and maintenance programmes. outside
- Deal with the technical issues of deepwater risers on a daily basis and implement what you've learned in the course in a real-world scenario.

Training Methodology

To expand their working knowledge of deepwater riser designing, participants in this Course N Carry training course will receive a well-structured suite of lectures given in a logical sequence. To help the participants visualise the topic, a combination of demonstration films and 3D animation will be included with presentations and exercises to help them retain what they have learnt. There will be Q&A sessions at the end of each day to help tie the knowledge gained throughout the day into a more comprehensive understanding of the subject matter.

Organizational impacts

The Essentials of Deepwater Riser Design Course N Carry training course is designed to replicate how the subject is used in the workplace on a daily basis. The training program's flow helps participants advance their understanding of the offshore and subsea fields from a general perspective to the intricacies of deepwater riser engineering, installation, commissioning, and field operations life cycle management. By applying this information, employees who plan to work on offshore or subaquatic projects—where risers play a significant role in project delivery—would be able to carry out their work more effectively and will have a solid basis.

Personal Imapct

An increasing number of reservoirs are being investigated in the world's deeper oceanic and marine regions as the hunt for oil and gas resources intensifies. Deepwater offshore subsea operations are becoming a vital component of the sector. A vital component of hydrocarbon delivery systems from offshore/subsea fields to fixed or floating production systems is covered in this Course N Carry Essentials of Deepwater Riser Design training course.

The information acquired will put the participant in a good position to assume leadership roles in deepwater projects and aid in the development of their technical and engineering management expertise.

Who should attend?

Professionals in the offshore oil and gas sector, both technical and non-technical, as well as those employed onshore who are eager to advance their offshore engineering skills, will find value in this Course N Carry Essentials of Deepwater Riser Design training course.

A wide range of professionals can benefit from this Course N Carry training course, but the following are particularly noteworthy:

- Subsea engineers and project engineers
- Engineers specialising in operation, field development, project delivery, offshore installation, offshore project management, and offshore project management
- Junior and senior level non-technical staff

Course Outline

Day 1

Overview of offshore environments and systems

- Overview of Offshore Systems: Field Development Concepts
- Types of Construction Vessels
- Fundamentals of Oceanic Conditions (wind, wave, and current) and Their Impact on Subsea and Offshore Structures
- Construction Vessels' Subsea Intervention Activities
- Types of Remotely Operated Vehicles and How They Are Used in Offshore Activities
- Tools for Remotely Operated Vehicles

Day 2

Summary of Risers and Design Factors for Riser

- Overview of the Various Risers Used in Deepwater Applications
- Overview of How Data Is Used in the Design Process and How Loads Affect Risers
- Methodologies for Riser Design
- Low pressure and high pressure drilling rigs are examples of rigid rigs.
- Complete Risers: Stiff Risers

Day 3

Summary of Risers (extended)

- An explanation of the components and functional requirements of the many types of deepwater riser systems, including rigid and flexible systems
- Stiff Risers: The Best Tensed Risers
- Steel Catenary Risers are Rigid Risers.
- Adaptable Risers: Mixed Systems

Day 4

Deepwater Risers Installation and PLC

- An overview of the Deepwater Riser Systems Conceptual Design Phase Considerations for the Product Life Cycle (PLC)
- Testing of Fabrication Components and Systems
- Installation of Production Riser Drilling Riser Installation of Completion Riser Installation

Day 5

Fundamentals of Offshore and Subsea Integrity Management

- Risers Integrity Management and IRM
- Programmes for Integrity Management for Deepwater Risers
- Creating an Inspection, Repair, and Maintenance (IRM) Plan for the Field's Life and Applying Subsea Intervention Techniques to the IRM Program's Implementation