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Piping Inspection Code: In-service Inspection, Rating, Repair, and Alteration of Piping Systems

API 570
FIFTH EDITION, ADDENDUM 1, XXXX 202X

TO BALLOTERS:

This proposed change to API 570, Section 5.12.2 is being sent to the consensus body within the Subcommittee for Inspection and Mechanical Integrity (SCIMI) and is for consideration to satisfy CSB Recommendation number CSB 2012-03-I-CA-29. It should be noted that this proposed change has been pre-approved by the CSB to satisfy the recommendation.

Please note that this ballot also includes the correction of two errors (6.7.1 and 9.2.4) that were found.

If you submit comments, please be sure to enter the section number (i.e. 5.12.2) within the ballot commenting tool data field labeled “clause/sub-clause number”; and then under “paragraph/table/figure number” simply indicate which paragraph in the section you are commenting upon.

Also, please be sure to label ALL comments accordingly as “Editorial”, “General” or “Technical” as appropriate.

Negative votes shall be accompanied by comments related to the proposal.

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Addendum 1

Section 5.12.2 shall be updated as follows:

5.12.2 Carbon Steel Sulfidation

Warning – Sulfidation of carbon steel piping materials can lead to smooth, widespread, and uniform internal corrosion resulting in piping rupture and the sudden release of high-temperature hydrocarbons. Significant sulfidation-related piping ruptures have occurred in the industry that were caused by isolated components made from incorrect or inadequate materials. As such, owner-operators should conduct a one-time inspection of every piping component susceptible to sulfidation corrosion, to identify components that may require increased monitoring or replacement with a more sulfidation resistant material.

Carbon steel pipe having less than 0.1 wt% silicon can corrode at significantly higher rates than carbon steel pipe having higher silicon contents (modern “silicon-killed” process) when operating above 500 °F (260 °C) and subject to sulfidation corrosion. For piping systems/circuits that have been identified in sulfidation corrosion service (see API 578) that may contain older low-silicon carbon steels, the owner-operator consideration should be given to conducting inspections of each piping component/segment/weld or spool to identify the worst-case corrosion rate limiting component.

After about 1985, most purchased pipe became double stamped, and hence the low-silicon issue diminished for piping purchased and installed after that time frame. Inspection techniques that can be useful for finding susceptible components under insulation include real-time RT, guided wave examination, and PEC. Inspection plans for sulfidation corrosion should be in accordance with API 939-C.

Section 6.7.1, the second sentence shall be updated as:

Repairs and maintenance shall be conducted by a repair organization qualified and experienced in PRD maintenance per 4.3.2.

Section 9.2.4, the second sentence shall be updated as:

Soil resistivity measurements may be used for relative classification of the soil corrosivity.