Drilling Risers

Presented by

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  - Objective
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Lecture 1: Introduction to Drilling Risers

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Introduction

- **Floating drilling risers** are used on **drilling semisubmersibles** and **drilling ships**.

- As the **water depth increases**, integrity of drilling risers is a critical issue.

- The **design** and **analysis** of drilling risers are particularly important for dual operation, dynamically positioned (DP) semisubmersible rigs.

- For the **integrity assurance purpose**, a series of dynamic analysis needs to be carried out.
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- The objective of the dynamic analysis is to determine vessel excursion limits and limits for running/retirement and deployment.

- In recent years, qualification tests are also required to demonstrate fitness for purpose for welded joints, riser coupling and sealing systems.

- For risers installed in the Gulf of Mexico, vortex-induced vibrations are a critical issue.

- Some oil companies encourage use of monitoring systems to measure real-time vessel motions and riser fatigue damage.
Introduction

- The monitoring results may also be used to verify the VIV analysis tools that are being applied in the design and analysis.
Introduction

- In this module, after a brief outline of the floating drilling equipment and subsea systems, the riser components and vessel data are outlined.

Note:

Various methods of riser analysis are presented.
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