Configuration and Operation for Subsea Well Intervention Systems

API RECOMMENDED PRACTICE 17G1
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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

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Introduction

API Recommended Practice (RP) 17G1 is a system-based configuration and operational recommended practice. The document provides a common road map to ensure that specific operations use appropriately designed, engineered, manufactured/fabricated and integrated subsea intervention systems to provide safe and effective well work.

API RP 17G1 defines system performance and operational requirements for use of equipment meeting the requirements set out in the API RP 17G series of documents. Operational guidance specifically includes barrier implementation and testing, equipment readiness and inspection, system monitoring and maintenance, along with management of change (MOC).

API RP 17G1 includes the following:

— Develop safety performance requirements for specified well conditions, planned operations and risks.

— Identify primary and secondary well barriers including their testing requirements.

— Identify technical and operational gaps.

— Recommend system configuration, individual hardware, procedural additions, or modifications.

— Identify the need for additional testing to reduce project risk.

— Identify the number, location, and performance requirements of safety functions.

— Establish safety function closure requirements based on the barrier philosophy for particular well intervention operations.

— Provide minimum requirements on inspection, maintenance, and reassessment.

— Conduct verification and validation testing to demonstrate readiness for use.

— Provide minimum requirements on system monitoring.

— Provide inputs and outputs for Global Riser Analysis.

This RP is not intended to restrict or deter the development of new operating practices or technology. Rather, it is intended to become a basis from which new subsea well intervention operating practices and technology can develop.

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1 Scope

API RP 17G1 provides guidance for the selection of a subsea well intervention system, defines minimum requirements of a subsea well intervention system for specific operation(s) and environments to ensure the selected system is fit for purpose. This RP applies to new and existing subsea well intervention systems irrespective of whether the equipment complies with the latest requirements of API 17G.

All subsea well intervention systems are covered by this RP and the equipment typically included in (but not limited to) the system is described in the suite of API 17G intervention documents.

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 Tree Equipment*

API Specification 16A, *Specification for Drill Through Equipment*

API Standard 17G, *Design and Manufacture of Subsea Well Intervention Equipment*

API 17G5; *Subsea Intervention Workover Control Systems*

API Standard 53, *Well Control Equipment Systems for Drilling Wells*

API Specification Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*

API Specification Q2, *Specification for Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries*

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

BS7910, *Guide to methods for assessing the acceptability of flaws in metallic structures*

DNVGL-RP C210, *Probabilistic methods for planning of inspection for fatigue cracks in offshore structures*

DNVGL-RP-C203, *Fatigue Design of Offshore Steel Structures*

IEC 61508, *Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems*

IEC 61511, *Functional safety - Safety instrumented systems for the process industry sector*

ISA-TR84.00.03, *Automation Asset Integrity of Safety Instrumented Systems (SIS)*

ISO 9001, *Quality management systems requirements*

ISO 9712, *Non-Destructive Testing—Qualification and Certification of NDT Personnel*

ISO 14224, *Petroleum, Petrochemical and Natural Gas Industries—Collection and Exchange of Reliability and Maintenance Data for Equipment*