STATE OF WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION
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Sent Via email and Electronic Return Receipt Certified Mail

October 9, 2017

Bruce Reed
VP of Operations
Tidewater Terminal Company
PO Box 1210
6305 NW Old Lower River Rd
Vancouver WA 98660

RE: 2017 Hazardous Liquid Integrity Management Program Inspection – Tidewater Terminal Company, Snake River Terminal (Insp. No. 7232)

Dear Mr. Reed:

Staff from the Washington Utilities and Transportation Commission (staff) conducted a Hazardous Liquid Integrity Management Program Inspection from Sept. 12-14, of Tidewater Terminal Company's Snake River Terminal. The inspection included a records review and an inspection of the pipeline facilities.

Our inspection indicates ten probable violations as noted in the enclosed report.

Your response needed
Please review the attached report and respond in writing by Nov. 13. The response should include how and when you plan to bring the probable violations into full compliance.

After you respond in writing to this letter, there are several possible actions the commission, in its discretion, may take with respect to this matter. For example, the commission may:

- Issue an administrative penalty under RCW 81.04.405; or
- Issue a complaint under RCW 81.88.040, seeking monetary penalties, changes in the company's practices, or other relief authorized by law, and justified by the circumstances. Any pipeline company that violates any pipeline safety provision of any commission order, or any rule in this chapter including those rules adopted by reference, or chapter 81.88 RCW, is subject to civil penalty not to exceed two hundred thousand dollars for each violation for each day that the violation persists. The maximum civil penalty for a related series of violations is two million dollars; or
- Consider the matter resolved without further commission action.

We have not yet decided whether to pursue a penalty or complaint in this matter. Should the commission decide to assess a penalty or initiate a complaint, your company will have an opportunity to respond and formally present its position.

If you have any questions or if we may be of any assistance, please contact Dennis Ritter at (360) 664-1159. Please refer to the subject matter described above in any future correspondence pertaining to this inspection.

Sincerely,

Sean C. Mayo
Pipeline Safety Director

Enclosure

cc: Bill Collins, Director EHS&S, Tidewater bill.collins@tidewater.com
Mark Davis, Terminal Operation Manager, Tidewater mdavis@tidewater.com
Josh Jarman, Quality and Compliance Manager, Tidewater joshua.jarman@tidewater.com
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UTILITIES AND TRANSPORTATION COMMISSION
2017 Hazardous Liquid Integrity Management Plan Inspection
Tidewater Inc. – Tidewater Terminal Company, Snake River Terminal

The following probable violations of Title 49 CFR Part 195 were noted as a result of the 2017 inspection of the Tidewater, Inc. – Tidewater Terminal Company, Snake River Terminal. The inspection included a selection of integrity management records including operation and maintenance (O&M), emergency response and field inspection of the pipeline facilities.

PROBABLE VIOLATIONS

1. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**
(f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

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

Finding(s):
Tidewater Terminal Company's (Tidewater) Integrity Management Plan (IMP) does not incorporate the breakout tanks inside the Snake River Terminal (SRT) as part of the integrity process for high consequence areas (HCAs). The code requires Tidewater to have a process to identity which segments could affect an HCA. The IMP only reflects the pipeline segments--not the breakout tanks inside the terminal. Tidewater must revise their IMP and include processes to identify facilities, including breakout tanks, which could affect HCAs. Note, Tidewater has determined, given their corporate culture and proximity to the Snake River, all their pipeline assets are within HCAs (this includes pipeline segments that may not meet the code definition of an HCA).

2. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**
(f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

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

Finding(s):
Tidewater's IMP does not incorporate the breakout tanks inside the SRT as part of the integrity process for HCAs. Tidewater must revise their IMP and include the risk analysis for breakout tanks at the SRT. Note, Tidewater has determined, given their corporate culture and proximity to the Snake River, all their pipeline assets are within HCAs (this includes pipeline segments that may not meet the code definition of an HCA).

3. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**

(f)What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph ***(i)*** *of this section);*

(i)What preventive and mitigative measures must an operator take to protect the high consequence area?

(1)General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.

(2)Risk analysis criteria. In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:

(i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
(ii) Elevation profile;
(iii) Characteristics of the product transported;
(iv) Amount of product that could be released;
(v) Possibility of a spillage in a farm field following the drain tile into a waterway;
(vi) Ditches alongside a roadway the pipeline crosses;

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

Findings:
Tidewater's IMP Section 3.3 Risk Assessment Results states, "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be accurate, however, Tidewater does not have a procedure or process established to perform spill volume analysis along the pipeline. This would include fixed spacing along the lines for release points which would determine the spill volumes based on flow rates, response times, soil type and topography including local features such as drainage ditches. Tidewater needs to define the process to determine the spill volumes and liquid spread along the pipelines at defined intervals useful for emergency response.

4. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**
(f)What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (i) of this section);

(i)What preventive and mitigative measures must an operator take to protect the high consequence area?*(1)General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best*

practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.

(2)Risk analysis criteria. In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:
(i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
(ii) Elevation profile;
(iii) Characteristics of the product transported;
(iv) Amount of product that could be released;
(v) Possibility of a spillage in a farm field following the drain tile into a waterway;
(vi) Ditches alongside a roadway the pipeline crosses;

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

Findings:
Tidewater's IMP Section 3.3 Risk Assessment Results states, "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 procedure or process established to perform spill volume analysis along the pipeline. This would include fixed spacing along the lines for release points which would determine the spill volumes based on flow rates, response times, soil type and topography including local features such as drainage ditches. As such, there are no records to substantiate the statement in Section 3.3. Tidewater needs to define the process to determine the spill volumes and liquid spread along the pipelines at defined intervals useful for emergency response and keep appropriate records to verify the results.

5. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**
(f)What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (i) of this section);

(i) What preventive and mitigative measures must an operator take to protect the high consequence area? *(1) General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.*

(2) Risk analysis criteria. In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:
(i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
(ii) Elevation profile;
(iii) Characteristics of the product transported;
(iv) Amount of product that could be released;
(v) Possibility of a spillage in a farm field following the drain tile into a waterway;
(vi) Ditches alongside a roadway the pipeline crosses;

IA Question: 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

Findings:
Tidewater's IMP Section 3.3 Risk Assessment Results states, "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 procedure or process established to perform spill volume analysis along the pipeline. This would include fixed spacing along the lines for release points which would determine the spill volumes based on flow rates, response times, soil type and topography including local features such as drainage ditches. Tidewater needs to define the process to determine the spill volumes and liquid spread along the pipelines at defined intervals useful for emergency response.

6. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**

(f)What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (i) of this section);

(i)What preventive and mitigative measures must an operator take to protect the high consequence area? *(1)General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.*

(2)Risk analysis criteria. In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:
(i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
(ii) Elevation profile;
(iii) Characteristics of the product transported;
(iv) Amount of product that could be released;
(v) Possibility of a spillage in a farm field following the drain tile into a waterway;
(vi) Ditches alongside a roadway the pipeline crosses;

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

Findings:
Tidewater's IMP Section 3.3 Risk Assessment Results states, "sandy soil around Tidewater's pipeline systems would largely mitigate the overland spread of liquid pool". Based on field observations, this may be accurate, however, Tidewater does not have a procedure or process established to perform spill volume analysis along the pipeline. This would include fixed spacing along the lines for release points which would determine the spill volumes based on flow rates, response times, soil type and topography including local features such as drainage ditches. As such, there are no records to substantiate the statement in Section 3.3. Tidewater needs to determine the spill volumes and liquid spread along the pipelines at a defined interval useful for emergency response and keep appropriate records to verify the results.

7. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**
(f)What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(i) What preventive and mitigative measures must an operator take to protect the high consequence area? (1) General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.

(2)Risk analysis criteria. In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:
(i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
(ii) Elevation profile;
(iii) Characteristics of the product transported;
(iv) Amount of product that could be released;
(v) Possibility of a spillage in a farm field following the drain tile into a waterway;
(vi) Ditches along side a roadway the pipeline crosses;

(g) What is an information analysis? In periodically evaluating the integrity of each pipeline segment (paragraph (j) of this section), an operator must analyze all available information about the integrity of the entire pipeline and the consequences of a failure. This information includes:

(1) Information critical to determining the potential for, and preventing, damage due to excavation, including current and planned damage prevention activities, and development or planned development along the pipeline segment;

(2) Data gathered through the integrity assessment required under this section;

(3) Data gathered in conjunction with other inspections, tests, surveillance and patrols required by this Part, including, corrosion control monitoring and cathodic protection surveys; and

(4) Information about how a failure would affect the high consequence area, such as location of the water intake.

IA Question: 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:

Tidewater does not refer to or document a water transport analysis in the IMP. Tidewater has completed a worst case discharge analysis (WITT/Obrien's--October 2013) for both a tank failure and a pipeline failure (SRT to BNSF) and documented them in the Integrated Facility Response Plan. 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. As Tidewater has a completed record for the analysis, there is not a finding for deficient records.

8. **<u>49 CFR §195.452 Pipeline integrity management in high consequence areas.</u>**

(f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(i) What preventive and mitigative measures must an operator take to protect the high consequence area?—(1) General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing

additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.

(2)Risk analysis criteria. In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:
(i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
(ii) Elevation profile;
(iii) Characteristics of the product transported;
(iv) Amount of product that could be released;
(v) Possibility of a spillage in a farm field following the drain tile into a waterway;
(vi) Ditches alongside a roadway the pipeline crosses;

(g)What is an information analysis? In periodically evaluating the integrity of each pipeline segment (paragraph (j) of this section), an operator must analyze all available information about the integrity of the entire pipeline and the consequences of a failure. This information includes:
(1) Information critical to determining the potential for, and preventing, damage due to excavation, including current and planned damage prevention activities, and development or planned development along the pipeline segment;
(2) Data gathered through the integrity assessment required under this section;
(3) Data gathered in conjunction with other inspections, tests, surveillance and patrols required by this Part, including, corrosion control monitoring and cathodic protection surveys; and
(4) Information about how a failure would affect the high consequence area, such as location of the water intake.

IA Question: 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? M.HC.HCAAIRDISP.P

Findings:
Tidewater does not refer to or document an air transport analysis in the IMP. Tidewater has completed an Accidental Spill Emission Modeling Technical Memorandum (Landau Associates February 2015). For a gasoline pipeline scenario, this analysis would apply and would be applicable. However, this analysis and documentation of the rationale behind the vapor dispersion analysis needs to be included in the IMP. As Tidewater has a completed record for the analysis, there is not a finding for deficient records.

9. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**
(f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of

the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;
(2) A baseline assessment plan meeting the requirements of paragraph (c) of this section;
(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);
(4) Criteria for remedial actions to address integrity issues raised by the assessment methods and information analysis (see paragraph (h) of this section);
(5) A continual process of assessment and evaluation to maintain a pipeline's integrity (see paragraph (j) of this section);
(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (i) of this section);
(7) Methods to measure the program's effectiveness (see paragraph (k) of this section);

(k) What methods to measure program effectiveness must be used? *An operator's program must include methods to measure whether the program is effective in assessing and evaluating the integrity of each pipeline segment and in protecting the high consequence areas. See Appendix C of this part for guidance on methods that can be used to evaluate a program's effectiveness.*

IA Question: 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

Findings:
Reviewed Tidewater's IMP Section 4.1 Performance Measures and 7.0 Continuing Evaluation and Assessment. Section 4.1 states that Tidewater follows guidance given in 49 CFR 195 Appendix C for performance metrics. However, the performance metrics listed in this section do not allow for a Tidewater to effectively assess its integrity program. For instance, the first two bulleted metrics in Section 4.1 are

- *A performance measurement goal to reduce the total volume of unintended releases with an ultimate goal of zero.*
  Tidewater hasn't had an unintended release since 2000 (this is the only recorded release). This is not a meaningful metric to determine the effectiveness of the program as there is no ability to measure if there is no data.
- *A performance measurement goal to track and evaluate the effectiveness of the operator's community outreach activities.*
  Tidewater has not established a metric to measure performance of its community outreach activities.

In short, aside from the required PHMSA metrics on the annual report, Tidewater has not established meaningful metrics to measure program effectiveness. Tidewater needs to

establish meaningful metrics. Tidewater should evaluate the areas of 195 Appendix C criteria for performance measurement.

10. **49 CFR §195.452 Pipeline integrity management in high consequence areas.**

(f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

(2) A baseline assessment plan meeting the requirements of paragraph (c) of this section;

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(4) Criteria for remedial actions to address integrity issues raised by the assessment methods and information analysis (see paragraph (h) of this section);

(5) A continual process of assessment and evaluation to maintain a pipeline's integrity (see paragraph (j) of this section);

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (I) of this section);

(7) Methods to measure the program's effectiveness (see paragraph (k) of this section);

(k)What methods to measure program effectiveness must be used? *An operator's program must include methods to measure whether the program is effective in assessing and evaluating the integrity of each pipeline segment and in protecting the high consequence areas. See Appendix C of this part for guidance on methods that can be used to evaluate a program's effectiveness.*

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

Findings:

Reviewed Tidewater's IMP Section 4.1 Performance Measures. Section 4.1 states that Tidewater follows guidance given in 49 CFR 195 Appendix C for performance metrics. In short, aside from the required PHMSA metrics on the annual report, Tidewater has not established meaningful metrics to measure program effectiveness. Tidewater must establish meaningful metrics and record the findings and results. Tidewater should evaluate the areas of 195 Appendix C criteria for performance measurement.