Distribution Integrity Management Frequently Asked Questions

Revised or Added Since 7/9/14

Subpart P – Gas Distribution Pipeline Integrity Management

C.4.a.7 With the incorporation of ASTM D2513-09a for Polyethylene (PE) effective March 6, 2015, would the Ultraviolet (UV) exposure limits be retroactive? In other words, if pipe that is manufactured before the effective date meets the new UV exposure limits, would those limits apply or would it still fall under the old 2 year limit per ASTM D2513-99?

It depends when the PE pipe was put into use (i.e. installed) based on the code language in §192.59 (a) and considering that 49 CFR Subpart B is not a retroactive subpart. If the PE pipe was not put into use until on or after the effective date, and an operator can demonstrate it meets ASTM D2513-09a, the UV exposure limit (or more appropriately Outdoor Storage Stability) requirements in Section 4.10 of ASTM D2513-09a would apply even if the PE pipe was manufactured prior to the effective date. If the PE pipe was put into use prior to the effective date, the Outdoor Storage Stability limits in A1.5.7 of ASTM D2513-99 would apply.

Records are critical for determination of adequacy, with the onus on the operator, to demonstrate which version(s) the PE pipe was manufactured to. What constitutes adequate records would likely vary, but it could include purchasing orders or other records between the operator and manufacturer, certificates of conformance from the manufacturer, and potentially other documentation from an operators QA/QC program. Such records should be tied to the specific lot numbers and segments in question (i.e. general certificates of conformance from a manufacturer not tied to lot numbers would typically not suffice.) Ultimate determination of adequacy would be up to whichever entity regulates the operator. If an operator cannot properly demonstrate PE pipe manufactured prior to the effective date meets ASTM D2513-09a, it is reasonable for a regulator to determine that the more conservative limits in ASTM D2513-99 would apply.

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C.4.c.8 With the pending revisions to Part 192 to prohibit rework/regrind in plastic pipe, will there be an expectation that any systems/segments that include pre-code revision pipe with rework be considered a higher risk when ranking risks for DIMP versus systems/segments with no rework/regrind pipe?

Special consideration for higher risks may be warranted if the operator has knowledge that they installed pipe from a lot containing rework material with indications of contamination, uneven mixing or degradation of certain material properties such as dielectric breakdown, resistance to slow crack growth (SCG) and resistance to rapid crack propagation (RCP). Considerations to include in the analysis would include, but are not limited to the leak and incident history of the operator's pipe, any specific batches or lot numbers that are known to be problematic, etc. However, pipe that might contain rework material need not be considered higher risk immediately absent some evidence of a problem (e.g., unsatisfactory material inspection results, poor performance in service, a tie to a proven batch of problematic material, etc.). Awareness of the presence of a lot containing rework material is the first step in gathering information and effectively monitoring any issues.

Any operator that knows they have a lot containing contaminated or improperly mixed rework material should consider the incorporation of a more stringent monitoring program into their DIMP. For example, O&M Procedures for compliance with §192.613 "Continuing Surveillance" and §192.617 "Investigation of Failures" should be modified, as necessary, to include rework material as a note or cause when analyzing incidents and failures for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence. Field personnel should also be made aware of the issue of installed pipe from

an identified problematic lot containing rework material and the identification of failure modes that may be caused by issues in the rework process or contamination (e.g., uneven mixing, evidence of contamination, or degradation of material properties such as dielectric breakdown, reduced resistance to slow crack growth (SCG), and reduced resistance to rapid crack propagation (RCP).) It is reasonable to expect that in most cases field personnel would only be able to detect defects that may be visual, such as evidence of contamination, uneven mixing, etc. In more extreme cases, operators should consider additional failure analysis to determine if other factors impacting material properties and overall integrity of the plastic pipe are present, and if the issues are systemic throughout a certain lot number or region where the pipe is installed. It is also reasonable to expect that depending on how long the pipe was in service, it could be very difficult to tie material property issues specifically to the rework process vs. impact from other operational or environmental issues that might have impacted the pipe over time.

If a lot containing rework material is identified as higher risk, an operator should take additional steps to minimize the risk. Additional monitoring and information gathering would be necessary to "quantify" the risk associated with a known batch of pipe with proven problems. Identifying the installation locations would be part of the information gathering exercises and support removal of the lot of material from the operator's system if risk thresholds were exceeded.

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