

# Inspection Output (IOR)

Generated on 2018.August.20 11:05

## Inspection Information

Inspection Name	Tidewater Standard Inspection	Operator(s)	TIDEWATER, INC (31051)	Plan Submitted	05/07/2018
Status	PLANNED	Lead	Dennis Ritter	Plan Approval	05/07/2018 by Joe Subits
Start Year	2018	Observer(s)	Denise Crawford	All Activity Start	07/31/2018
System Type	HL	Supervisor	Joe Subits	All Activity End	08/03/2018
Protocol Set ID	HL.2017.01	Director	Sean Mayo	Inspection Submitted	--
				Inspection Approval	--

## Inspection Summary

### 2018 Tidewater Standard Inspection:

This inspection will focus on maintenance and operations, emergency response, breakout tanks, and field recon. Questions from the following IA Directives were used for this inspection (note-Tidewater IMP inspection conducted 9/2017 with findings mitigated and verified, therefore IMP directed questions were not included in this standard inspection):

- Field Observations
- Small System Key Risks
- Break out Tank
- Core

7/30/18-Start inspection. Initial conference, records review (PA)

7/31/18-Records review (PA)

8/1/18-Records review

8/2/18-Field audit of assets (including BOTs, impoundment area, fire fighting, OQ, CP) and exit interview

NOTE: Tidewater Public Awareness Program Inspection was conducted during the same time frame.

Findings:

The following issues were noted during the inspection:

### UNSAT

- **Question 1 Abnormal Operating Procedures**, Does the process include procedures for responding to, investigating, and correcting the cause of the listed abnormal operating conditions? MO.ABNORMAL.ABNORMAL.P

**Findings:** Reviewed operator's logs for 2018, 2017, 2016. Checked first three months (Jan-Mar) in each log and found issues. Tidewater's Systems Operations Manual (SOM) Section 5.0 identifies abnormal operations. If one of these situations occurs, operators are to call the on-call Tidewater Manager. There were several shutdowns or loss of communication (which are defined in SOM) in logs which did not note a required call to manager was carried out. Found one log which noted the manager was notified. Also, 5.2.9 of the SOM requires a check of "key locations" prior to restarting the system and that the on call manager has approved the restart. There are no records indicating this check was completed (i.e. checklist, note in the log book, etc). The procedure does not specify whether the call should be noted in the operator's log. However, the only record indicating a call was made was the note in the log book. Tidewater needs to update its procedure to specify how the operators are to respond to the abnormal condition and record the response then train their employees to do so.

Also, Tidewater needs to state in its procedure and train their employees that operator's need to complete the operator's log (name, date, shift). Found most logs are not filled out with name and shift.

- **Question 5 Abnormal Operating Procedures**, Do records indicate operator's personnel responded to indications of abnormal operations as required by the written procedures? MO.ABNORMAL.ABNORMAL.R

**Findings:** Reviewed operator's logs for 2018, 2017, 2016. Checked first three months (Jan-Mar) in each log and found issues. Tidewater's Systems Operations Manual (SOM) Section 5.0 identifies abnormal operations. If one of these situations occurs, operators are to call the on-call Tidewater Manager. There were several shutdowns or loss of communication (which are defined in SOM) in logs which did not note a required call to manager was carried out. Found one log which noted the manager was notified. Also, 5.2.9 of the SOM requires a check of "key locations" prior to restarting the system and that the on call manager has approved the restart. There are no records indicating this check was completed (i.e. checklist, note in the log book, etc). The procedure does not specify whether the call should be noted in the operator's log. However, the only record indicating a call was made was the note in the log book. **There were no records to show the restart procedure was followed.** Tidewater needs to update its procedure to specify how the operators are to respond to the abnormal condition and record the response then train their employees to do so. Also, Tidewater needs to state in its procedure and train their employees that operator's need to complete the operator's log (name, date, shift). Found most logs are not filled out with name and shift.

- **Question 7 Abnormal Operating Procedures**, Do records indicate post-event reviews of actions taken by operator personnel to determine the effectiveness of the abnormal operation procedures and whether corrective actions were taken deficiencies were found? MO.ABNORMAL.ABNORMALREVIEW.R

**Findings:** Systems Operations Manual Section 5.2.9 requires several systems to be checked prior to returning to normal operations after an abnormal shutdown. Found one log which notes a system check, but it is not complete. Systems Operations Manual Section 5.2.10 has language requiring Tidewater Management to review abnormal operations and make changes to process or responses as necessary. Tidewater could not find any records showing these reviews were completed even though abnormal operations occurred.

- **Question 3 Normal Maintenance and Operations History**, Does the process address making construction records, maps, and operating history available as necessary for safe operation and maintenance? MO.LO.OMHISTORY.P

**Findings:** O&M Section 702(b) requires Tidewater Management to forward the "form" to EHS&S to keep them informed of all changes to maps. There does not appear to be a "form". The electronic copy seems to be the record copy as its available to all employees. However, the most recent copies (hard copy and electronic) are in the Maintenance Manager's office. Process needs to be revised to ensure most recent information is on maps.

#### Areas of Concern:

- **Question 4 Breakout tank Inspection, In-service**, Do records document that steel atmospheric or low pressure breakout tanks have received routine in-service inspections at the required intervals and that deficiencies found during inspections have been documented? FS.TSAPIINSPECT.BOINSRVCINSP.R

#### **Findings:**

Looked at monthly records for all tanks 2016-2018

#### **Monthly Inspection:**

1) Inspectors are not consistent on what constitutes corrosion, pitting and coating failure. There were boxes marked "N" for needs attention by one inspector (Damon Remus, John Hofbauer) and other inspectors marked the same tank "P" for Pass the next month. There needs to be training so each inspector is grading each item consistently.

2) Also, need to look at adding another line separating out coating failure from corrosion on the checklist.

- **Question 10 Breakout tank Inspection, Internal**, Do records document that steel atmospheric or low pressure breakout tanks have received formal internal inspections at the required intervals and that deficiencies found during inspections have been documented? FS.TSAPIINSPECT.BOINTINSP.R

**Findings:** Reviewed Tank Recommissioning Checklist for Tank 1 and 31 (this is not a required action-- but if they are using it, needs to be added to process for bringing tank back online).

- **Question 9&15 Breakout tank Inspection,** Is the condition of steel atmospheric or low pressure tanks acceptable? FS.TS.BOINSPECTION.O

**Findings:** Looked at all regulated breakout tanks. One issue noted: many of the vents for the internal floating roof tanks (gasoline) have swallow nests in the vent openings. Some were almost completely blocked. This could be an issue in allowing the tank to vent properly during filling/discharge operations

- **Question 6 Breakout Tank Overfill Protection,** Does the process require adequate testing and inspection of overfill devices on aboveground breakout tanks at the required interval? [Note: This question applies to both non-HVL and HVL pressure breakout tanks.] FS.TS.OVERFILLBO.P

**Findings:** Reviewed 2016-2018 records--no issues with records however, process does not describe how a problem found during inspection is handled (ie work order generated, followed up and closed out)

- **Question 2 Establishing Maximum Operating Pressure,** Do records indicate the maximum operating pressure was established in accordance with 195.406? MO.LOMOP.MOPDETERMINE.R

**Findings:** Tidewater should gather all MOP validating documents and put them in one place for the two pipeline systems. Tidewater also needs to clearly state in their System Operating Manual what criteria is used to establish MOP.

- **Question 11 Cathodic Protection Monitoring Readings,** Do the methods for taking CP monitoring readings allow for the application of appropriate CP monitoring criteria?TD.CPMONITOR.MONITOR.O

**Findings:** Annual reads use instant offs, but Tidewater doesn't have the ability to interrupt rectifiers. Tidewater borrowed interrupter from Tesoro to perform instant offs for inspection as usually perform on only reads.

Also, need to do a depole study on SRT to BN diesel line. This apparently is scheduled for Oct 2018

- **Question 13 Cathodic Protection Monitoring,** Do records adequately document required tests have been done on pipe that is cathodically protected? TD.CPMONITOR.TEST.R

**Findings:** SRT to BN diesel line

2016-no off reads. Procedure doesn't require off reads but consideration for IR drop is required. In 2016 had shorted line adjacent to Tesoro. Couldn't do instant offs as a result but did get partial depole readings. Tidewater's corrosion engineer, Lou Koszewski of US Tank Protectors, stated that in 2016 Tidewater inadvertently shorted the CP system to ground when they installed a new MOV for a relief line. According to Lou, this gave Tidewater partial depole values for the SRT to BN diesel line as CP current was being shunted off via the ground line. According to Lou K. using these partial depole numbers gives adequate polarization for 100 mV shift to be effective (this was verified). Need to do a depole on this line for 100mV shift to be effective.

## Scope (Assets)

#	Short Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Total Inspected	Required % Complete
1.	Tidewater Terminal	Tidewater Terminal	other	Tidewater Terminal	Offshore GOM	166	166	166	100.0%

#	Short Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Inspected	Total	Required % Complete
					HVL CO2 Abandoned					

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

## Plans

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent Notes
1.	Tidewater Terminal	Field Observations Review, Small System Key Risks, BO Tank Inspection, Core	AR, CR, DC, EP, FS, IM, MO, PD, RPT, SRN, TD, TQ, GENERIC	P, R, O	Detail

## Plan Implementations

#	Activity Name	SMART Act#	Start Date	End Date	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Planned	Required	Inspected	Total	Required % Complete
1	Procedures, Records, Field	--	07/31/2018	08/03/2018	n/a	all planned questions	all assets types	166	166	166	166	100.0%

- 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	Procedures, Records, Field	COMPLETED	08/16/2018	Procedures, Records, Field	Tidewater Terminal
2.	Breakout Tanks	Procedures, Records, Field	COMPLETED	08/20/2018	Procedures, Records, Field	Tidewater Terminal

## Results (Unsat, Concern values, 11 results)

12 (instead of 11) results are listed due to re-presentation of questions in more than one sub-group.

### FS.TSAPIINSPECT: Tanks and Storage - Inspection

- Question Result, ID, References: **Concern, FS.TSAPIINSPECT.BOINSRVCINSP.R, 195.404(c)(3) (195.432(b))**  
 Question Text: *Do records document that steel atmospheric or low pressure breakout tanks have received routine in-service inspections at the required intervals and that deficiencies found during inspections have been documented?*  
 Assets Covered: **Tidewater Terminal**  
 Result Issue Summary: **Need to look at what constitutes corrosion, pitting and coating failure. There needs to be training so each inspector is grading each item more consistent manner. Also what happens when a "N" is put into inspection sheet? Work order?**  
  
**Also, need to look at adding another line separating out paint failure from corrosion**  
 Result Notes: **Looked at monthly records for all tanks 2016-2018**

**Monthly Inspection:**

1) Need to look at what constitutes corrosion, pitting and coating failure. There were boxes marked "N" for needs attention by one inspector (Damon Remus, John Hofbauer) and other inspectors marked the same tank "P" for Pass the next month. There may need to be training so each inspector is grading each item consistently.

2) Also, need to look at adding another line separating out coating failure from corrosion

**5-yr External:**

Looked at 5 year in service external inspections for following tanks. All were completed within required time frame:

Tanks 1-minor issues associated with weep holes in repads, coating not required but recommended

Tanks 2,22-no issues

Tank 24-no immediate action items

Tank 27-no immediate action items; will install 8" goose neck vent on roof per R. McCleary

Tank 84,85-no immediate action items

No other issues noted.

2. Question Result, ID, Concern, FS.TSAPIINSPECT.BOINTINSP.R, 195.404(c)(3) (195.432(b))  
References

Question Text *Do records document that steel atmospheric or low pressure breakout tanks have received formal internal inspections at the required intervals and that deficiencies found during inspections have been documented?*

Assets Covered Tidewater Terminal

Result Issue Summary Tank Recommissioning Checklist needs to be added to process for bringing tank back online.

Result Notes Reviewed the API 653 Internal Inspection reports for the following tanks (only tanks due since last inspection):

**Tank 1**-September 2016 Powers Engineers and Inspection

Action items--may extend next out of service interval to 20 years (Tidewater uses 10 typically)

No other action items

**Tank 31**-March 2016 Powers Engineers and Inspection

Action items--may extend next out of service interval to 20 years (Tidewater uses 10 typically)

No other action items

**Also, reviewed Tank Recommissioning Checklist for Tank 1 and 31 (this is not a required action-- but if they are using it, needs to be added to process for bringing tank back online).**

3. Question Result, ID, Concern, FS.TS.BOINSPECTION.O, 195.432(a) (195.432(b), 195.432(c), 195.401(b)) (also presented in:  
References FS.TS)

Question Text *Is the condition of steel atmospheric or low pressure tanks acceptable?*

Assets Covered Tidewater Terminal

Result Issue Summary Tidewater needs to clean out the nests in the vents.

Result Notes Looked at all regulated breakout tanks (note--Tidewater is constructing two new tanks 86 and 87, they believe they will be ethanol tanks and not BOT). One issue noted: many of the vents for the internal

floating roof tanks (gasoline) have swallow nests in the vent opening. Some were almost completely blocked. This could be an issue in allowing the tank to vent properly during filling/discharge operations

## FS.TS: Tanks and Storage

4. Question Result, ID, References **Concern, FS.TS.OVERFILLBO.P, 195.402(c)(3) (195.428(a), 195.428(c), 195.428(d))**
- Question Text *Does the process require adequate testing and inspection of overfill devices on aboveground breakout tanks at the required interval? [Note: This question applies to both non-HVL and HVL pressure breakout tanks.]*
- Assets Covered **Tidewater Terminal**
- Result Issue Summary **Process does not describe how a problem is handled (ie work order generated, followed up and closed out)**
- Result Notes **O&M Section 205.8 Overpressure and Overfill Protection**
- Reviewed 2016-2018 records--no issues with records however, **process does not describe how a problem found during inspection is handled (ie work order generated, followed up and closed out)****
5. Question Result, ID, References **Concern, FS.TS.BOINSPECTION.O, 195.432(a) (195.432(b), 195.432(c), 195.401(b)) (also presented in: FS.TSAPIINSPECT)**
- Question Text *Is the condition of steel atmospheric or low pressure tanks acceptable?*
- Assets Covered **Tidewater Terminal**
- Result Issue Summary **Tidewater needs to clean out the nests in the vents.**
- Result Notes **Looked at all regulated breakout tanks (note--Tidewater is constructing two new tanks 86 and 87, they believe they will be ethanol tanks and not BOT). One issue noted: many of the vents for the internal floating roof tanks (gasoline) have swallow nests in the vent opening. Some were almost completely blocked. This could be an issue in allowing the tank to vent properly during filling/discharge operations**

## MO.ABNORMAL: Liquid Pipeline Abnormal Operations

6. Question Result, ID, References **Unsat, MO.ABNORMAL.ABNORMAL.P, 195.402(a) (195.402(d)(1))**
- Question Text *Does the process include procedures for responding to, investigating, and correcting the cause of the listed abnormal operating conditions?*
- Assets Covered **Tidewater Terminal**
- Result Issue Summary **Tidewater needs to update its procedure to specify how the operators are to respond to the abnormal condition and record the response.**
- Also, Tidewater needs to state in its procedure and train their employees that operator's need to complete the operator's log (name, date, shift). Found most logs are not filled out with name and shift.**
- Standard Issues **B2 (Moderate or small impact/limited occurrence) : 195.402(d)(1) : Process inadequate/incomplete, but requirements being met in practice.**
- Result Notes **Reviewed operator's logs for 2018, 2017, 2016. Checked first three months (Jan-Mar) in each log and found issues. Tidewater's Systems Operations Manual (SOM) Section 5.0 identifies abnormal operations. If one of these situations occurs, operators are to call the on-call Tidewater Manager. There were several shutdowns or loss of communication (which are defined in SOM) in logs which did not note a required call to manager was carried out. Found one log which noted the manager was notified. Also, 5.2.9 of the SOM requires a check of "key locations" prior to restarting the system and that the on call manager has approved the restart. There are no records indicating this check was completed (ie checklist, note in the log book, etc). The procedure does not specify whether the call should be noted in the operator's log. However, the only record indicating a call was made was the note in the log book. There were no records to show the restart procedure was followed. Tidewater needs to update its procedure to specify how the operators are to respond to the abnormal condition and record the response then train their employees to do so.**
- Also, Tidewater needs to state in its procedure and train their employees that operator's need to complete the operator's log (name, date, shift). Found most logs are not filled out with name and shift.**
7. Question Result, ID, References **Unsat, MO.ABNORMAL.ABNORMAL.R, 195.404(b) (195.402(d)(1))**
- Question Text *Do records indicate operator's personnel responded to indications of abnormal operations as required by the written procedures?*

Assets Covered Tidewater Terminal

Result Issue Summary Tidewater needs to update its procedure to specify how the operators are to respond to the abnormal condition and record the response then train their employees to do so.

Also, Tidewater needs to state in its procedure and train their employees that operator's need to complete the operator's log (name, date, shift).

Standard Issues B2 (Moderate or small impact/limited occurrence) : 195.404(b) : Documentation does not demonstrate adequate implementation of operator's process.

Result Notes Reviewed operator's logs for 2018, 2017, 2016. Checked first three months (Jan-Mar) in each log and found issues. Tidewater's Systems Operations Manual (SOM) Section 5.0 identifies abnormal operations. If one of these situations occurs, operators are to call the on-call Tidewater Manager. There were two shutdowns and one loss of communication (which are defined in SOM) in logs which did not note a required call to manager was carried out. Found one log which noted the manager was called for a shutdown. Also, 5.2.9 of the SOM requires a check of "key locations" prior to restarting the system and that the on call manager must approve the restart prior to commencing. There are no records indicating this check was completed (ie checklist, note in the log book, etc). The procedure does not specify whether the call should be noted in the operator's log. However, the only record indicating a call was made was the note in the log book. There were no records to show the restart procedure was followed.

Also, operator's need to complete the operator's log (name, date, shift). Most of the log sheets are not filled out with name and shift.

8. Question Result, ID, References Unsat, MO.ABNORMAL.ABNORMALREVIEW.R, 195.404(b) (195.402(d)(5))

Question Text *Do records indicate post-event reviews of actions taken by operator personnel to determine the effectiveness of the abnormal operation procedures and whether corrective actions were taken deficiencies were found?*

Assets Covered Tidewater Terminal

Result Issue Summary Need a checklist record to return back to operation and a process for revising response to abnormal operations.

Standard Issues B2 (Moderate or small impact/limited occurrence) : 195.402(d)(5) : No record/documentation.

Result Notes Systems Operations Manual Section 5.2.9 requires several systems to be checked prior to returning to normal operations after an abnormal shutdown. Found one log which notes a system check, but it is not complete.

Systems Operations Manual Section 5.2.10 has language requiring Tidewater Management to review abnormal operations and make changes to process or responses as necessary. Tidewater could not find any records showing this was carried out.

## MO.LOMOP: Liquid Pipeline MOP

9. Question Result, ID, References Concern, MO.LOMOP.MOPDETERMINE.R, 195.402(c)(3) (195.406(a), 195.406(b), 195.302(b), 195.302(c))

Question Text *Do records indicate the maximum operating pressure was established in accordance with 195.406?*

Assets Covered Tidewater Terminal

Result Issue Summary Tidewater needs to get all MOP validating documents and put them in one place for the two pipeline systems. Tidewater also needs to clearly state in their System Operating Manual what criteria is used to establish MOP.

Result Notes Reviewed System Operations Manuals for SRT to BNSF Diesel: MOP is based on pressure test conducted

Reviewed System Operations Manuals for Inbound/Outbound: MOP of 285 psi is based on 150 lb flanges on both ends of these three identical pipelines.

Tidewater needs to gather all MOP validating documents and put them in one place for the two pipeline systems. Tidewater also needs to clearly state in their System Operating Manual what criteria is used to establish MOP.

## MO.LO: Liquid Pipeline Operations

10. Question Result, ID, References Unsat, MO.LO.OMHISTORY.P, 195.402(a) (195.402(c)(1), 195.404(a), 195.404(a)(1), 195.404(a)(2), 195.404(a)(3), 195.404(a)(4), 195.404(c)(1), 195.404(c)(2), 195.404(c)(3))

Question Text *Does the process address making construction records, maps, and operating history available as necessary for safe operation and maintenance?*

Assets Covered Tidewater Terminal

Result Issue Summary Process needs to be revised to ensure most recent information is on maps.

Standard Issues B2 (Moderate or small impact/limited occurrence) : 195.404(a) : Inadequate processes for making construction records, maps, and operating history available as necessary for safe operation and maintenance.

Result Notes O&M Section 702.

702(b) requires Tidewater Management to forward the "form" to EHS&S to keep them informed of all changes to maps. There does not appear to be a "form". The electronic copy seems to be the record copy as its available to all employees. However, the most recent copies (hard copy and electronic) are in the Maintenance Manager's office. Process needs to be revised to ensure most recent information is on maps.

## TD.CPMONITOR: External Corrosion - Cathodic Protection Monitoring

11. Question Result, ID, References Concern, TD.CPMONITOR.MONITOR.O, 195.571

Question Text *Do the methods for taking CP monitoring readings allow for the application of appropriate CP monitoring criteria?*

Assets Covered Tidewater Terminal

Result Issue Summary Tidewater is performing a depole in October 2018 to obtain native reads.

Result Notes Annual reads use instant offs, but Tidewater doesn't have the ability to interrupt rectifiers. Tidewater borrowed interrupter from Tesoro to perform instant offs for inspection as usually perform on only reads.

Also, need to do a depole study on SRT to BN diesel line. This apparently is scheduled for Oct 2018

12. Question Result, ID, References Concern, TD.CPMONITOR.TEST.R, 195.589(c) (195.573(a)(1))

Question Text *Do records adequately document required tests have been done on pipe that is cathodically protected?*

Assets Covered Tidewater Terminal

Result Issue Summary Tidewater is performing a depole in October 2018 to obtain native reads.

Result Notes SRT to BN diesel line

2016-no off reads. Procedure doesn't require off reads but consideration for IR drop is required. In 2016 had shorted line adjacent to Tesoro. Couldn't do instant offs as a result but did get partial depole readings. Tidewater's corrosion engineer, Lou Koszewski of US Tank Protectors, stated that in 2016 Tidewater inadvertently shorted the CP system to ground when they installed a new MOV for a relief line. According to Lou, this gave Tidewater partial depole values for the SRT to BN diesel line as CP current was being shunted off via the ground line. According to Lou K. using these partial depole numbers gives adequate polarization for 100 mV shift to be effective (this was verified).

2017-some reads on SRT to BNSF diesel below -850 with instant off--using partial depole numbers, OK.

2018-some reads on SRT to BNSF diesel below -850 with instant off--using partial depole numbers, OK.

NOTE: all native reads are in the 200 to 300 mV range. The instant off reads Tidewater had were in the 700 mV range.

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Report Parameters: Results: Unsat, Concern

Inspection documentation, including completed protocol forms, summary reports, executive summary reports, and enforcement documentation are for internal use only by federal or state pipeline safety regulators. Some inspection documentation may contain information which the operator considers to be confidential. In addition, supplemental inspection guidance and related documents in the file library are also for internal use only by federal or state pipeline safety regulators (with the exception of documents published in the federal register, such as advisory bulletins). Do not distribute or otherwise disclose such material outside of the state or federal pipeline regulatory organizations. Requests for such information from other government organizations (including, but not limited to, NTSB, GAO, IG, or Congressional Staff) should be referred to PHMSA Headquarters Management.