

# Coiled Tubing Well Control Equipment Systems

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## Introduction

This standard represents a composite of the practices employed by various operating and service vendor companies in well intervention operations. This recommended practice is under the jurisdiction of the API Committee on Standardization of Oilfield Equipment and Materials.

The objective of this recommended practice is to assist the oil and gas industry in promoting personnel safety, public safety, integrity of well control equipment and preservation of the environment for land and marine well intervention operations. This recommended practice is published to facilitate the broad availability of proven, sound engineering and operating practices that meet the stated objective through practices that improve reliability and reduce risk to acceptable levels.

This Recommended Practice is provided to meet the need for assembly and operation of coiled tubing well control equipment and systems. Coiled tubing well control practices typically rely on mechanical barriers as the primary means for well control. This recommended practice does not present all of the operating practices that can be employed to successfully install and operate well control equipment systems in coiled tubing well intervention services. Practices set forth herein are considered acceptable for accomplishing the job as described; however, equivalent alternative installations and practices can be used to accomplish the same objectives. Individuals and organizations using this standard are cautioned that operations must comply with requirements of federal, state or local regulations. These requirements should be reviewed to determine whether violations can occur.

Coiled tubing well intervention services are being conducted with full regard for personnel safety, public safety and preservation of the environment in such diverse conditions as metropolitan sites, wilderness areas, ocean platforms, deepwater sites, barren deserts, wildlife refuges and arctic ice packs. The information presented in this recommended practice is based on this extensive and wide-ranging industry experience.

# Coiled Tubing Well Control Equipment Systems

## 1 Scope

### 1.1 General

This Recommended Practice (RP) addresses coiled tubing well control equipment assembly and operation as it relates to well control practices. Industry practices for performing well control operations using fluids for hydrostatic pressure balance are not addressed in this RP.

This document covers well control equipment assembly and operations used in coiled tubing intervention and coiled tubing drilling/milling applications performed through:

- tree equipment constructed in accordance with API 6A or API 11IW or both,
- a surface flow head or surface test tree constructed in accordance with API 6A,
- a fracture stimulation wellhead assembly (with at least two gate valves installed for isolation),
- drill pipe or workstrings with connections manufactured in accordance with API 5CT, API 5DP or API 7-1, or a combination thereof.

### 1.2 Operations Not Covered in this Document

The following operations are not covered in the scope of this document:

- a) coiled tubing well intervention operations without the tree equipment (or surface test tree) in place;
- b) coiled tubing drilling operations without the tree equipment (or surface test tree) in place;
- c) coiled tubing less than  $\frac{1}{2}$  in. outside diameter (OD) used in well intervention operations;
- d) coiled tubing intervention operations within pipelines and flowlines;
- e) open-water coiled tubing intervention operations;
- f) reverse circulation of solids-laden fluids or gas through the coiled tubing workstring.

## 2 Normative References

The following referenced documents are indispensable in 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 addenda) applies.

API Specification 5ST, *Specification for Coiled Tubing*

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

API Technical Report 6AF1, *Technical Report on Temperature Derating of API Flanges under Combination of Loading*

API Specification 7NRV, *Specification for Drill String Non-Return Valves (1<sup>st</sup> Edition July, 2006)*

API Specification 7K, *Specification for Drilling and Well Servicing Equipment*