Pipeline Ends and In-Line Structures

Presented by

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Lecture 1: Introduction to Pipeline Ends and In-Line Structures

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Introduction

- As oil / gas field developments move further away from existing **subsea structures**, it becomes **advantageous** to consider **subsea tie-ins of their export systems** with existing **deepwater pipeline systems** that offer spare transport capacity.

- This necessitates incorporating **pipeline end manifolds (PLEMs)** at both **pipeline ends to tie in the system**.

- A **PLEM** is a **subsea structure** (a simple manifold) set at the **end of pipeline** that is used to connect a **rigid pipeline** with other **subsea structures**.
Introduction

- Subsea structures, such as manifolds or trees, through a jumper.

- It is also called a pipeline end termination (PLET), especially when serving as a support for one pipeline valve and one vertical connector.

- The in-line structure is a simple manifold set at the middle of the pipeline, which is connected in line with the pipeline and used as a tee connector to divide or combine pipelines.

- The deepwater PLEM with its mudmat and up-looking hub was designed as an economical and reliable method for terminating pipelines of all sizes.
Introduction

- The **mudmat** is favoured for economy and position compliance.

- The **PLEM** must be **remotely installable** and **designed** to support **ROV** execution.

- **PLEMs** are installed with the **pipeline end** from the **installation barge** and are **lowered** into their **final position**.

- A **PLEM** can also be a **platform** for a range of **optional components** such as **valves**, **taps**, and **instrumentation**.
Introduction

- After **installation**, the **PLEM** can be accessed for **repair or maintenance** by **removing the pipeline connection jumper** and **recovering the PLEM** to the surface.