Training on Subsea Pipelines & Offshore Structures: Inspection

Course Duration
Five Days

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Subsea Pipelines & Offshore Structures Inspection TRAINING

TRAINING SCHEDULE

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Day	Description
1	**Piping Codes** **Materials** ▪ Strength of Materials ▪ Bases for Design Stresses ▪ ASME B31.3 Material Requirements: • Listed and Unlisted Materials • Temperature Limits • Toughness Requirements • Fluid Service Requirements • Deterioration in Service **Pressure Design [Q]** ▪ Design Pressure & Temperature ▪ Quality Factors ▪ Weld Joint Strength Factor **Fabrication and Installation** ▪ Welder/Brazer Qualification ▪ Welding Processes ▪ Weld Preparation ▪ Typical Welds ▪ Preheating & Heat Treatment ▪ Bending & Forming ▪ Typical Owner Added Requirements ▪ Installation
2	**Offshore Platform Design** ▪ Overview ▪ Fixed Platforms ▪ JACKETED PLATFORM (cont'd.) ▪ Fixed Platforms (cont'd.) ▪ Platform Parts ▪ Platform Parts (cont'd.)

	▪ Platform Installation ▪ Corrosion Protection ▪ Hydrostatics and Stability ▪ LOADING ▪ ANALYSIS MODEL: ▪ STRUCTURAL ANALYSIS: ▪ STRUCTURAL DESIGN **Ocean Environment** **Member and Joint Design** ▪ Member Design ▪ Connections Between Tubulars ▪ Punching Shear between Brace and Chord ▪ Simple Joint Detail ▪ Additional Design Practices for Joints ▪ Overlapping Joints ▪ Congested Joints ▪ Effective Chord Length ▪ Other Complex Joints **Pipeline Design and Inspection** ▪ Pipeline Design and Construction ▪ Pipeline Industry - Business Drivers ▪ High Strength Pipelines - X80, X100, X120… ▪ High Strength Pipelines – CRLP ▪ High Strength Pipeline - R&D Priorities ▪ High Productivity Pipeline Welding ▪ High Productivity Welding - Future R&D ▪ Pipeline Girth Weld Inspection **Subsea Pipelines - Design and Installation** ▪ Offshore pipelines ▪ Role of Submarine Pipelines ▪ Pipeline and Risers – Platform to Platform ▪ Riser and Pipeline to Shore ▪ Conceptual Design ▪ Preliminary Design ▪ Detailed Design ▪ Common Pipeline Analyses ▪ Installation Analysis
3	**Response-Based Design** **Ultimate Strength** **Pressure Transients [Q]** **Pipeline Overload**

	▪ Fatigue ▪ Vibration in service ▪ Pressure transients (hammer) ▪ Explosions ▪ Soil settlement **<u>Pipeline Coatings & Cathodic Protection [Q]</u>** **<u>Risk Management</u>**
4	**Pigging and Cleaning of Pipelines** **In-Service Piping Inspection** **Local Thin Area** **General Metal Loss** **Repairs** **Welded Repairs** **Non-Welded Repairs**
5	**Platform Inspection** **Risk-Based Inspection** **Inspection of Non-Piggable Pipelines**

Regards

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Director
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