

API Ballot Comments Sheet

12/1/2006

Ballot: 31-05: 653-204, Similar Service Assessment Reballot

Start Date: 8/3/05

Closing Date: 10/5/05

AMS Ballot ID: 713

Associate: Gordon Robertson

Coordinator: Valeen Young

Proposal:

API Ballot Comments Sheet

12/1/2006

134629 Nelson Acosta

HMT Inspection

Specification Section	Type	Comment	Suggested Change
H.2	Technical	<p>In H.2, at the beginning of both the second and third sentences, delete "The" at the start of each sentence as unnecessary. In the sixth sentence, I think the meaning is more clear if "two" is removed and replaced by "both the control tank and candidate tank". In the eighth sentence, delete "will be" and insert "is" between "evaluation" and "necessary."</p> <p>I am still of the opinion that the Reference at the beginning of H.2.1.7 should not read "Double Bottom" when the paragraph text clearly discusses "multiple bottoms". Perhaps it should just reference "More than One Bottom" and the term in parenthesis in the text "(upper)" should probably read "(uppermost)".</p> <p>In H.2.1.8, change "Tank" in the first sentence to "tank".</p> <p>In H.2.1.9, change "tank owner's engineer" in the first sentence to "Tank Engineer" to be consistent with subsequent text (H.2.1.10/.11/.12).</p> <p>In H.2.1.13, add a comma after the first use of "candidate tank" and alter the second use of this term to "candidate tank" without the capital letters.</p>	<p>H.2 Several criteria must be evaluated to determine whether the candidate tank is in similar service with the control tank. Similar service assessment requires a sufficient amount of data collection and analysis and needs to be performed in a comprehensive and thorough fashion in accordance with an established risk management program. Similar service assessment is conducted....</p> <p>....This data should be collected for each of the tank characteristics listed on the data sheet for both the control tank and the candidate tank and an assessment made to determine if the services are similar.....When there is not an exact match between one or more criteria, additional evaluation is necessary to determine whether the tanks can be considered to be in similar service....</p> <p>H.2.1.7 More han One Bottom:....</p> <p>H.2.1.8 Any differences in the following factors between the control and the candidate tanks must be assessed by the....</p> <p>H.2.1.9 Any differences in the following factors between the control tank and the candidate must be assessed by the Tank Engineer....</p> <p>H.2.1.13 In addition to the factors discussed above, the following data, if available for the control tank and the candidate tank, should be assessed by the Authorized Inspector or Tank Engineer in determining whether the candidate tank is in similar service as the control tank:....</p>
H.3	Technical	<p>In H.3.1 and H.3.2, I see no need to include a specific day in the date of inspection cited in any of those references included in the text (i.e. June 1990 is sufficiently adequate, as is June 2010).</p>	

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138021 Moraya Al-Gahtani

Saudi Aramco

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
H.2.1.13	Technical	We should add AE to the list in H.2.1.13	add: g. Acoustic Emission (AE) data for the tank bottom.

79326 Gregory Alvarado

Equity Engineering Group, Inc., The

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
	Technical	Comments to be provided by E2Gs Joel Andreani	

38921 Robert Annett

Alyeska Pipeline

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
Proposed Appendix H	Technical	<p>(1)H.2 Similar Service Assessment (4th sentence) Soil pH is only one soil factor to address.</p> <p>(2)H2.1.8 Soil/Material in Contact with Bottom Plate, item f. Conductivity is more commonly expressed as Resitivity. This will match ASTM G57 nomenclature as it would be a likely method to employ.</p> <p>(3)H2.1.8 Soil/Material in Contact with Bottom Plate Other key soil factors for corrosion and cp performance to include in the list are gradation, chloride content, and sulfate content.</p> <p>(4)H2.1.9 Ambient Conditions Consider the addition of "precipitation" as a factor. It is another key component for corrosion and cp performance.</p> <p>(5)Consider incorporating foundation and drainage factors into the assessment, perhaps their inclusion into an existing category or a category of their own.</p>	<p>(1) Change soil pH to soil conditions to include the variety of conditions (pH being one of them) that will factor into this assessment.</p> <p>(2)change conductivity to resistivity.</p> <p>(3) List soil gradation, chlorides, sulfates.</p> <p>(4) List precipitation.</p> <p>(5) Add foundation and drainage to service conditions</p>

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142888 Chris Bashor

Minnesota Pollution Control Agency

Specification Section	Type	Comment	Suggested Change
General	Technical	Problem of missing data (as with most older tanks): the proposal says data on each factor "should be" collected but doesn't require it. It allows a comparison to be done no matter how little data is available on either the control or the candidate, and even if missing data could have been obtained, or perhaps was available but it didn't "fit" so the evaluator wants to leave it out. If there is no data for some factor on either tank, or only on one of the tanks, how can nothing be compared to nothing, or something to nothing? No guidance is given.	
general	Technical	The document does a good job of identifying the relevant parameters; but then the guidance ends. Description of the process for meshing the various differences between the control and the candidate, so as to be able to make a credible claim that one tank is a predictor of another, is simply not there. The evaluator is told to "evaluate" but is on their own to figure out whether and how the comparison is to be made. What if one factor points to a higher corrosion rate, and another to a lower CR -- how is this meshed? And how can the comparison ultimately produce a numeric CR, when many factors are non-numeric? No clue is given. Too discretionary and will not achieve the goal of making these assessments more rational and defensible.	One way to deal with this would be some gatekeeping -- to mandate at the outset that certain key factors (service, foundation, floor design, age, location) must be equivalent in order to qualify for an assessment. Then an evaluation would be made of any differences in the remaining factors. This would be easier and more credible. (This moves in the direction of renaming this process "Equivalent Service" rather than "similar")
general	Technical	I still wonder why -- for a never-inspected or inadequately inspected tank -- we would allow owners to assume that two tanks will behave in a comparable manner, defer inspections, and assume the risk of floor failure, when we know that corrosion is not linear or predictable, that field-erected tanks are inherently unique (this is why we want them each inspected in the first place) and we have gathered no actual side-by-side data or conducted studies to prove that this type of prediction actually turns out to be true. This concept really should have been verified before it was allowed for formal inspection interval calculation.	This has been mentioned by others: similarity could be (and is) used as a screening tool, for risk-based inspection prioritizing of tankage. I would have no problem with this appendix being used for that purpose, IF the language allowing similar service to be used for a formal interval calculation is deleted from 6.4.2. This might be the best use of this appendix in its current open-ended format.

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142888 Chris Bashor

Minnesota Pollution Control Agency

Specification Section	Type	Comment	Suggested Change
general	Technical	These issues were raised in the previous ballot and have not yet been addressed, so I will continue to vote negative, until either the scope is limited to tanks that are substantially equivalent, or else SS is removed from formal interval setting and the appendix is offered only as an optional screening mechanism.	
general	Technical	Work of this Task Group has a similar goal to that of the RBI Task Group, to address procedures for alternative inspection interval calculation, and there is overlapping membership and interest. Perhaps there could be joint meeting of the two groups at the Fall meeting.	

109375 Jerry Boldra

SBC Global

Specification Section	Type	Comment	Suggested Change
Table 1.0 - Similar Service Product Classification	Editorial	Table 1.0 has Classes A thru K. Class H (crude oils) also has Class A thru D. SUGGESTION: Revise the Class A thru D in Class H (crude oils) to something different to eliminate the confusion due to two Class A's, two Class B's, two Class C's and two Class D's.	For example, the "sub" Classes under Class H (crude oils) could be renamed Class 1, Class 2, Class 3 and Class 4. REASON FOR SUGGESTION: to eliminate confusion because Classes A thru D are currently used twice.

22200 Dan Boley

DJA Inspection Services

Specification Section	Type	Comment	Suggested Change
H. 2.1.8 & H.2.1.13	Other	Soilside - Based on thirty years of inspection experience I have not been able to see how two tanks can be considered similar in respect to the soilside. I have on several occasions experienced two tanks in the same dike and conditons have drastically difference in their corrosion level (pitting). The only exception I can see is if both tanks have a functional cathodic protection system which API-653 already defines as zero corrosion rate. Product Side - Tanks containing products that are subject to bacterial action should not be considered similiar unless protected with a functional coating.	

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134782 Steve Caruthers

Tank Consultants, Inc.

Specification Section

Type

Comment

Suggested Change

Technical

The only features of two tanks that would prevent using similar service to determine inspection intervals is if 1) the bottom and shell plates have similar corrosion-resistance properties, 2) one or both tanks don't have effective linings, 3) the soil side corrosion potential is the same. How would it be possible to determine if two tanks have materials with similar corrosion-resistance properties? It is not possible to test all bottom plates and not feasible to test all shell plates. Similarly, it is not possible to test the soil in contact with the center area of a bottom for ph, alkalinity, salinity, etc. I think the appendix should have more definitive criteria for deciding if two tanks can be considered in similar service.

133403 Jeffrey DeArmond

BP p.l.c. Whiting Refinery

Specification Section

Type

Comment

Suggested Change

H.3 Similar Service
Assessment

Technical

The proposed Appendix should include wording in H.3 that limits the use of a similar service assessment to above ground storage tanks that are located at the same facility. This would prevent haphazard assessments of tanks whose environments are significantly different.

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-1	Richard Drennan	ConocoPhillips Company		
<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>	
6.3.2 , 6.4.2 and H.3.1	Technical	<p>We should vote yes assuming the following comments are accepted.</p> <p>1) Par H.1 should be changed to: "...6.3.2 and 6.4.2." since the appendix is for both tank shells and tank bottoms.</p> <p>2) The example in par. H.3.1 should be based on a minimum bottom thickness of .1" since this is more often the case and someone may think that .05" is the minimum for tank bottoms.</p>		
134870	Laurence Foster	Marathon Ashland Petroleum LLC		
<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>	
Appendix H	Other	API 575 adequately covers "similar service", and this appendix is superfluous. All that is needed is a definition of "similar service", and a reference to 575.	Add to definition section: "Similar Service Experience: A tank with a known corrosion rate can be used to establish an assumed corrosion rate for a tank with a comparable construction and service history. Refer to API RP 575 for an explanation of how to apply similar service."	
133538	Frank Furillo	ExxonMobil Corp.		
<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>	
	Technical	This subject is handled so much easier when you handle it as a qualitative risk assessment under RBI. One significant issue not addressed in the current is ballot that no guidance on how to assess soil/foundation material cleanliness is provided.		

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84365 Mark Geisenhoff

Flint Hills Resources

Specification Section

Type

Comment

Suggested Change

Technical

I'm voting negative on this ballot because I believe that this appendix will imply to the users that similar service assessments are the preferred methodology for deferring an out of service inspection. I think this appendix will encourage more users to use similar service assessments to defer internal inspections. I do not believe that more wide spread use of similar service assessments to defer internal inspections will help to ensure the safety of the public and protection of the environment as stated in the impact statement for the ballot.

The following are two of the main issues that I believe are the potential problems with a similar service assessment:

- No requirements are made for the quality/effectiveness of the inspections made for the control tank. The concern is that if the data is poor on the control tank then reapplying it to the candidate tank will only exacerbate the potential for a bad analysis.
- The user is not required to quantify the parameters listed in H.2.1.8 Soil/Material in Contact with Bottom Plate. The parameters listed can be very critical to the potential for bottom side corrosion. In most cases it would appear the user would make a qualitative assessment that the parameters listed are similar to the control tank. It does not appear that the user would be required to quantify the potential for errors in determining the similarities of each parameter. Strict guidelines should be required that would apply conservatism into these critical assumptions that will be made for bottom side corrosion.

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12/1/2006

102351 Ken Gottselig

Lyondell Chemical Company

Specification Section

Type

Comment

Suggested Change

Table 1.0

Technical

Table 1.0 shows only refining fluids. Would like to see common petrochemical fluids added.

Expand table 1.0 to include common fluids from the petrochemical industry.

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115077 Larry Hiner

Chicago Bridge & Iron Company(CB&I)

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
H.2	Technical	H.2 General – It may be advantageous in some instances to use two tanks to evaluate similar service – one for product exposure and one for site and foundation conditions. This could be important for tanks at different sites. H.2 General - Shouldn't previous repair histories be evaluated?	
H.2.1.2 and H.2.1.3	Technical	H.2.1.2 and H.2.1.3 When does material match? Same material grade, same yield, tensile properties, same chemical properties – max carbon content? How are similar corrosion resistant properties determined? It appears the candidate tank must be lined to be considered similar. H.2.1.2 I don't see the significance of having both parts a and c unless separate tests for corrosion resistance (product and soil) are made.	
H.2.1.8	Technical	H.2.1.8 If any of these listed issues can't be determined is the candidate not similar? How would soil cleanliness be determined? Erection practices could leave scattered contaminants which would be undetectable from a small sample.	
H.2.1.9	Technical	H.2.1.9 Wording would allow tanks at different sites to be considered similar service without regard to tanks in nearby service. Tanks at the same site should be considered if available(see comment under H.2 General).	
H.2.1.10	Technical	H.2.1.10 Why is product specific gravity a factor in similar service? In part a, what does product classification do in the evaluation process – why is it necessary to compare product classification?	

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12/1/2006

115077 Larry Hiner

Chicago Bridge & Iron Company(CB&I)

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
H.3	Editorial	H.3 Why is remaining life determination of the tank bottom and shell included in a similar service appendix? This probably should be provided in another appendix dedicated to providing sample calculations. If an example is required, add an actual example of a similar service assessment instead.	

93133 Randy Kissell

TGB Partnership

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
3.9 and 3.20	Technical	Delete "other relevant".	
Appendix H	Technical	We need to establish in 653 like we do in 650 which appendices are requirements and which are not.	
H.2.1.9	Technical	Could you spell out what conclusion with respect to similar service you would draw if the candidate tank had a lower one day mean temperature than the control tank, and vice versa?	
H.2.1.8	Technical	How do pH and alkalinity differ? I thought a low pH meant alkaline; if so, these would be redundant parameters and I would drop alkalinity.	
Appendix H	Editorial	Table and Figure numbers should be preceded by "H".	

26542 Morris Kline

HMT Inspection

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
Entire Document in various places	Editorial	API 653 refers by definition to "Storage Tank Engineer". This ballot item refers to "Tank Engineer". I believe that the definitions and terminology should be changed in this ballot item to "Storage Tank Engineer".	Change "Tank Engineer" in this ballot item to "Storage Tank Engineer" where ever it occurs in this ballot item.

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12/1/2006

75330 Dennis Layman

BP p.l.c.

Specification Section

Type

Comment

Suggested Change

Appendix H, H.1 Scope

Technical

BP believes there should be wording in the Appendix, which states that a similar service assessment can only be performed when the control tank and the candidate tank are located at the same facility (i.e. you can't have a control tank in a tank farm in Oklahoma and the candidate tank located in a refinery in Texas).

"To consider a similar service assessment, the candidate tank and the control tank must be located at the same facility"

136274 Thomas Lorentz

AEC Engineering, Inc.

Specification Section

Type

Comment

Suggested Change

Technical

Section H.2.1.5, if the control tank is lined and the candidate tank is unlined, tanks should not be assumed to be in similar service.

Section H.2.1.9, the assessment by the "tank owner's engineer" does not match similar wording for "Authorized Inspector or Tank Engineer" that is used elsewhere in the document.

Section H.3.1, the third sentence is confusing. For the example to be correct, the plate thickness on June 10, 1990 should have been measured to be 0.05 inches (not taken from table 6-1).

Data Sheets: editorial comment: The signature blocks included in each of the conclusion section pages appears to be redundant. It is unlikely that any one of the sections would be submitted individually. Therefore the forms would flow better if the submitted and approval signature lines would be at the end of the document. In the same way, a header above section 1.0, with the control tank and candidate information would not need to be repeated on each page.

Section H.2.1.5: Add clarification (similar to H.2.1.3) in the case that differences in linings are present, additional provisions must be satisfied: To be assumed in similar service, either both the control and candidate tank shall be lined (and the differences in the lining systems must be assessed), or the candidate tank is lined and the control tank is not lined.
 Section H.2.1.9: Change the first sentence to read " . . . must be assessed by the Authorized Inspector or Tank Engineer. . .".
 Section H.3.1: Modify the example to clarify what the measured thickness was at the June 1990 inspection, or change the example and the corresponding figure.
 Data Sheets: Move the submitted and approval signature lines to the end of the document. Modify the forms such that all of the control tank and candidate tank information does not need to be repeated above each section.

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12/1/2006

136286 Philip Myers

Chevron Corporation

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
General comments	Technical	<p>I believe the document is too prescriptive since there is not data that supports the degree of prescriptivity included in the SS assessment. I would like to see some introductory words that state clearly that this methodology is optional.</p> <p>Furthermore, since tanks are allowed to go 10 years with no data on corrosion rates, I would like to see the corrosion rate in this document specified as a nonnominal value of 25 mpy. It can be reduced based on this ballot.</p>	
	Technical	<p>I will vote positive based on 2 conditions: 1) ensure that this document is non mandatory and that there are many different ways of doing similar service and 2) that nominal corrosion rates are the starting point for similar service (ie 25 mpy)</p> <p>I would like to ensure that the wording in this ballot ensures that there are many other methods of implementing similar service and this is only one such methods. They may be either more or less rigorous.</p> <p>I would also like to see a statement about the default corrosion rates that are currently assumed to be true in API 653.</p>	

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12/1/2006

139601 John O'Brien

itcSkills

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
Entire Ballot	Technical	<p>I have reviewed this ballot many times and believe that to allow it to proceed in its current form will do the industry a great disservice. From the ballot I believe that we do not understand what we are trying to achieve and if we do we are totally failing to communicate this. Ultimately in its current form that will lead to more confusion. The ballot attempts to clarify similar service but that does not occur, we produce an extensive procedure which still leaves definition of similar service open to interpretation. We start to mention risk approach in similar service when 653 has an RBI approach. If similar service is a risk approach then just direct people to do RBI. If we are defining similar service then fully define it.</p> <p>I don't believe that all the procedural wording should be in 653. How to do it should be moved to the RP 575.</p> <p>In its current form I cannot support this ballot.</p>	<p>Strip down the ballot into concept compliance. If we really want to restrict operators' abilities to assess for themselves risk and similar service have the courage to be clear and list clear definitions of what is acceptable and what is not. I would favour dropping a separate similar service paragraph and elaborate similar service as part of RBI. All the stuff about how to do it move to RP 577.</p>

135169 Michael Richardson

International Paper

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
General	Technical	<p>Although the similar service appears to be based on product-side and soil-side characteristics for this appendix, I assume that for those who have tanks on fully supported foundations (concrete) will follow the assessment for tank bottom (soil-side) but reference a foundation exists. Can some guidance be provided for tanks that are not supported directly on the ground when using the assessment.</p>	<p>Add a foundation-side definition and that the data sheet containing section H.2.2 will not be applicable or extended to identify foundation type.</p>

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78185 Kelly Smith

ConocoPhillips

Specification Section

Type

Comment

Suggested Change

3.20 similar service assessment:

Technical

The proposed definition is a very wide open statement. Some could interpret that as meaning the tank levels were maintained in a similar manner and operated at ambient conditions. But if one tank contained raw crude with water and the other contained diesel with no water, the corrosivity of the fluid could be dramatically different and this type of difference should be stated rather than implied.

We have a big concern with the statement leaving out a comparison of the corrosiveness of two fluids. Even two tanks which contain sulfuric acid of approximately the same strength can have very different corrosion rates if one is fresh acid and the other is "spent" acid.

COP proposed language included in double quotes below:

The process by which corrosion rates and inspection intervals are established for a candidate tank using corrosion rates", a comparison of the corrosive nature of the fluid(s) contained in both tanks" and other relevant service history from a control tank for the purpose of establishing the next inspection date.

Current ballot language:

The process by which corrosion rates and inspection intervals are established for a candidate tank using corrosion rates and other relevant service history from a control tank for the purpose of establishing the next inspection date.

-1 Doug Stelling

ConocoPhillips Bayway Refinery B.O.B. S318

Specification Section

Type

Comment

Suggested Change

H

Technical

1) Par H.1 should be changed to: "...6.3.2 and 6.4.2." since the appendix is for both tank shells and tank bottoms.
 2) The example in par. H.3.1 should be based on a minimum bottom thickness of .1" since this is more often the case and someone may think that .05" is the minimum for tank bottoms.

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12/1/2006

134314 Tearle Taylor

Flint Hills Resources

Specification Section

Type

Comment

Suggested Change

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12/1/2006

134314 Tearle Taylor

Flint Hills Resources

<u>Specification Section</u>	<u>Type</u>	<u>Comment</u>	<u>Suggested Change</u>
653-204	Technical	<p>Similar Service</p> <p>H.2.1.3 – Why include shell analysis this is an inspection that should be able to be performed from the external of the tank and should not be included in this assessment. The floors of a tank are the main concern. The shell of a tank is something you can inspect and evaluate very cheaply - the shell of a tank very rarely has the same corrosion rates as the floor.</p> <p>H2.1.5 - Tank floors with internal coatings and liners, without proper documentation of inspection, do not always have the same life or corrosion rates. Tanks coated at the same time in the same service with the same coating have shown that one tank may be "like new" and the other coating/liner failed.</p> <p>H2.1.8 – How do you determine the “factors” of the soil on the candidate tank? Without proper documentation there is nothing that is going to tell you the soil side without going into the tank and removing coupons or providing some sort of soil side analysis.</p> <p>Table 1.0 - There are too many generalities that are being made - example you are grouping all crude's together - experience shows there is a great difference in corrosion rates particularly on the product side of the bottom between Sour and Sweet Crude's and a lot of terminals do not see the same type of crude's on a month to month basis - the crude content changes constantly even if you are using only sour or sweet such as the tan #, sulfur, chlorides etc.</p> <p>H2.1.5 and H.2.1.6 – High consequence assumptions: linings or coatings, bottom material specifications, CP, service conditions etc because tanks usually over ten years old generally do not have adequate records. At the</p>	

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134314 Tearle Taylor

Flint Hills Resources

Specification Section

Type

Comment

Suggested Change

present putting a "life" on a coating is an inexact science and if there are no documentation on the inspection of when the coating was installed it cannot be compared adequately. There are too many unknowns that are being assumed.

H2.1.6 – What is considered "properly designed and functional CP system"? Does that include reference cells coming out of the tank or just readings from around the perimeter of the tank? Is there a difference in criteria in a deep ground bed versus an anode bed?

H2.1.7 – Double bottoms the assessment is on the soil on the upper plate. Shouldn't CP be considered on what side of the double bottom it is on? If it is on the underside of the first bottom it can turn the second bottom into an anode and corrosion rates will be significantly higher.

H2.1.10. – Shouldn't this be "Storage Tank Engineer as defined in API 653 para 3.17? Quite a few terminals only have Tank Engineers with little or no tank experience.

Similar Service Assessment Data Sheet – What is the criteria for how many "No Match" does it take to disqualify?

Notes: These components should be added in the evaluation

- There is nothing stating if the water draws are being used on a tank - there is only a mention of water bottoms. Water is the biggest factor in product side corrosion on floors. There is also the element of where the product comes from: ship, barge, pipeline etc that makes a difference. Barges and ships can dump its bilges into the product they are carrying or not clean the compartment between shipments and other contaminants can be

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134314 Tearle Taylor

Flint Hills Resources

Specification Section

Type

Comment

Suggested Change

deployed into a tank.
 • The type of roof: fixed cone, IFR or EFR also make a difference in corrosion rates of a shell and floor.
 • Mixers how much they are run and where they are located.

134325 Donald Thain

Shell Global Solutions (US) Inc.

Specification Section

Type

Comment

Suggested Change

H.3

Editorial

Examples of CR determination are not part of determining "Similar Service" they should reside elsewhere if truly needed. The candidate tank's CR should already be known as it is required to set it's own inspection interval.

Date sheets

Editorial

Too much redundant information on each page. Would like to see base data only have to be filled out once on seperate page.

145896 Alan Watson

A.R. Watson, USA

Specification Section

Type

Comment

Suggested Change

Editorial

Use metric units in documents

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