Designation: E 1961 – 98 (Reapproved 2003)$^{\epsilon 1}$

Standard Practice for Mechanized Ultrasonic Examination of Girth Welds Using Zonal Discrimination with Focused Search Units[1]

This standard is issued under the fixed designation E 1961; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

ϵ[1] NOTE—Footnote was added to paragraph 6.4.1 in June 2003.

1. Scope

1.1 This practice covers the requirements for mechanized ultrasonic examination of girth welds. Evaluation is based upon the results of mechanized ultrasonic examination. Acceptance criteria are based upon flaw limits defined by an Engineering Critical Assessment (ECA) or other accept/reject criteria defined by the Contracting Agency.

1.2 This practice shall be applicable to the development of an examination procedure agreed upon between the users of this practice.

1.3 The values stated in SI units are to be regarded as the standard. The inch-pound units given in brackets are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 The following documents form a part of this practice to the extent specified herein:

2.2 *ASTM Standards:*

E 164 Practice for Ultrasonic Contact Examination of Weldments[2]

E 317 Practice for Evaluating Performance Characteristics of Pulse-Echo Examination Systems Without the Use of Electronic Measurement Instruments[2]

E 1316 Terminology for Nondestructive Examinations[2]

2.3 *ASNT Standard:*[3]

ASNT Practice SNT-TC-1A Personnel Qualification and Certification in Nondestructive Testing

ANSI/ASNT-CP-189 Standard for Qualification and Certification of Nondestructive Testing Personnel

2.4 *Military Standard:*

MIL-Std-410 Nondestructive Testing Personnel Qualification and Certification[4]

2.5 *API Standard:*

API STD–1104 Welding of Pipeline and Related Facilities[5]

2.6 *CSA Standard:*

CSA Z-662 Oil and Gas Pipelines Systems[6]

3. Terminology

3.1 *Definitions*:

3.1.1 Definitions relating to ultrasonic examination, that appear in Terminology E 1316 shall apply to the terms used in this practice.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *acceptance criteria*—definition of acceptable/rejectable flaws as defined by an Engineering Critical Assessment (ECA), such as defined in CSA-Z662 or API 1104, or workmanship criteria as defined by the contracting agency.

3.2.2 *contract document*—any document specified in the contract between the contracting agency and contractor, including the purchase order, specification, drawings or other written material.

3.2.3 *contracting agency*—a government agency, prime contractor or subcontractor procuring ultrasonic examination services.

3.2.4 *contractor*—the nondestructive examination contractor engaged by the contracting agency in work covered by this practice.

3.2.5 *mapping type presentations*—an ultrasonic image presentation whereby the digitized A-scan signal is represented as colors or grayscale for amplitude variation along one axis

[1] This practice is under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.06 on Ultrasonic Method.

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[2] *Annual Book of ASTM Standards*, Vol 03.03.

[3] Available from The American Society for Nondestructive Testing (ASNT), P.O. Box 28518, 1711 Arlingate Ln., Columbus, OH 43228-0518.

[4] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS

[5] Available from American Petroleum Institute, 1220 L Street, Northwest, Washington, DC 20005.

[6] Available from Canadian Standards Association, 178 Rexdale Boulevard, Etobicoke, Ontario, Canada M9W 1R3.

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