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	Autore	Guo Boyun
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	Descrizione fisica	1 online resource (xiv, 384 pages) : illustrations (some color)
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	Nota di contenuto	Front Cover; Offshore Pipelines; Copyright Page; Contents; Preface; 1 Introduction; 1.1 Overview; 1.2 Pipeline Design; 1.3 Pipeline Installation; 1.4 Pipeline Operations; References; I: Pipeline Design; 2 General Design Information; 2.1 Introduction; 2.2 Design Data; 2.2.1 Reservoir Performance; 2.2.1.1 Reservoir Pressure and Temperature; 2.2.1.2 Reservoir Formations; 2.2.1.3 Production Profiles; 2.2.2 Fluid and Water Compositions; 2.2.3 Fluid PVT Properties; 2.2.4 Solid Production; 2.2.5 Seafloor Bathymetry/Geotechnical Survey Data; 2.2.6 Oceanographic Data; 2.2.7 Other Data; References 3 Diameter and Wall Thickness3.1 Introduction; 3.2 Design Procedure; 3.3 Design Codes; 3.3.1 Pipeline Design for Internal Pressure; 3.3.2 Pipeline Design for External Pressure; 3.3.2.1 Propagation Criterion; 3.3.2.2 Collapse Criterion; 3.3.3 Corrosion Allowance; 3.3.4 Check for Hydrotest Condition; References; 4 Hydrodynamic Stability of Pipelines; 4.1 Introduction; 4.2 Analysis Procedure; 4.3 Methodology; 4.3.1 Definitions of Environmental Criteria; 4.3.1.1 Design Waves; 4.3.1.2

Wave Refraction; 4.3.1.3 Wave Shoaling; 4.3.1.4 Soil Friction Factor; 4.3.2 Hydrodynamic Coefficient Selection
4.3.2.1 Steady Current Only4.3.2.2 Waves Acting Alone; 4.3.2.3 Waves and Currents Acting Simultaneously; 4.3.3 Hydrodynamic Force Calculation; 4.3.4 Hydrodynamic Stability Assessment; 4.4 Partially Buried Pipelines; References; Further Reading; 5 Pipeline Span; 5.1 Introduction; 5.2 Problem Description; 5.2.1 Free Span; 5.2.2 In-Line Oscillations; 5.2.3 Cross-Flow Oscillations; 5.2.4 Galloping; 5.3 Design Considerations; 5.3.1 Dynamic Stresses; 5.3.2 Vortex-Shedding Frequency; 5.3.3 Pipeline Natural Frequency; 5.3.4 Reduced Velocity; 5.3.5 Stability Parameter; 5.3.6 Critical Span Length
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7.9.1.3 Stub Piece Connection Clamp Design

Sommario/riassunto

The development of oil and gas fields offshore requires specialized pipeline equipment. The structures must be strong enough to with stand the harshest environments, and ensure that production is not interrupted and remains economically feasible. However, recent events in the Gulf of Mexico have placed a new importance on maintenance and reliability. This new section; Condition Based Maintenance (CBM), introduces the subject of maintenance to Offshore Pipelines: Design, Installation, Commissioning, 2nd Edition. Two of the main objectives of CBM is maximizing reliability while preven