API Ballot Comments Sheet

3/17/2008

Ballot: **653-209 - Appendix G To Enhance Performance Of Tank Bottom Examinations**

Start Date: 2/1/08 **Closing Date:** 3/14/08

AMS Ballot ID: **1,337**

Associate: **Stephen Crimaudo**

Coordinator: **Stephen Crimaudo**

Proposal: To improve and extend the guidance in Appendix G based on feedback from field inspections and examinations.

135821 Steven Adolphsen **CB&I Services**

Specification Section	Type	Comment	Suggested Change
appx G	Editorial	affirmative without comment	

157328 Doug Bayles **Inserv Integrated Service Company LLC**

Specification Section	Type	Comment	Suggested Change
G.6.1.1	Editorial	Suggest adding a comment in regards to tank cleanliness.	d. Cleanliness and condition of tank bottom (top side) at the time of inspection.

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134782 Steve Caruthers **Tank Consultants, Inc.**

Specification Section	Type	Comment	Suggested Change

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134782 Steve Caruthers **Tank Consultants, Inc.**

Specification Section	Type	Comment	Suggested Change
	Technical	Reference Table G.6.2 VC: A verification plate shall be available at the job site that matches the required plate thickness for the work scope.... Comment: An inspection company cannot carry around a verification plate matching all plate and coating thicknesses all the time. This is unrealistic. The verification plate should be used to check that all parts of the unit are operating and are ready for calibration. This is a plate that all MFL operators should have with them. Usually a standard .250" thick plate with machined flaws in it. The unit is pushed over the plate and the strength of signals is recorded. Also checked are all the adjustments in the electronics module (screen). The customer should have confirmed that the inspection could be conducted through his thickness of coating or plate before the crew arrived on-site. This can be done by visiting the inspection company's site or the inspection company can prove the operation to him before the inspection date. During the inspection the customer should visit the site to check on how the unit is operating and ask the crew leader or MFL Operator to show him what and how the unit is finding his indications and ask to see the calibration form. E, VC: The magnets and sensors are verified as being set to the proper height consistent with written procedures and OEM requirements.... Comment: If anyone sets the unit to the OEM requirements they are in for trouble!! We have found that the OEM recommended settings aren't near what they	

134782 Steve Caruthers **Tank Consultants, Inc.**

Specification Section	Type	Comment	Suggested Change
		should be. Their units have been tested on test plates in an office. AP, PU The areas identified for UT prove-up should be less than that of a 3-inch circle and identified with highly visible markings. The UT operator should attempt to mark out the shape of larger flaws with chalk to differentiate between laminations and corrosion. Comment: Chalk should'nt be used, it should be paint. All areas should be marked with paint. OP: The UT prove-up should be performed using an A-scan unit rather than a digital read-out instrument. The flaw detector should use a 5 MHz transducer and diameter in the range of 0.25 to 0.35 inch. In some cases, use of a B-scan unit may be required by the owner/operator if product-side conditions permit. Comment: It would be acceptable to scan an area using a flaw detector and then take the raw data to produce a b-scan. It is not possible to find the deepest part of a flaw using a B-scan unit over an A-scan flaw detector. Comment: According to the current wording, if the floor was smooth and I was looking for a small pit, it prohibits me from using a higher frequency transducer. Even	

134782 Steve Caruthers **Tank Consultants, Inc.**

Specification Section	Type	Comment	Suggested Change
		though this would be a better choice. A different diameter or frequency on a different thickness of floor may be a better tool. I would strongly suggest the transducer frequency and diameter be taken out. You can have the above frequency and diameter and the wrong Reject, Gain, and many other settings involved in getting the correct signal. OP Examination of the tank bottom plate near the shell or bottom welds is performed using an MFL edge scanner. Examination of the tank sump is included where applicable. The scanner operator must quantify and record the method of examination and extent of coverage/access to plate welds and shell-to-bottom welds. Document whether or not the inspection results were verified utilizing a second technique and whether it was random or 100%. Comment: Edge scanning equipment is not required for all configurations and tank diameters depending on the equipment used. No mention of calibration, calibration records or verification plates here.	

133403 Jeff DeArmond **BP p.l.c. Whiting Refinery**

Specification Section	Type	Comment	Suggested Change
Table G.6.1	Editorial	PU (a Focus Item Abbreviation)appears in Table G.6.2 but does not appear in Table G.6.1.	Recommend adding PU to Table G.6.1 along with the description.

84365 Mark Geisenhoff — **Flint Hills Resources, LP**

Specification Section	Type	Comment	Suggested Change
Table G.6.2	Editorial	The word "must" is used in several times in Table G.6.2 "Potential Field Check Steps".	Suggest that the word "must" be replaced with passive language being that this is a non-mandatory appendix

136619 Robert Hendrix

Specification Section	Type	Comment	Suggested Change
General	Other	I agree.	

93133 Randy Kissell — **TGB Partnership**

Specification Section	Type	Comment	Suggested Change
G.6	Technical	I suggest providing metric conversions with this proposed addition in accordance with the metric procedures previously approved by the committee.	
G.6.1.1	Editorial	Change: b. The capabilities of the equipment and the cleanliness and first-rate mechanical condition of the equipment. to: b. The capabilities of the equipment and the cleanliness and mechanical condition of the equipment.	

26542 Morris Kline — **HMT Inspection**

Specification Section	Type	Comment	Suggested Change
Table G.6.2	Technical	Under the OP section - please define the DFT term We are very specific about having to "reconfirm sensitivity... once every 2 hours..." in one section and then in another section we mention "Scanners that require use of on-line data interpretation require highly skilled operators. Scanning set-up shall be checked before scanning is started, and then periodically..." We should be consistent on this. Finally, Under section G.6.1.1 - there is an a.b.& c. I would propose that there should be a d. and it would be "understanding the limitations of MFL/tank bottom examination equipment and magnetics in general."	

135014 John Lieb — **Tank Industry Consultants, Inc.**

Specification Section	Type	Comment	Suggested Change
Table G.6.2	Technical	The use of the term "vendor" is unclear to me. Is this the scanning equipment vendor or the inspection company doing the scanning? The terminology should be consistent with the remainder of Appendix G.	Clarify definition of "vendor" in Table G.6.2.

134120 David Martinez — **Hovensa, LLC**

Specification Section	Type	Comment	Suggested Change
	Technical	I agree with the proposal as-written.	

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113545 James McBride — **Petrex, Inc.**

Specification Section	Type	Comment	Suggested Change
Table G.6.2	Editorial	This a a non-mandatory Appendix. Some of the steps in Table G.6.2 say shall or may while others say must. Must leads one to believe that the step has to be complied with. Since all of the steps are non-mandatory I do not think that must is appropriate.	In all steps where must is used change to either shall or may.

69609 Bhana Mistry — **TIW Steel Platework**

Specification Section	Type	Comment	Suggested Change
	Technical	Abstain from voting as I do not have adequte knowledge on suject item.	

145484 Ryan Sitton — **Pinnacle Asset Integrity Services**

Specification Section	Type	Comment	Suggested Change
Entire Section	Technical	It seems obvious that auditing inspections helps improve quality, and all of the information here is good quidance. However, it does not seem within the scope of the API inspection codes to ensure the validity of an individual persforming a specific inspection (examinations). This seems to be more of an ASNT or corporate function. For instance, we do not include auditing guidelines in API 510, 570, or even 572 or 574. Although it is a standard, and not a code, 653 is often viewd as a code, and this seems to be overkill for such a document.	Do not add this verbiage to 653. If anything, add this to some sort of recommended practice (not sure where this would reside).

154428 Nick Sowa — **Conam Inspection & Engineering Services**

Specification Section	Type	Comment	Suggested Change
	Technical	Table G.6.2 focus area OP states the use of a 5 MHZ transducer is the only acceptable transducer for scanning of tank floor prove up areas. This may limit the ability of the inspector to succesfully "prove up" the area in question	We recommend a range of 5 to 7.5 MHZ transducers be allowed.

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135304 Kelley VanLoon **ConocoPhillips**

Specification Section	Type	Comment	Suggested Change
G6.1.2 and Table G6.1.2	Editorial	The use of "shall" in a Non-Mandatory appendix as indicated by thr Impact Statementfor this ballot seems too strong to me and is not consistent with the intent of a non-mandatory appendix. As currently in the document: The owner/operator or authorized inspection agency shall establish the content and level of field checks of tank bottom examinations. "Shall" is also used twice within Table G6.1.2: A verification plate shall be available at the job site that matches the required plate thickness for the work scope, including applicability to coating simulation if the examination involves scanning through the coating. Scanning set-up shall be checked before scanning is started, and then periodically checked during the scanning operation, by the overseeing qualified UT Level 2 examiner.	Change shall to should or otherwise reword the usage to indicate that the practice is strongly recommended rather than indicating it is required to establish the content and level of field checks. Suggested wording: The owner/operator or authorized inspection agency should establish the content and level of field checks of tank bottom examinations.

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131316 David Wang **Shell Oil Company**

Specification Section	Type	Comment	Suggested Change
G.6	Technical	General comments: Agree with Jim Riley's statement regarding impact of the proposed section G.6 that the guidance contained in the section is "non-mandatory". As such, we should avoid using "shall", "must", and statements implying mandate.	See comments on subsections of G.6.
G.6.1.2	Technical	Change "shall" to "should" in the second sentence, for reasons given in my general comments.	The owner/operator or authorized inspection agency should establish the content and level of field checks . . .
G.6.1.2	Technical	Second row of Table G.6.2 - Change "scanner" to "scanning" and "examiners" to operators", to be consistent with terminology used in sections G.1-G.5. In addition, change "Verify that UT prove-up examiners are qualified by the API UT Tank Bottom Prove-up Examiner performance demonstration." to "Verify that they meet qualification requirements specified in G.5." since both the scanning operator and UT operator should be qualified, but the performance demo tests are not necessarily API tests, as discussed in G.1.-G.5.	Verify the vendor records for training and qualification of tank bottom scanning operators and UT prove-up operators. Verify that they meet qualification requirements specified in G.5.
G.6.1.2	Technical	Table G.6.2 6th row - Change "shall" to "should" in the first sentence, for reasons given in my general comments.	A verification plate should be available at the job site . . .
G.6.1.2	Technical	Table G.6.2 6th row - Change the last sentence to "The equipment condition and threshold settings should be verified again inside the tank." This is needed to make sure that the equipment is still working properly and the calibration is still appropriate. However, we should be careful not to overdo this, since calibration inside the tank might introduce additional errors not present when calibrating the equipment outside the tank. The original statement "All final threshold adjustments must be completed inside the tank." seems relying too much on calibration inside the tank.	The equipment condition and threshold settings should be verified again inside the tank.
G.6.1.2	Editorial	Table G.6.2 7th row - Spell out OEM.	. . . consistent with written procedures and original equipment manufacturer (OEM) requirements.
G.6.1.2	Editorial	Table G.6.2 8th row - Spell out DFT, whatever that is.	Spell out DFT.

131316 David Wang **Shell Oil Company**

Specification Section	Type	Comment	Suggested Change
G.6.1.2	Technical	Table G.6.2 10th row - Rewrite "The examiner must readjust the equipment threshold setting to provide maximum gain consistent with the noise threshold on the actual tank bottom." as suggested below. Reasons: The examiner refers to the scanning operator only, i.e. not the UT operator. Depending on the actual tank floor material/condition relative to those of the cal plate, readjusting the equipment threashold setting may not always be necessary.	The tank bottom scanning operator must check, and readjust as necessary, the equipment threshold setting to provide maximum gain consistent with the noise threshold on the actual tank bottom.
G.6.1.2	Technical	Table G.6.2 11th row: "A 4-quadrant (including center and edge) soil-side search . . ." - It is not clear what this is talking about. What soil-side search, with what equipment, how to confirm the calibration defect?	Rewrite to clarify or delete this row.
G.6.1.2	Technical	Table G.6.2 the 4th last row - Change "UT Level 2 examiner" to "scanning operator". It doesn't make sense to require MFL scanning setup "be checked . . . and periodically checked" by an UT operator.	Scanning set-up shall be checked . . . by the overseeing qualified scanning operator.
G.6.1.2	Technical	Table G.6.2 2nd last row - Add "or C-scan" behind B-scan, since both methods/tools may be used in some cases.	In some cases, use of a B-scan or C-scan unit may be required by the owner/operator if product-side conditions permit.
G.6.1.2	Technical	Table G.6.2 last row - Add "typically" behind "is" in the first sentence, since bottom plates near the shell or bottom welds may be examined by other means, i.e. not necessarily limited to an MFL edge scanner. Change "scanner operator" to "scanning" in the 3rd sentence, to be consistent with terminology used in sections G.1-G.5.	Examination of the tank bottom plate near the shell or bottom welds is typically performed using an MFL edge scanner. . . . The scanning operator must quantify and record the method of examination and extent . . .

145034 Leith Watkins **Explorer Pipeline Company**

Specification Section	Type	Comment	Suggested Change
Entire section G.6	Editorial	No particular objection, but presentation of an audit program reads more like an RP than a Standard. Is 653 Appendix G "Qualification of Tank Bottom Examination Procedures and Personnel" the best place for it?	