Recommended Practice for Subsea Pump Module Systems

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Introduction

API RP 17X. relies on the principles of API Std 610 and API Std 676. The intent of this recommended practice (RP) is to provide requirements, recommendations and guidance for the specification, design, construction, transportation, installation, maintenance, operation of subsea pumps. It is intended to be applied in conjunction with the API 17 suite of documents. This RP is not intended to inhibit a manufacturer from offering innovative solutions for pumping or engineering solutions for the individual applications.

Recommended Practice for Subsea Pump Module Systems

1 Scope

This RP provides guidance for the design, manufacture, installation, and operation of subsea pumps, including rotary displacement and rotor dynamic types for single phase, and multi-phase services. The RP applies to all subsea pump modules placed at or above the mud line.

API RP 17X describes subsea pump modules that are either directly designed or “marinized” for use in an offshore/marine environment. Potential applications include:

— Offshore use near subsea wells to boost production and enhance oil recovery (EOR) from partially depleted oil fields, or:

— To boost flowline pressures to flow at higher rates or greater distances or when flowing subsea wells up to a surface facility.

The design of such system solutions requires additional equipment to power, control and otherwise operate the pumps. These are not within the scope of this document and can be found in API Std 17F, API Std 17G, API 17Z, and other relevant standards for these and associated equipment on the host facility or site.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies, except that new editions may be used on issue and shall become mandatory upon the effective date specified by the publisher or six months from the date of the revision (where no effective date is specified).

API Specification 6A, *Specification for Wellhead and Tree Equipment*

API Recommended Practice 17A, *Design and Operation of Subsea Production Systems—General Requirements and Recommendations*

API Specification 17D, *Design and Operation of Subsea Production Systems—Subsea Wellhead and Tree Equipment, Second Edition, May 2011, Addendum 1, September 2015*

API Standard 17F, *Standard for Subsea Production Control Systems*

API Recommended Practice 17H, *Recommended Practice for Remotely Operated Tools and Interfaces on Subsea Production Systems*

API Recommended Practice 17P, *Design and Operation of Subsea Production Systems—Subsea Structures and Manifolds*

API Recommended Practice 17V, *Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications*

API Specification 20E, *Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries*

API Specification 20F, *Corrosion-resistant Bolting for Use in the Petroleum and Natural Gas Industries*

API Standard 541, *Form-wound Squirrel Cage Induction Motors—375 kW (500 Horsepower) and Larger*

API Standard 546, *Brushless Synchronous Machines— 500kVA and Larger*