Specification for Drill String Non-return Valves

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0 Introduction

This standard has been developed by users/purchasers and suppliers/manufacturers of Drill String Non-return Valve equipment intended for use in the petroleum and natural gas industry worldwide. This Standard is intended to give requirements and information to both parties in the selection, manufacture, testing and use of Drill String Non-return Valve equipment. Further, this Standard addresses requirements that set the minimum parameters with which the supplier/manufacturer must comply to claim conformity with this standard.

Users of this standard should be aware that further or differing requirements might be needed for individual applications. This standard 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. Where an alternative is offered, the supplier/manufacturer should identify any variations from this standard and provide details.

This document does not cover maintenance and inspection once the NRV has left the manufacturer and is in operation. These are important to the safety and reliability of the equipment and should be considered.

1 Scope

This standard was formulated to provide the minimum acceptable requirements for Drill String Non-return Valve (NRV) equipment. It covers Drill String Non-return Valves, Non-return Valve Subs, Non-return Valve landing nipples, Non-return Valve Equalizing Heads and all components that establish tolerances and/or clearances which may affect performance or interchangeability of the NRV equipment. Non-return Valve Subs, Non-return Valve landing nipples, Non-return Valve Equalizing Heads and NRVs manufactured by different facilities or manufacturers may be supplied as separate items.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

API

Spec 5CT/ISO 11960	*Specification for Casing and Tubing*
Spec 7	*Specification for Rotary Drill Stem Elements*
RP 13B-1	*Standard Procedure for Field Testing Water-Based Drilling Fluids*
RP 14B/ISO 10417	*Design, Installation, Repair and Operation of Subsurface Safety Valve Systems*
MPMS, Chapter 10.4	*Determination of Sediment and Water in Crude Oil by the Centrifuge Method (Field Procedure)*

ANSI[1]/NCSL

Z540-1	*General Requirements for Calibration Laboratories and Measuring and Test Equipment*

ASME [2]

Boiler and Pressure Vessel Code,

Section II	*Materials specification*
Section V	*Nondestructive testing*
Section VIII	*Pressure vessels*
Section IX	*Welding and brazing qualifications*

ASNT[3]

SNT-TC-1A	*Personnel qualification and certification in nondestructive testing*

[1]American National Standards Institute, 25 West 43rd Street,4th Floor, New York, New York 10036.
[2]American Society of Mechanical Engineers, 345 East 47th Street, New York, New York 10017-2392.
[3]American Society for Nondestructive Testing, P.O. Box 28518, 1711 Arlingate Lane, Columbus, Ohio 43228-0518.