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Pipeline Construction

(PROJECT STANDARDS AND SPECIFICATIONS)

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1.0 SCOPE

1.1 This document covers the minimum requirements the Contractor shall consider in supply of materials and the construction of the pipelines and ancillary facilities for installation at the Facility.

1.2 The construction of the pipelines shall fully comply with all relevant contractual requirements specified in the Scope of Work and the Technical Specification of the Contract.

2.0 STANDARD SPECIFICATIONS

2.1 The construction of pipelines and ancillary shall conform, except where specified otherwise, with the current issue and amendments of the following prevailing on the effective date of the Contract:

2.1.1 International Standards

ASME Section IX	Qualification Standard for Welding and Brazing Procedures, Welders, Brazers and Welding and Brazing Operators
ASME Section VIII	Boiler and Pressure Vessel Code
ASME B1.20.1	Pipe Threads
ASME B16.5	Pipe Flanges and Flanged Fittings
ASME B16.9	Factory-made Wrought Steel Buttwelding Fittings
ASME B16.25	Buttwelding Ends
ASME B31.8	Gas Transmission and Distribution Piping Systems
ASME B31.4	Liquid Petroleum Piping Systems
ASME B36.10	Welded and Seamless Wrought Steel Pipe

ASME B46.1	Surface Texture
API 5L	Specification for Line Pipe
API 6A	Specification for Valves and Wellhead Equipment
API 6D	Specification for Pipeline Valves (Gate, Plug, Ball and Check Valves)
API 6FA	Fire Testing of Valves
API 594	Wafer Type Check Valves
API 598	Valve Inspection and Testing
API 600	Steel Gate Valves-Flanged and Butt Welding Ends
API 602	Compact Steel Gate Valves
API 609	Lug-and Wafer-type Butterfly Valves
API RP 1110	Pressure Testing of Liquid Petroleum Pipelines
API RP 1102	Pipeline Road Crossing
API RP 1104	Welding of Pipelines and Related Facilities
ASTM Specifications for Ferrous Piping Materials	
MSS-SP-25	Standard Marking System for Valves, Fittings, Flanges and Unions
MSS-SP-44	Steel Pipeline Flanges
MSS-SP-75	High Test Fittings
NACE MR0175	Sulphide Stress Cracking Resistant-Metallic Materials for Oilfield Equipment
NACE RP01-77-83	Mitigation of Alternating Current and Lighting Effects on Metallic Structures and Corrosion Control Systems

2.1.2 British Standards

BS 5146	Specification for Inspection and Test of Steel Valves for the Petroleum, Petro-Chemical and Allied Industries
BS 5351	Steel Ball Valves for the Petroleum, Petro-Chemical and Allied Industries
BS 5352	Specification for Steel Wedge gate, Globe and Check Valves 50mm and Smaller for the Petroleum, Petro-Chemical and Allied Industries.
BS 449	Specification for the Use of Structural Steel in Building
BS 5950	Structural Use Steelwork in Building

2.2 Compliance with this specification shall not relieve the Contractor of its responsibility to supply equipment suited to meet the specified service and applicable regulations.

2.3 Where conflicts exist between this specification and other Drawings, standards, codes or specifications, the most stringent shall be applied.

3.0 SERVICE CONDITIONS

3.1 The construction of the pipelines and ancillary shall be suitable for continuous operations under high ambient temperatures and humidity. The atmosphere at the Facility is generally dusty and corrosive and may contain traces of hydrogen sulphide.

3.2 The installed pipelines shall in all respects be suitable for continuous operation in service conditions.

4.0 TECHNICAL REQUIREMENTS

4.1 The Contractor shall establish a chainage marking survey for the Crude Oil Transit System, low-pressure **(LP)** gas lines, high-pressure (HP) gas lines and Fuel Gas System.

4.2 The survey control shall be staked at a maximum of 50-m intervals on the tangents and 10-m intervals on curves. The numbering system shall be continuous. Staking shall be on the ditch centre line with reference stakes established for each centre line stake, but offset by 20 m from the ditch centre line.

4.3 The survey shall locate all buried services, which shall then be shown on the alignment sheets. This survey shall also establish the depth of the services.

5.0 RIGHT-OF-WAY (ROW)

5.1 The Contractor shall not start any construction work on the ROW until control staking has been approved by the Company.

5.2 The Contractor shall clear and level the construction ROW to the degree required to support all work scope activities.

6.0 GRADING OF CONSTRUCTION ROW AND CARE OF EXISTING FEATURES

6.1 The Contractor shall perform such grading of the ROW as is required to properly perform the pipeline construction, and to provide access to the pipeline during the construction period.

6.2 The Contractor shall grade the ROW to eliminate sharp high points, minimise bending and maximise laying within the limits permissible for elastic bending. In rocky sections, the Contractor shall excavate rock or other material that cannot be graded with normal grading equipment in