Agenda

American Petroleum Institute
SUBCOMMITTEE ON INSPECTION
TASK GROUP ON INSPECTION CODES

8:30 AM – 12:00 PM Please Check Onsite Documentation
Monday Sheraton Music City Hotel
November 15, 2010 Nashville, Tennessee

D. Wang, Chairman

1. OPENING/INTRODUCTIONS/ATTENDANCE SHEET/ROSTER D. Wang

2. ANNOUNCEMENTS OF OTHER INSPECTION RELATED MEETINGS
   API RP 575 Inspection of Tanks Mon, 1:00 pm – 3:00 pm
   NDE/NDE Qualification Task Group Mon, 4:30 pm – 6:00 pm
   653 Joint Ballot Meeting Mon, 1:00 pm – 4:00 pm
   API Reception Mon, 6:00 pm – 7:00 pm
   API 510 Rewrite Task Group Tue, 8:00 am – 10:30 am
   API RP 585 Pressure Equip Investigation Tue, 10:30 am – 12:00 pm
   API RP 583 Base Resource on CUI Tue, 1:00 pm – 3:00 pm
   API RP 581 Risk Based Inspection Tue, 2:00 pm – 5:00 pm
   API RP 584 IOW Task Group Tue, 3:30 pm – 6:00 pm
   Manufacturers & Contractors Tue, 4:00 pm – 6:00 pm
   Subcommittee on Inspection – Joint Meeting Wed, 8:00 am – 12:00 pm
   Individual Certification Task Group Wed, 2:00 pm – 5:00 pm
   Inspector Certification Exam Construction Thur, 7:00 am – 5:00 pm
   Inspector Certification Exam Construction Fri, 7:00 am – 12:00 pm

3. APPROVAL OF AGENDA D. Wang

4. APPROVAL OF MINUTES FROM APRIL 2010 D. Wang

5. API RP 573 BALLOT RESOLUTION C. White

6. API RP 577 BALLOT RESOLUTION J. O’Brien

7. API 570 PIPING CLASS BALLOT RESOLUTION D. Wang
8. API 570 RETIREMENT THICKNESS BALLOT RESOLUTION  D. Wang

9. TECHNICAL INQUIRY
   A. API 510 Lowest Thickness in Local Thin Area  J. O’Brien
   B. API 570 Corrosion Monitoring Intervals & RBI  D. Wang

10. OLD BUSINESS  D. Wang
    A. Ballot on Addition of RBI to API 510 Section 9
    B. Review of Scorecard Items

11. NEW BUSINESS

12. NEXT MEETING
    Sheraton Seattle, Seattle, Washington May 16-18, 2011

13. ADJOURNMENT

Dear Sir/Madam:

Please provide official guidance concerning the above Code as follows:

**Scope:** API 510, 9th Edition, June 2006, Para 7.4.2;

**Background:** API 510 does not appear to specify whether thickness readings on areas below \( t \) – required can be used in corrosion averaging calculations per Para. 7.4.2. For example, API 653 utilizes the concept of \( t_2 \) which defines the lowest shell wall thickness allowed in the area of corrosion averaging. Compounding this confusion, API 510 now allows averaging at an “examination point” per Para. 5.6.2.4, which is an undefined term.

**Inquiry:** Per Para 7.4.2, when individual ultrasonic thickness readings reflect one or more wall thickness below \( t \)-required, can these readings still be utilized along with other ultrasonic thickness readings to compute the corrosion-averaged \( t \)-actual, without any further evaluation of those areas below \( t \)-required?

**Response**

In a locally thinned area that could include thickness readings which are currently below \( t \) required, the assessment procedures outlined in 7.4.2 require you to

1. Set the length of a shell section to be averaged per 7.4.2.1.
2. Take individual point thickness readings along that length, record each reading per 7.4.2.2 (may need multiple lines to determine the lowest average)
3. The lowest average for any individual length (line) may be used for the \( t \)-actual per 7.4.2.5

You are correct that unlike API 653, API 510 does not have specific limits on the thinnest thickness measurements within a locally thinned area. Having consulted with subject matter experts from the fitness for service committee we do recognize that this is an area for clarification and enhancement and the item has been taken as a scorecard for the 10th Edition which is under review currently.
Background: Throughout the 570 code, there is language to support interval adjustments when using RBI. However, it is not absolutely clear if we must still abide by 1/2 life and/or retirement date calculation results when using RBI. Section 6.3.3 states; "If RBI is NOT being used, the interval between piping inspections shall be established and maintained using the following criteria:" It then lists corrosion rate and remaining life calculations as the first item, suggesting that it need NOT be considered.

Question: When using RBI, is acceptable to set intervals for corrosion monitoring activities, and not use corrosion rate and remaining life calculations? In short....not use 1/2 life and/or retirement date calculations?

Proposed Interpretation:

Section 6.6.3 is for setting inspection intervals when RBI is not used and as such the section does not apply when RBI is used. However, this does not mean that the corrosion rate and remaining life calculation are excluded from RBI. Section 5.2 states that “when the owner/user chooses to conduct an RBI assessment it shall include a systematic evaluation of both the probability and the associated consequence of failure, in accordance with API 580.” API 580 Section 10.4 recommends determination of the deterioration susceptibility and rate as part of the probability of failure (POF) assessment. API 570 Sections 7.4 further states that “pressure containing components found to have degradation that could affect their load carrying capability [pressure loads and other applicable loads (e.g. weight, wind, etc., per API 579-1/ASME FFS-1)] shall be evaluated for continued service.” Thus the remaining life determination should also be included in the RBI assessment.
Title: Addition of RBI to API 510 Section 9

Date: April 14, 2010

Contact: Name: Joey Poret
Company: Chevron
Phone: 918-531-2441
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Purpose: Add RBI as a recognized alternative method of inspection planning in section 9 E&P.

Source: Question and clarification from BP

Revision: 0

Rationale: Section 9 has not been updated for many years and whilst the use of RBI is not prohibited under section 9 it is not recognized in the way it is in the main document. Many operators currently employ RBI in the E&P sector and it is felt that specific recognition of the technology is appropriate.

Notes: This ballot will need to go to the Upstream Committee as well as CRE SCI.

9.3.5.1 Risk-based Inspection (RBI)

RBI can be used to determine inspection intervals and the type and extent of future inspection/examinations. Refer to Section 5.2 for general requirements.

9.3.6 Inspection Intervals

The following apply to inspection intervals:

a. Inspections shall be performed at intervals determined by the vessel's risk classification. The inspection intervals for the two main risk classifications (lower and higher) are defined below. When additional classes are established, inspection and sampling intervals shall be set between the higher risk and lower risk classes as determined by the owner or user. If the owner or user decides to not classify vessels into risk classes, the inspection requirements and intervals of higher-risk vessels shall be followed.