

Agenda Item: 653-2055

Title: Inspection of Scaffold Cable Support

Date: November 29, 2023

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Purpose: Add inspection criteria for painter scaffold cable supports to API 653 to ensure continued integrity.

Source: Suggested change from agenda item 650-1085

Revision: 6

Impact: Neutral

Background: API 650 provides details for installation of painter cable scaffold supports (anchor point). There was a preceding agenda item 650-1085 to improve design, details, and use of the anchor point. The committee needs to establish inspection criteria for the anchor point to ensure that it remains in acceptable condition and can continue to be used as an anchorage point.

Require the API 653 authorized inspector to inspect scaffold cable support during the UT inspection of Section 6.3.3. Usually these inspections occur every 10 to 15 years.

Identify inspection activities that the API 653 inspector must perform. The inspection should be designed in a way that can demonstrate that an API 650 scaffold cable support in like new condition will be fit for use. API should not address custom designed supports, as they are outside the scope of API 650 and API 653.

Perform inspections that are listed in OSHA regulations, "wear, damage, deterioration." These are added to the API 653 checklist.

1926.502(d)(21)

"Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service."

The proposed text does not assign responsibility for any company (or employer) to approve use as an anchor point (that is addressed by OSHA). This agenda item results in the performance of an inspection by an API 653 inspector during roof inspection. The

inspection report can then be used by any company/employer to evaluate use of the anchor point. This is arranged to provide for inspection without interfering with established OSHA practices.

Several people have suggested the need to have specific inspection criteria (such as a minimum thickness value). At this time, it is considered infeasible. Setting and standardizing this criteria would be exceedingly complex. In some cases, it is time consuming to establish minimum thickness criteria for localized corrosion of a fixed roof, especially a self-supported or pressurized roof that relies on thickness to resist loads. Stress profiles are difficult to predict in areas of structural discontinuities. The exercise could be more complicated than computing allowable external loads on tank shell nozzle in API 650 Annex P. We do not attempt to set specific inspection criteria in this agenda item. It may be a good topic for future study.

Note, that a recently passed-to-publication agenda item 653-2024 rev 9 changes the text in the Annex C inspection checklist. The previous related text was in API 653 5th Edition, Addendum 2, Section C.1.5.3. The new text will be in Annex C, 7.12, and this is the version included in the proposed changes below.

Proposal: New paragraphs 4.2.2.3, 6.3.2.4 and revision to Annex C checklist C.1.5.3

4.2 Tank Roof Evaluation

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4.2.2.3

When assessing the integrity of the tank roof, the inspector shall inspect scaffold cable supports, or any other appurtenance identified by the owner-operator as an anchor point for scaffold support, personal fall protection, or positioning system. Assess each anchor point for deterioration or deformation using the appropriate NDE methods. When conducting an Ultrasonic Thickness Inspection, the inspector shall perform ultrasonic thickness measurements of the anchor point and adjacent roof. The inspection results should be compared to the API 650 Scaffold Cable Support requirements, and the adjacent roof thickness should be compared to the roof design thickness according to the as-built standard. Any deficiencies and/or incomplete inspection activities shall be included in the inspection report. The scaffold cable support shall be repaired, marked as unfit for use, or removed. Alternatively, the deficiencies may be evaluated by a storage tank engineer for use without repair.

6.3.3 Ultrasonic Thickness Inspection

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6.3.3.4 For inspection of a fixed roof, any scaffold cable supports shall be inspected per 4.2.2.3.

Annex C
(informative)

External (section 1-8) and Internal (section 9-14)
Checklists for Tank Inspections

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7.12	Inspect the scaffold cable support for deterioration (corrosion, wear, <i>etc.</i>), damage , deformation , and structural soundness. <i>653-4.2.2.3 / 653-6.3.1.3 / 653-6.3.3.4 / 575-8.2.3</i>		
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