

Subsea Distribution Unit (SDU)

Presented by

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Outline

Lecture 1: Subsea Distribution System Architecture

Lecture 2: Design Parameters

Lecture 3: SDS Components Design & Requirements

- Topside Umbilical Termination Assembly (TUTA)
- Subsea Umbilical Termination Assembly (SUTA)
- Umbilical Termination Head (UTH)
- Subsea Distribution Assembly (SDA)
- Hydraulic Distribution Manifold / Module (HDM)
- Electrical Distribution Manifold / Module (HDM)
- Multiple Quick Connect (MQC)

Outline

Lecture 3: SDS Components Design & Requirements – cont.

- Hydraulic Flying Leads and Couplers
- Electrical Flying Leads and Connectors
- Subsea Accumulator Module (SAM)

Conclusion

Lecture 1: Subsea Distribution System Architecture

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Introduction

- A subsea distribution system (SDS) consists of a group of products such as umbilical and other in-line structures that provide communication from subsea controls to topside.

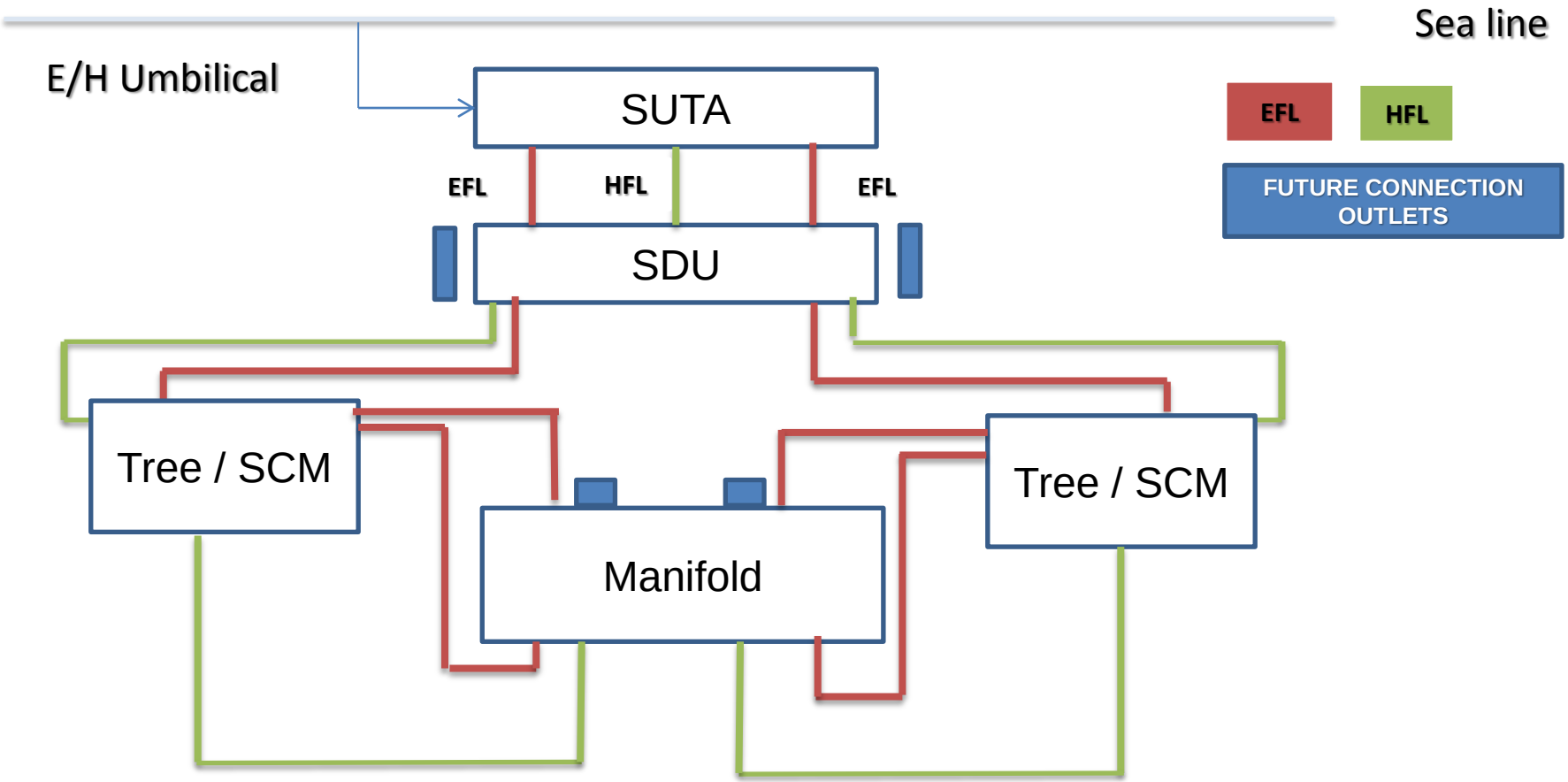
SDU System Architecture

- The SDS normally includes, but is not limited to, the following major components:
  - ✓ Topside umbilical termination assembly;
  - ✓ Subsea accumulator module;
  - ✓ Subsea umbilical termination assembly, which includes:
    - Umbilical termination head (UTH);
    - Hydraulic distribution module;
    - Electrical distribution module;
    - Flying leads.
  - ✓ Subsea distribution assembly;
  - ✓ Hydraulic flying leads;
  - ✓ Electrical flying leads;

SDU System Architecture

- The SDS normally includes, but is not limited to, the following major components:
  - ✓ Multiple quick connects;
  - ✓ Hydraulic coupler;
  - ✓ Electrical connector;
  - ✓ Logic caps

SDU Block Diagram



SDU System Architecture

- The subsea umbilical termination assembly mainly consists of :
  - ✓ inboard multiple quick connect (MQC) plates,
  - ✓ mounting steel structures,
  - ✓ a lifting device,
  - ✓ mudmat,
  - ✓ logic cap,
  - ✓ long-term cover,
  - ✓ field assembled cable termination,
  - ✓ electrical connectors

SDU System Architecture

- The subsea distribution assembly mainly consists of :
  - ✓ hydraulic distribution module (HDM)
  - ✓ electrical distribution module (EDM)
- The HDM consists of:
  - ✓ inboard multiple quick connect (MQC) plates,
  - ✓ mounting steel structures,
  - ✓ a lifting device,
  - ✓ mudmat,
  - ✓ logic cap,
  - ✓ long-term cover,

SDU System Architecture

- The EDM consists of:
  - ✓ Bulkhead Electrical Connectors,
  - ✓ Cables,
  - ✓ Electrical Transformer Module,

SDU System Architecture

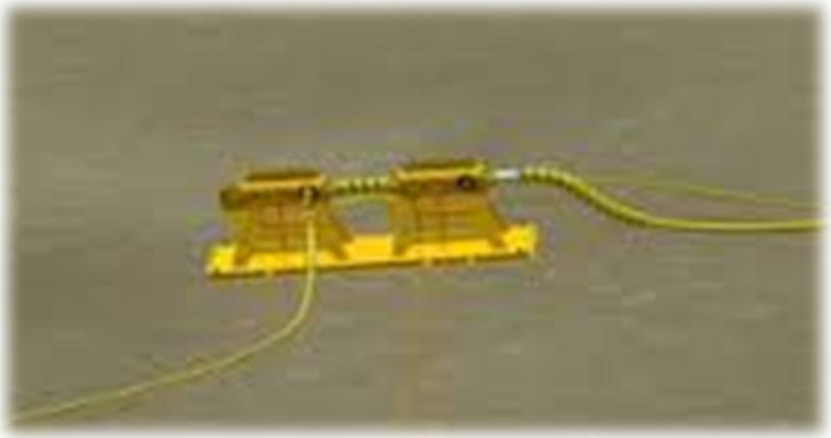
- Hydraulic flying leads (HFLs) mainly consist of:
  - ✓ two outboard MQC plates with holding structures
  - ✓ steel tubes.

- Electrical flying leads (EFLs) is mainly consist of:
  - ✓ two electrical connectors and
  - ✓ a number of cables.

SDU System Architecture

- This course describes the main components of the SDS currently used in subsea oil/gas production, and defines its design and the functional requirements of the system.

- The type of system to be discussed in this course is designed to perform the following functions:
  - ✓ Hydraulic power distribution;
  - ✓ Chemical injection distribution;
  - ✓ Electrical power distribution;
  - ✓ Communication distribution



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