TR 2024-28 – Integrity Assessments

TR Number	**24-28**
Primary Reference	192.919
Secondary Reference	192.929
Purpose	To evaluate GM language to 192.919(3)(c) and amend as needed to address integrity assessments of spike hydrostatic pressure test, excavation and in-situ direct examination and guided wave ultrasonic testing (GWUT).
Origin/Rationale	At the July 2024 IMP/CORR Task Group, a request was made to evaluate and amend GM language to 192.919 Section 3 to address the integrity assessments of spike hydrostatic pressure test, excavation & in-situ direct examination and guided wave ultrasonic testing. This was part of the TG Ad-Hoc discussion for TR 19-60 approval.
Notes	
Assigned to	IMCorr

Note: *Revisions are shown in yellow highlight and red font.*

Section 192.919

1 GENERAL

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2 IDENTIFYING POTENTIAL THREATS

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3 SELECTING ASSESSMENT METHOD

(a) The method(s) selected must be appropriate to address all the identified threats applicable to the covered segment being assessed.

(b) It may be necessary to consider a combination of tools or techniques of integrity assessment to directly address the primary threats. Table 192.919i may be used as a guide to identify appropriate assessment methods for the various primary threats. Additional information can be found in ASME B31.8S ~~–2004~~, Section 6 (see listing in §192.7, not IBR for §192.919).

(c) To determine the most appropriate assessment method(s) for identifying anomalies associated with specific threats for the covered segment, consideration should be given to documenting the basis for method selection. Assessment methods and some reasons for choosing them are as follows.

(1) In-line inspection (ILI).

(i) Expected anomalies and inspection objectives.
(ii) Construction, design, or operating characteristics of covered segment.
(iii) Gas supply deliverability.
(iv) Capabilities and performance, such as detection sensitivity, anomaly classification, sizing accuracy, and location accuracy.
(v) Location and accessibility for direct examination.
(vi) History of tool.
(vii) Ability to inspect full length and full circumference of the section.
(viii) Ability to indicate the presence of multiple cause anomalies.

(2) Pressure test.

(i) Expected anomalies and inspection objectives.
(ii) Construction, design, or operating characteristics of covered segment.
(iii) Gas supply deliverability.
(iv) Accessibility to the supply and disposal of test medium.
(v) Location of pipeline segment with regard to environmentally sensitive areas.

(vi) Ability to conduct pressure test in ~~according~~ accordance with the requirements of 49 CFR Part 192, Subpart J.

(vii) A hydrostatic test meeting Subpart J requirements is sufficient to demonstrate that manufacturing and construction defects will remain stable at the operating pressures related to that test. Operators do not need to consider the operating pressure in the five years preceding HCA identification for segments that have passed a hydrostatic test in accordance with Subpart J.

(3) Spike pressure test.

(i) Expected anomalies and inspection objectives.

(ii) Construction, design, or operating characteristics of covered segment.

(iii) Gas supply deliverability.

(iv) Accessibility to the supply and disposal of test medium.

(v) Location of pipeline segment with regard to environmentally sensitive areas.

(vi) Ability to conduct spike test in accordance with the requirements of §192.506.

(~~3~~4) Direct assessment.

(i) Expected anomalies and inspection objectives.

(ii) Construction, design, or operating characteristics of covered segment.

(iii) Ground overlay (e.g. asphalt, concrete) above covered segment.

(iv) If direct assessment methods are used, develop direct assessment plans describing how they will be used.

(v) Ensure indirect inspections can be made over the entire length of an ECDA region with both complimentary tools.

(5) In-situ direct examination.

(i) Expected anomalies and inspection objectives.

(ii) Construction, design, or operating characteristics of covered segment.

(iii) Accessibility and feasibility to examine full length of the covered segment.

(6) Guided Wave Ultrasonic Testing (GWUT).

(i) Expected anomalies and inspection objectives.

(ii) Construction, design, or operating characteristics of covered segment.

(iii) Capabilities and performance, such as detection sensitivity, anomaly classification, sizing accuracy, and location accuracy.

(iv) Location and accessibility for attaching GWUT collar.

(74) Other technology.

(i) When an operator plans to use other technology in accordance with §192.921(a)(4), the operator needs to notify and provide documentation demonstrating the appropriateness of the technology to PHMSA-OPS at least 180 days before conducting an assessment using such a method.

(ii) Ensure that state or local pipeline safety authorities are notified 180 days before conducting the assessment on an intrastate covered segment.

(d) Inspection using any of the methods identified in Table 192.919i may not be appropriate for certain threats, such as Third-Party Damage, Equipment Defect, Weather Event, or Incorrect Operations. For these threats, other actions such as prevention and mitigation may provide better integrity management results. See §192.935.

(e) In selecting an assessment method for the threat of third-party damage, the operator should consider the following.

(1) If the threat of a future third-party damage event is expected to be present in covered segments. In such cases, prevention of future events is better addressed under the requirements for preventive and mitigative actions.

(2) If as part of a baseline assessment or reassessment, the operator has gathered data from an ECDA or internal-inspection tool survey correlating to third-party damage.

(i) Further action must be taken to look for third-party damage events that did not result in immediate failure, but may have resulted in undiscovered damage that could fail in the future.

(ii) The rule requires that the data gathered as a result of the ECDA or internal-inspection tool surveys be integrated with data relevant to third-party activity, such as encroachments or foreign line crossings.

(iii) Areas in which anomalies from an internal inspection or ECDA survey align with possible indicators of third-party activity provide potential indications of undiscovered third-party damage in the covered segment.

ASSESSMENT APPLICABILITY
(Based on ASME B31.8S-2004, Section 6 — see §192.7 for IBR)

Threat abbreviations:
EC – External Corrosion; IC – Internal Corrosion; SCC – Stress Corrosion Cracking
MFG – Manufacturer Defect; CON – Construction Defect; EQP – Equipment Defect
EXD – Excavation Damage; WOF – Weather Related & Outside Force; IO – Incorrect Operation

Assessment Methods	Primary Threats								
	EC	IC	SCC	MFG	CON	EQP	EXD	WOF	IO
In-Line Inspection (ILI) Tools									
Magnetic Flux Leakage, Std Res.	X	X							
Magnetic Flux Leakage, High Res.	X	X					X		
Ultrasonic Compression Wave	X	X		X			X		
Ultrasonic Shear Wave Tool	X	X	X	X			X		
Transverse Flux	X	X		X			X		
Deformation or Geometry					X		X	X	
Pressure Test	X	X	X	X	X	X			
Spike Pressure Test	X	X	X	X	X				
Direct Assessment									
ECDA [1]	X						X		
ICDA		X							
SCCDA			X						
In-situ Direct Examination	X	X	X	X	X	X[2]	X		
Guided Wave Ultrasonic Testing (GWUT)	X	X							
Confirmatory Direct Assessment [2-3]	X	X							

[1] ECDA can discover coating damage, including that caused by excavation activities; however, ECDA does not directly identify excavation damage.

[2] In-situ examination can discover defects on outer body of equipment, but might not be applicable to internal equipment mechanism(s).

[2-3] Confirmatory direct assessment can be used for assessments conducted at no longer than seven-year intervals when reassessments conducted using ILI, Pressure Test, or DA specified methods are scheduled to occur at intervals longer than 7 years, and when the threats of concern are corrosion.

TABLE 192.919i

4 INTEGRITY ASSESSMENT SCHEDULE

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5 SAFETY AND ENVIRONMENTAL RISKS

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