Section 192.319

~~*This guide material is under review following Amendment 192-132.*~~

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6 POST-BACKFILL COATING ASSESSMENT

6.1 Applicability.

Coating assessment surveys must be performed on newly installed onshore pipe segments if continuous backfill length is 1,000 feet or more (§192.319(d)).

(a) Several smaller installations on the same pipeline do not require coating assessment even if a total cumulative footage of backfill exceeds 1,000 feet on the same pipeline project.

(b) Horizontal directional drilling may result in shorter backfill lengths than the amount of pipe installed.

6.2 Survey Methods.

Refer to 4(e) of the guide material under §192.461 regarding ACVG and DCVG survey methods. Operators must provide 90-day notice to PHMSA if using other technology methods (§192.461(g)).

6.3 Timing.

Surveys must be completed within six months of in-service date (§192.319(d)). If a survey is not able to be performed for any geographical, technical, or safety considerations, operators should document the locations and the basis for not surveying. Examples of conditions which might prevent completion ~~might~~ include the following.

(a) Weather events such as snow cover or flooding.

(b) Depth of cover exceeding tool detection capability.

(c) Very high resistivity soil (e.g., rock) that impedes signal quality.

(d) Bonded pipelines in severely congested right-of-way affecting ability to distinguish which line the coating defect is on.

(e) Pipeline located in AC corridor either affecting readings or posing safety hazard to survey personnel.

(f) Presence of AC mitigation devices that cannot be disconnected for purpose of the survey.

(g) Restricted accessed locations or permitting constraints.

(h) Cased pipeline.

(i) Roadways or expressways with frequent traffic.

(j) Difficult terrain (e.g., steep, mountainous, under a body of water).

6.4 ~~Remediation~~ Permits.

~~Severe coating damage warrants repair within six months of identification.~~ Depending on the location, operators may be required to file permit applications with the relevant jurisdiction. If required, deadlines for performing remedial actions must account for the waiting period for permits that are being acquired (§192.319(f)).

7 COATING ASSESSMENT RECORDS RETENTION

In addition to retaining coating assessment findings and remedial actions for the life of the pipeline (§192.319(g)), the following information can further demonstrate compliance with post-installation coating assessments requirements~~(§192.319(g))~~.

(a) In-service date for pipeline segment.

(b) Coating assessment method.

(c) Date coating assessment performed.

(d) Justification for not performing coating assessment within prescribed timeframe (if applicable).
~~(e) Results of coating assessment.~~
(~~f~~ e) Permit application submittal date for any remediation or repair activities.
~~(g) Remediation performed including location, type, and date.~~

Section 192.461

~~*This guide material is under review following Amendment 192-132.*~~

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2 FACTORY APPLIED COATINGS

When purchasing materials with factory-applied coatings, operators should ensure ...

(a) Example 1:
A steel line pipe coating specification for fusion bonded epoxy may refer to NACE SP0394 (see ~~7~~ 8 below) and add requirements such as the following.
...

...

4 COATING INSPECTION

(a) The inspection of coatings is an important precautionary measure to ensure defects are identified prior to placing a facility in service. Operators should consider viable opportunities to validate coating integrity during coating application processes, following transportation and other logistical steps, during construction, and post-construction. Methods of inspection might include visual checks, thickness measurements where appropriate, electrical inspection for pipe (typically referred to as jeeping or holiday detection), and for significant facilities, post-construction indirect electrical measurement techniques (e.g., current drain tests, DCVG, close interval surveys).

(b) ...

(c) ...

(d) The holiday detection test is intended to detect voids, cracks, or contaminants in the coating that may lower the electrical resistance or dielectric strength of the coating. Operators should consider procedures specific to holiday detection that include the appropriate equipment to perform the test, voltage settings per coating type and thickness, requirements by pipe size, length and coating material, and pipe cleanliness expectations. The holiday detection test should be performed prior to lowering the pipe into the trench in order to identify any damage that may occur in the installation process. See NACE documents related to holiday detection in ~~7~~ 8 below.

(e) Electrical measurements that can provide indications of coating integrity can be implemented as a further method of inspection. These techniques might require special resources so the operator should consider use of these for facilities deemed at special risk or for significant projects. ~~Examples of these methods include current drain tests, DCVG, and close interval surveys.~~ Refer to guide material under §192.319 regarding required coating assessment surveys for certain transmission pipeline installations.

(1) Alternating current voltage gradient (ACVG) measures indications in decibel microvolts by applying low frequency AC or interrupted DC signals. ACVG might be more sensitive than direct current voltage gradient (DCVG) when surveying below paved surfaces. It also is not dependent upon the cathodic protection (CP) system because it applies its own signal. Thus, it requires less equipment than DCVG.

(2) DCVG uses interrupted CP sources to measure IR voltage drop in the vicinity of a coating defect. If native pipe-to-soil potentials are to be measured for a new pipeline,

best practice would be collecting that data before performing DCVG which will require energizing the CP system. DCVG can also be more prone to stray current interference.

(3) Coating conductance testing determines the change in instant-off pipe-to-soil potential readings along a length of pipeline. It can be performed prior to pipeline tie-in, or, if performed after tie-in to system the operator must pre-install test stations specific for this purpose on either end of the span to be tested. Its most common application is in testing of newly installed directional drilled pipe segments. If used for required post-installation coating assessment, this method may be considered "other technology" requiring PHMSA notification (§192.461(g)).

(4) Current-drain tests or Close Interval Surveys do not directly measure coating condition but rather use low pipe-to-soil potential readings to indicate possible coating defects. If used for required post-installation coating assessment, this method may be considered "other technology" requiring PHMSA notification (§192.461(g)).

5 ADVERSE DITCH CONDITIONS AND SUPPORT BLOCKS (§192.461(d))

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6 BORING OR DRIVING (§192.461(e))

See 2 of the guide material under §192.361 and 6 of guide material under §192.319.

7 POST-INSTALLATION COATING ASSESSMENT

When gas transmission lines are installed resulting at least 1,000 feet of continuous backfill length, operators must conduct a post-installation coating assessment (§192.461(f)). See 4 and 7 of the guide material under §192.319.

~~7~~8 REFERENCES

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