

Standard for Subsea Production Control Systems

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This is the Third Edition.

API Subcommittee 17 documents consist of the following:

- Recommended Practice 17A, *Design and Operation of Subsea Production Systems—General Requirements and Recommendations*
- Recommended Practice 17B, *Recommended Practice for Flexible Pipe*
- Recommended Practice 17C, *Recommended Practice on TFL (Through Flowline) Systems*
- Specification 17D, *Specification for Subsea Wellhead and Christmas Tree Equipment*
- Specification 17E, *Specification for Subsea Umbilicals*
- Standard 17F, *Specification for Subsea Production Control Systems*
- Recommended Practice 17G, *Recommended Practice for Completion/Workover Riser Systems*
- Recommended Practice 17H, *Remotely Operated Tools and Interfaces on Subsea Production Systems*
- Specification 17J, *Specification for Unbonded Flexible Pipe*
- Specification 17K, *Specification for Bonded Flexible Pipe*
- Specification 17L1, *Specification for Flexible Pipe Ancillary Equipment*
- Recommended Practice 17L2, *Recommended Practice for Flexible Pipe Ancillary Equipment*
- Recommended Practice 17N, *Recommended Practice for Subsea Production System Reliability and Technical Risk Management*
- Recommended Practice 17O, *Recommended Practice for High Integrity Pressure Protection Systems (HIPPS)*
- Recommended Practice 17P, *Design and Operation of Subsea Production Systems—Subsea Structures and Manifolds*
- Recommended Practice 17Q, *Recommended Practice for Subsea Equipment Qualification—Standardized Process for Documentation*

- TR 17TR1, *Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes*
- TR 17TR2, *The Ageing of PA-11 in Flexible Pipes*
- TR 17TR3, *An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads Below the BOP Stack*
- TR 17TR4, *Subsea Equipment Pressure Ratings*
- TR 17TR5, *Avoidance of Blockages in Subsea Production Control and Chemical Injection Systems*
- TR 17TR6, *Attributes of Production Chemicals in Subsea Production Systems*

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Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

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Introduction

Description of hardware is included in API Standard 17F to illustrate functional requirements. This standard should not be interpreted in a way which would limit new solutions with documented improved life-cycle benefits.

API Standard 17F establishes design standards for systems, subsystems, components, and operating fluids in order to provide for the safe and functional control of subsea production equipment.

API Standard 17F contains various types of information related to subsea production control systems.

They are:

- informative data that provide an overview of the architecture and general functionality of control systems for the purpose of introduction and information,
- basic prescriptive data that apply to all types of control systems,
- selective prescriptive data that are control-system-type sensitive and apply only when relevant,
- optional data or requirements that need be adopted only when considered necessary either by the purchaser or the vendor.

In view of the diverse nature of the data provided, control system purchasers and specifiers are advised to select from this standard only the provisions needed for the application at hand. Failure to adopt a selective approach to the provisions contained herein can lead to the subsea control system being over specified and higher purchase costs.

Within this document, “shall” is used to state that a provision is mandatory; “should” is used to state that a provision is not mandatory but is recommended as good practice; and “may” is used to state that a provision is optional.

Systeme Internationale (SI) units are identified first when cited in the document. U.S. customary (USC) units may be given in parenthesis after the SI units.

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Standard for Subsea Production Control Systems

1 Scope

This standard is applicable to design, fabrication, testing, installation, and operation of subsea production control systems (SPCSs).

This standard covers surface control system equipment, subsea-installed control system equipment, and control fluids. This equipment is utilized for control of subsea production of oil and gas and for subsea water and gas injection services. Where applicable, this standard can be used for equipment on multiple well applications.

Rework and repair of used equipment are beyond the scope of this part of this standard.

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.

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

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

API Specification 17D, *Specification for Design and Operation of Subsea Production Systems—Subsea Wellhead and Tree Equipment*, 2011

API Specification 17E, *Specification for Subsea Umbilicals*

API Recommended Practice 17O, *Recommended Practice for High Integrity Pressure Protection Systems (HIPPS)*

ANSI 1/SAE ² J517-JUN94, *Hydraulic hoses*

AODC ³, *Code of practice for the safe use of electricity under water*

ASME Boiler and Pressure Vessel Code ⁴, *Section V: Nondestructive Examination*

ASME Boiler and Pressure Vessel Code, *Section VIII; Division 1: Rules for the Construction of Pressure Vessels*

ASME Boiler and Pressure Vessel Code, *Section IX: Welding and Brazing Qualifications*

ASTM D97 ⁵, *Standard Method for Pour Point of Petroleum Products*

ASTM D1418, *Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)*

¹ American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, New York 10036, www.ansi.org.

² SAE International, 400 Commonwealth Drive, Warrendale, Pennsylvania 15096-0001, www.sae.org.

³ Association of Offshore Diving Contractors, www.adc-uk.info.

⁴ ASME International, 3 Park Avenue, New York, New York 10016-5990, www.asme.org.

⁵ ASTM International, 100 Barr Harbor Drive, West Conshocken, Pennsylvania 19428, www.astm.org.