

Inspection Output (IOR)

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Inspection Information

Inspection Name	Tidewater IMP	Operator(s)	TIDEWATER, INC (31051)	Plan Submitted	09/05/2017
Status	PLANNED	Lead	Dennis Ritter	Plan Approval	09/06/2017 by Joe Subsits
Start Year	2017	Supervisor	Joe Subsits	All Activity Start	09/11/2017
System Type	HL	Director	Sean Mayo	All Activity End	09/14/2017
Protocol Set ID	HL.2017.01			Inspection Submitted	--
				Inspection Approval	--

Inspection Summary

Summary:

AFODs

Pre-inspection 2

Inspection 4

Post-inspection 4

Begin inspection: 9/12/17

End Inspection: 9/14/17

Exit Interview: 9/14/17 10:45 am Joshua Jarman, Ron McClary, Tidewater

This is an intrastate integrity management program (IMP) inspection. Tidewater operates several short pipelines. Three 6-inch diameter pipelines (approx. 4,903 feet, each) that run between the Tidewater Terminal and the Tesoro Terminal. Tidewater also owns and operates a 4-inch diameter steel pipeline from the Tidewater Terminal to the BNSF rail yard. It has a wall thickness of 0.237", approximately 4.2 miles in length with FBE coating. Tidewater also has 19 breakout tanks. The Tidewater Terminal is located on the Snake River at the confluence with the Columbia River in Pasco WA.

There are several unsatisfactory results and areas of concern as noted below. I've identified 2 unsats as Tidewater failed to include the breakout tanks (inside the terminal) in the Integrity Management Plan. The plan needs to be revised to include the breakout tanks and risks associated with them. In practice, Tidewater has identified the threats and associated risks with the tanks as part of other regulatory requirements of the Coast Guard and WA Department of Ecology as well as customer requirements (BP, Tesoro). For example, they have identified risks in the document Tidewater Terminal Company Master Risk Assessment. This is used for all risks associated with operations of the terminal for regulatory and customer requirements. Tidewater needs to revise their IMP with the findings of this document. Other areas were identified as areas of concern as Tidewater included them in the IMP but they were deficient in terms of actual documentation and substance for the conclusions drawn.

Unsat: (Note breakout tanks inside the terminal were not included in the IMP)

- **Identification of Facilities that Could Affect an HCA**

Does the program include a written process for identification of facilities that could affect an HCA? IM.FACIL.FACILIDENT.P

Findings:

Tidewater did not include the breakout tanks in their current IMP.

- **Facilities Risk Analysis**

Does the process include approaches to identify and evaluate the risks of facilities that can affect HCAs? IM.FACIL.RISKANAL.P

Findings:

Tidewater did not include the breakout tanks in their current IMP.

- **IMP High Consequence Areas Release Locations and Spill Volumes**

Does the **process** include methods to determine the locations and volume of potential commodity releases? IM.HC.HCARELEASE.P

Do **records** indicate that identified release locations and spill volumes are consistent with the documented process? IM.HC.HCARELEASE.R

Findings:

Tidewater IMP Section 3.3 Risk Assessment Results states the "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be factual, however, Tidewater does not employ a fixed spacing along the lines for release points which would determine the spill volumes along the line based on topography, flow rates and response times. Tidewater should determine the spill volumes and liquid spread at any point along the lines.

- **IMP High Consequence Areas Overland Spread of Liquid Pool**

Does the **process** include an analysis of overland spread of hazardous liquids to determine the extent of commodity spread and its effects on HCAs? IM.HC.HCAOVERLAND.P

Do **records** indicate that the analysis of overland spread is consistent with the documented process? IM.HC.HCAOVERLAND.R

Findings:

Tidewater IMP Section 3.3 Risk Assessment Results states the "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be factual, however, Tidewater does not employ a fixed spacing along the lines for release points which would determine the spill volumes along the line based on topography, flow rates and response times. Tidewater should determine the spill volumes and liquid spread along the lines.

- **IMP High Consequence Areas Water Transport Analysis**

Does the process include the analysis of water transport of hazardous liquids to determine the extent of commodity spread and its effects on HCAs? IM.HC.HCAH2OTRANSP.P

Findings:

Reviewed Integrated Facility Response Plan for worst case discharge analysis (WITT/Obrien's--October 2013) for both a tank failure and a pipeline failure (SRT to BNSF). Both scenarios show product transport downstream and time frames. For any pipeline scenario, this analysis would apply and would be applicable. **However, this analysis and documentation of the rationale behind the water transport analysis needs to be included in the IMP.**

- **IMP High Consequence Areas Air Dispersion Analysis**

Does the process include the analysis of the dispersion of vapors from the release of highly volatile liquids and volatile liquids to determine effects on HCAs? IM.HC.HCAAIRDISP.P

Findings:

Reviewed Feb 2015 Landau Associates Accidental Spill Emission Modeling Technical Memorandum. For gasoline pipeline scenario, this analysis would apply and would be applicable. **However, this analysis and documentation of the rationale behind the air dispersion analysis needs to be included in the IMP.**

- **Performance Metrics**

Does the **process** to evaluate IM program effectiveness include an adequate set of performance metrics to provide meaningful insight into IM program performance? IM.QA.IMPERFMETRIC.P

Do the **records** indicate that performance metrics are providing meaningful insight into integrity management program performance? IM.QA.IMPERFMETRIC.R

Findings:

Reviewed Tidewater IMP Section 4.1 Performance Measures

This section notes that Tidewater will use the guidance from Appendix C of 49CFR 195 as well as several other metrics including results from internal and external audits to evaluate the program. The Terminal Maintenance Manager will then make adjustments as necessary based on the results. Reviewed 2016 and 2017 Internal Program Review. Based on these reviews, it appears that Tidewater does not have formal metrics as they have not had any incidents to compare to. Part 195 Appendix C criteria was discussed in light of Tidewater's situation. **Tidewater needs to evaluate 195 Appendix C criteria for performance measurement and adopt performance metrics.**

The entire HL IM Group set of questions will be asked during this inspection.

Scope (Assets)

#	Short Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Inspected	Total	Required % Complete
1.	Unit Pasco	Pasco Intrastate HL-Refined Product	other	Pasco	Offshore GOM Crosses Nav. HVL CO2 Biofuels Abandoned	141	141	141	141	100.0%

a. Percent completion excludes unanswered questions planned as "always observe".

Plans

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
1.	Unit Pasco	HL IM	AR, CR, DC, EP, FS, IM, MO, PD, RPT, SRN, TD, TQ, GENERIC	P, R, O, S	Detail	

Plan Implementations

#	Activity Name	SMAR T Act#	Start Date End Date	Focus Directive s	Involved Groups/Subgroup s	Assets	Qst Type(s)	Planned	Required	Inspected	Total	Required % Complete
1	Records Review	--	09/11/2017	HL IM	AR, CR, DC, EP, FS, IM, MO, PD, RPT,	Unit Pasco	all types	141	141	141	141	100.0%

Activity #	Activity Name	SMAR T Act#	Start Date	End Date	Focus Directive s	Involved Groups/Subgroup s	Assets	Qst Type(s)	Planned	Required	Total Inspected	Required %
			09/14/2017			SRN, TD, TQ, GENERIC						

- a. Since questions may be implemented in multiple activities, but answered only once, questions may be represented more than once in this table.
- b. Percent completion excludes unanswered questions planned as "always observe".

Forms

No.	Entity	Form Name	Status	Date Completed	Activity Name	Asset
1.	Attendance List	Records Review	COMPLETED	09/18/2017	Records Review	Unit Pasco

Results (Unsat, Concern values, 10 results)

IM.HC: High Consequence Areas

1. Question Result, ID, References	Unsat, IM.HC.HCARELEASE.P, 195.452(f)(1) (195.452(a))
Question Text	Does the process include methods to determine the locations and volume of potential commodity releases?
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater should determine the spill volumes and liquid spread along the lines.
Standard Issues	A2 (Significant impact/limited occurrence) : 195.452(f)(1) : No process. A2 (Significant impact/limited occurrence) : 195.452(f)(1) : Process inadequate/incomplete, but requirements being met in practice. A2 (Significant impact/limited occurrence) : 195.452(f)(1) : Process for the determination of release locations and spill volumes is inadequate
Result Notes	Tidewater O&M Section 805.3 Calculation for Initial Estimate of Release. Tidewater IMP Section 3.3 Risk Assessment Results states the "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be factual, however, Tidewater does not have a formal analysis of fixed spacing along the lines for release points which would determine the spill volumes along the line based on topography, flow rates and response times. Tidewater needs to determine the spill volumes and liquid spread along the pipelines.
2. Question Result, ID, References	Unsat, IM.HC.HCARELEASE.R,
Question Text	Do records indicate that identified release locations and spill volumes are consistent with the documented process?
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater should determine the spill volumes and liquid spread along the lines.
Standard Issues	A2 (Significant impact/limited occurrence) : 195.452(f)(1) : No record/documentation. A2 (Significant impact/limited occurrence) : 195.452(f)(1) : Records do not demonstrate that all factors were considered in determining the spill volume of liquids at a specific location
Result Notes	Tidewater O&M Section 805.3 Calculation for Initial Estimate of Release. Tidewater IMP Section 3.3 Risk Assessment Results states the "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be factual, however, Tidewater does not have a fixed spacing along the lines for release points which would determine the spill volumes along the line based on soil type, topography, flow rates and response times. Tidewater needs to determine the spill volumes and liquid spread along the pipelines.
3. Question Result, ID, References	Unsat, IM.HC.HCAOVERLAND.P, 195.452(f)(1) (195.452(a))

Question Text	<i>Does the process include an analysis of overland spread of hazardous liquids to determine the extent of commodity spread and its effects on HCAs?</i>
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater needs to determine the spill volumes and liquid spread along the pipelines.
Standard Issues	B2 (Moderate or small impact/limited occurrence) : 195.452(f)(1) : Process does not adequately define the assumptions to be used in the overland spread analysis B2 (Moderate or small impact/limited occurrence) : 195.452(f)(1) : Process for overland spread analysis was inadequate
Result Notes	Tidewater O&M Section 805.3 Calculation for Initial Estimate of Release. Tidewater IMP Section 3.3 Risk Assessment Results states the "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be factual, however, Tidewater does not have a formal analysis of fixed spacing along the lines for release points which would determine the spill volumes along the line based on topography, flow rates and response times. Tidewater needs to determine the spill volumes and liquid spread along the pipelines.
4. Question Result, ID, References	Unsat, IM.HC.HCAOVERLAND.R, 195.452(l)(1)(ii) (195.452(f)(1);195.452(a))
Question Text	<i>Do records indicate that the analysis of overland spread is consistent with the documented process?</i>
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater needs to determine the spill volumes and liquid spread along the pipelines.
Standard Issues	B1 (Moderate or small impact/widespread occurrence) : 195.452(f)(1) : Records do not require that the effects of topography be evaluated for its effect on overland spread analysis B1 (Moderate or small impact/widespread occurrence) : 195.452(f)(1) : Records indicate requirement not completed at required intervals. B1 (Moderate or small impact/widespread occurrence) : 195.452(f)(1) : Records do not require valid analytical models be used to calculate overland transport including a comparison of historical releases where appropriate
Result Notes	Tidewater O&M Section 805.3 Calculation for Initial Estimate of Release. Tidewater IMP Section 3.3 Risk Assessment Results states the "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be factual, however, Tidewater does not have a fixed spacing along the lines for release points which would determine the spill volumes along the line based on topography, flow rates and response times. Tidewater needs to determine the spill volumes and liquid spread along the pipelines.
5. Question Result, ID, References	Unsat, IM.HC.HCAH2OTRANSP.P, 195.452(f)(1) (195.452(a))
Question Text	<i>Does the process include the analysis of water transport of hazardous liquids to determine the extent of commodity spread and its effects on HCAs?</i>
Assets Covered	Unit Pasco
Result Issue Summary	analysis and documentation of the rational behind the water transport analysis needs to be included in the IMP.
Standard Issues	A2 (Significant impact/limited occurrence) : 195.452(f)(1) : No process.
Result Notes	Reviewed Integrated Facility Response Plan for worst case discharge analysis (WITT/Obrien's--October 2013) for both a tank failure and a pipeline failure (SRT to BNSF). Both scenarios show transport downstream of product and time frames. For any pipeline scenario, this analysis would apply and would be applicable. However, this analysis and documentation of the rational behind the water transport analysis needs to be included in the IMP.
6. Question Result, ID, References	Unsat, IM.HC.HCAAIRDISP.P, 195.452(f)(1) (195.452(a))
Question Text	<i>Does the process include the analysis of the dispersion of vapors from the release of highly volatile liquids and volatile liquids to determine effects on HCAs?</i>
Assets Covered	Unit Pasco
Result Issue Summary	analysis and documentation of the rational behind the air dispersion analysis needs to be included in the IMP.
Standard Issues	A2 (Significant impact/limited occurrence) : 195.452(f)(1) : No process.
Result Notes	Reviewed Feb 2015 Landau Associates Accidental Spill Emission Modeling Technical Memorandum. For gasoline pipeline scenario, this analysis would apply and would be applicable. However, this analysis

and documentation of the rational behind the air dispersion analysis needs to be included in the IMP.

IM.QA: Quality Assurance

7. Question Result, ID, References	Unsat, IM.QA.IMPERFMETRIC.P, 195.452(f)(7) (195.452(k))
Question Text	<i>Does the process to evaluate IM program effectiveness include an adequate set of performance metrics to provide meaningful insight into IM program performance?</i>
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater will evaluate the areas of 195 Appendix C criteria for performance measurement and incorporate metrics into the IMP
Standard Issues	B2 (Moderate or small impact/limited occurrence) : 195.452(f)(7) : No process.
Result Notes	<p>Tidewater IMP Section 7.0 Continuing Evaluation and Assessment</p> <p>This section notes that Tidewater will use the results from internal and external audits to evaluate the program. The Terminal Maintenance Manager will then make adjustments as necessary based on the results.</p> <p>Reviewed 2016 and 2017 Internal Program Review. Tidewater will evaluate the areas of 195 Appendix C criteria for performance measurement.</p>
8. Question Result, ID, References	Unsat, IM.QA.IMPERFMETRIC.R, 195.452(l)(1)(ii) (195.452(f)(7);195.452(k))
Question Text	<i>Do the records indicate that performance metrics are providing meaningful insight into integrity management program performance?</i>
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater will evaluate the areas of 195 Appendix C criteria for performance measurement and incorporate metrics into the IMP
Standard Issues	B2 (Moderate or small impact/limited occurrence) : 195.452(f)(7) : Records do not demonstrate that performance metrics were established and used to evaluate IM program effectiveness
Result Notes	<p>Tidewater IMP Section 7.0 Continuing Evaluation and Assessment</p> <p>This section notes that Tidewater will use the results from internal and external audits to evaluate the program. The Terminal Maintenance Manager will then make adjustments as necessary based on the results.</p> <p>Reviewed 2016 and 2017 Internal Program Review. Tidewater needs to evaluate Part 195 Appendix C criteria for performance measurement.</p>

IM.FACIL: Facilities

9. Question Result, ID, References	Unsat, IM.FACIL.FACILIDENT.P,
Question Text	<i>Does the program include a written process for identification of facilities that could affect an HCA?</i>
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater does not include the breakout tanks in their current IMP. Plan needs to be updated to include breakout tanks.
Standard Issues	B2 (Moderate or small impact/limited occurrence) : 195.452(f)(1) : No process. B2 (Moderate or small impact/limited occurrence) : 195.452(f)(1) : Process inadequate/incomplete, but requirements being met in practice.
Result Notes	Tidewater does not include the breakout tanks in their current IMP. Plan needs to be updated to include breakout tanks.
10. Question Result, ID, References	Unsat, IM.FACIL.RISKANAL.P, 195.452(f)(3) (195.452(g);195.452(j))

Question Text	Does the process include approaches to identify and evaluate the risks of facilities that can affect HCAs?
Assets Covered	Unit Pasco
Result Issue Summary	Tidewater does not include the breakout tanks in their current IMP. Plan needs to be updated to include breakout tanks and associated risks.
Standard Issues	B2 (Moderate or small impact/limited occurrence) : 195.452(f)(3) : No process. B2 (Moderate or small impact/limited occurrence) : 195.452(f)(3) : Process inadequate/incomplete, but requirements being met in practice.
Result Notes	Tidewater does not include the breakout tanks in their current IMP. Plan needs to be updated to include breakout tanks and associated risks.

Report Parameters: Results: Unsat,Concern

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