Design, Verification, and Application of Solid Expandable Systems

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Introduction

The goals of this recommended practice are to:

1) establish common terms and means that can be used by the manufacturers and end users,

2) educate the end users and manufacturers,

3) ensure that users, suppliers, and manufacturers understand and can identify the critical aspects of the technology,

4) accelerate the technology-expand the user base,

5) institute a uniform evaluation process, and

6) understand the reliability of the technology.

Users should be aware that requirements outlined in this document may be needed for individual applications. This document is not intended to inhibit a supplier/manufacturer from offering, or the user/purchaser from accepting, alternative equipment or engineering solutions. This may be particularly applicable where there is innovative or developing technology.

Design, Verification, and Application of Solid Expandable Systems

1 Scope

This recommended practice establishes guidance for design, system verification, and application guidelines of solid expandable systems for the oil and gas industries. This document is not to be used as a specification for purchasing equipment; it is intended for consideration by users for well applications and the design of solid expandable systems.

Expandable systems will include drilling liners, hangers, connections, receivers, and launchers for downhole use as defined herein. Only permanently installed equipment/components are covered by this recommended practice. Slotted liners and tools used for the expansion of the tubular goods (such as, but not limited to, implementation tools, pumps, jacks, and expansion tools) are not addressed by this recommended practice.

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 applies (including any addenda/errata).

API Recommended Practice 5A5*, Field Inspection of New Casing, Tubing, and Plain-end Drill Pipe*

API Recommended Practice 5C5, *Procedures for Testing Casing and Tubing Connections*

API Specification 5CT, *Casing and Tubing*

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

API Technical Report 5C3, *Calculating Performance Properties of Pipe Used as Casing or Tubing*

NACE TM0192 [1], *Evaluating Elastomeric Materials in Carbon Dioxide Decompression Environments*

NORSOK M-710 [2], *Qualification of non-metallic sealing materials and manufactures*

3 Terms, Definitions, and Abbreviations

3.1 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
assembly
Product comprised of more than one component.

3.1.2
casing
Pipe run from the surface or mudline and intended to line the walls of a drilled well.

1 National Association of Corrosion Engineers,15835 Park Ten Place, Houston, TX 77084, www.nace.org.

2 Standards Norway, P.O. Box 252, NO-1326, Lysaker, Norway, www.standard.no.