T I D E W A T E R

Certified Mail 7003 1010 0002 1344 0402

05 March 2012

Mr. David D. Lykken
Pipeline Safety Director
Washington Utilities and Transportation Commission
1300 S. Evergreen Park Dr. S.W.
P.O. Box 47250
Olympia, Washington 98504-7250

RE: Summary of Completed Corrective Actions
2011 Review of Operations and Maintenance Manual
Snake River Terminal
Tidewater Terminal Company
671 Tank Farm Road
Pasco, Washington 99301
Ref. No. Dockett PL-111555

Dear Mr. Lykken,

The Washington Utilities and Transportation Commission (UTC) conducted an office review of Tidewater Terminal Company's D.O.T. Operations and Maintenance Manual (O&M Manual) for the Snake River Terminal. The review included both the O&M and the Operational Procedures and Policies Manual. Probable violations and areas of concern identified during the review were described in an inspection report (Docket No. PL-111555) which was attached to UTC's letter dated December 14, 2011.

UTC's letter requested Tidewater review the inspection report and respond in writing with a description of how and when Tidewater plans to bring the probable violations into full compliance. Tidewater responded in writing in a letter dated January 12, 2012 in which corrective actions were proposed for each of the probable violations and the area of concern. UTC accepted Tidewater's proposed corrective actions in a letter dated January 30, 2012 and closed Docket PL-111555.

This letter summarizes the corrective actions that were completed before or by 05 March, 2012. A spreadsheet is attached to this letter reiterates the probable violation/area of concern and the corrective action(s) taken by Tidewater to bring the violations into full compliance. A number of attachments are also provided with supporting documentation.

Tidewater appreciates UTC's assistance relative to pipeline compliance. Please contact the undersigned at 360-693-1491 if you have any questions concerning the attached spreadsheet or if you require additional information concerning how Tidewater addressed the issues identified during the 2011 Review of Operations and Maintenance Manual.

Sincerely,

Brian K. Rankin
Quality and Compliance Manager

cc: Andy Stephens – VP Business Development and Terminal Operations
Sam Pounds – Director, EHS&S
Pat Jensen – Snake River Terminal

Finding Number	Finding	Corrective Action	Due Date	Responsible Person	Actual Corrective Action
1	49 CFR 195.52(c) requires each operator to have a written procedure to calculate the volume of product released for such an event. This procedure needs to be added to the Manual and/or the Operational Procedures & Policies Manual.	1. Develop formula to calculate initial estimate of volume of product released in event of a spill. 2. Update O&M Manual Section 800 with formula.	1. 12-FEB-12 2. 1-MAR-12	1. Bill Collins 2. Brian Rankin	Developed formula to calculate initial estimate of volume of product released in event of a spill and added to section 800 of manual.
2	49 CFR 195.64 becomes effective 01/01/2012. Although Tidewater has an OPID issued by PHMSA, the Manual does not reference an OPID. As all future submissions to PHMSA and to the National Pipeline Mapping System will require using this unique identifier, all of Tidewater's reporting policies and procedures required under 49 CFR Part 195 need to reflect this.	1. Confirmed OPID Number as 31051. 2. Add OPID Number to cover page of O&M Manual. 3. Section 800 "Accident Reporting Requirements" will be modified to reflect the inclusion of Tidewater's OPID number on all annual reports, accident reports, and safety-related reports that are submitted to both PHMSA and UTC. 4. Add 49 CFR 195.64 to cross-reference.	1-Mar-12	1. Josh Jarman 2. Brian Rankin 3. Josh Jarman 4. Brian Rankin	Confirmed OPID number as 31051. Added number to cover page of manual. Added requirement of inclusion of number on all required reports to PHMSA, the National Pipeline Mapping System and UTC. 49 CFR 195.64 added to cross reference.
3	49 CFR 195.58(a) requires operators file reports electronically except as noted. Tidewater's Manual and/or Operational Procedures & Policies Manual does not have any electronic reporting requirements or procedures for doing so.	1. Rewrite section 800 and 810 of O&M Manual on reporting to reflect electronic reporting requirement.	1-Mar-12	1. Brian Rankin	Electronic reporting requirements procedure inserted into manual.
4	49 CFR 195.214(a) requires any welding to be performed by qualified welders using qualified procedures. The AWS Standard Welding Procedures cited in the Manual are not signed indicating they are Tidewater's qualified procedures. Also, these procedures prescribe an uphill direction of travel for the weld. The qualification testing documents for the individual welders indicate a downhill direction of travel.	1.Add QW-484 Welder/Welding Operator Performance Qualifications and Welder Qualification Test to AWS Standard Welding Procedures and approve and sign reflecting they are Tidewater's qualified procedures which will clarify the uphill vs. downhill direction of travel finding.	1-Mar-12	1. Ron McClary	Upon review the correct qualification testingdocuments for that weld (which does prescribe and uphill travel for the weld) were not inserted into the manual. The correct qualifications have now been inserted. Procedures have been signed signifying they are Tidewater's qualified procedures.
5	49 CFR 195.402(a) requires TTCI to update the Manual annually. Although revision language is included in Section 201.1 of the Manual, part of this update must include a review of applicable federal and state code revisions which need to be reflected in the Manual. Many of the findings presented here are the result of not incorporating these code revisions into the Manual. The procedure needs to include who is responsible for insuring any applicable revisions are included into the annual update.	1. Task in ESS to be updated to reflect review of applicable state and federal code requirements as part of annual review of O&M Manual. 2. Section 201.1 of the O&M Manual to reflect requirement to review of applicable state and federal codes and responsibility for doing this.	1-Mar-12	1. Brian Rankin 2. Brian Rankin	The task in ESS has been modified to look at applicable state and federal code requirements for updates as part of the annual review. This has been reflected in the manual as well.
6	49 CFR 195.402(c)(11) requries operators to identify locations, if any, near their facilities where the potential exists for the presence of flammable liquids or gases. The Manual needs to address which locations, if any, would meet these criteria for Tidewater's operations at the Snake River Terminal.	1. The following locations near Tidewater Terminal Company have been identified as having potential flammable liquids or gases: Tidewater Terminal Company - Snake River Terminal, Cascade Natural Gas Pipeline, Chevron Northwest Terminal. Chevron Pipeline. 2. Add locations to manual in Section 202 and refer to map for locations. 3. Change cross-reference to reflect location.	1-Mar-12	1. Josh Jarman 2. Brian Rankin 3. Brian Rankin	Locations have been added to Section 202 of the manual and the cross-reference updated to reflect.
7	49 CFR 195.402(d)(2) requires the operator to identify specific critical systems locations to check to determine system integrity and safe operation. These "critical locations" need to be identified in the manual.	1. Generate listing of critical systems and locations to check to determine system integrity and safe operations. 2. Add listing of critical systems and locations to manual in 328.1.	1-Mar-12	1. Pat Jensen 2. Brian Rankin	Listing of critical systems has been identified and added to section 328.1 of the manual.

8	49 CFR 195.402(e)(7) requires notification and coordination with local emergency response personnel and public officials. The "Cross Reference" in the Manual references Figure 502.1 to satisfy this part of the regulation; however, this figure could not be located. Additionally, the Manual needs to specifically address if emergency responders are consulted on the hazards of Tidewater's operations and what resources those agencies can bring to bear during an emergency.	1. Add verbiage to Section 204 to reference list of emergency responders located in Integrated Contingency Plan, Volume 1, Section 3. 2. Revise cross reference to reflect correct information.	1-Mar-12	1. Mark Davis 2. Brian Rankin	Verbiage added to section 204 (b) to refer to Integrated Contingency Plan Volume 1, Section 3 Pages 3-24 through 3-27. The cross-reference has been updated accordingly.
9	49CFR 195.403(a)(part of subpart F) states "...where feadible, a simulated pipeline emergency condition." There is no reference in the Manual that this training has been determined to be feasible or whether it is included as part of routine training.	1. Modify emergency response training to call out items specified in 195.403(a). 2. Section 209 "Training" will be modified to include the training requirement of a simulated pipeline emergency during the annual emergency response training. 3. Add verbiage reflecting this to section 209 of the O&M Manual.	1-Mar-12	1. Bill Collins 2. Josh Jarman 3. Brian Rankin	Training call out has been modified to state that emergency fire-fighting training is conducted by the local fire department and that a pipeline emergency will be simulated.
10	49 CFR 195.403(c)(part of subpart F) requires supervisors to maintain a thorough knowledge of emergency response porcedures under their responsibility. The Manual does not detail how Tidewater verifies that supervisors are maintaining appropriate knowledge of their area of responsibility for emergency response procedures.	1. There is an ESS Task to ensure that supervisors are tested on their knowledge of emergency response procedures. 2. Add verbiage to O&M Manual in Section 209 reflecting this.	1-Mar-12	1. Josh Jarman 2. Brian Rankin	Annual knowledge test of emergency procedures is already accomplished. Added verbiage to manual to reflect test in section 209.
11	49 CFR 195.404 (part of subpart F) requires minimum information to be available for operations and maintenance procedures. The Manual references Appendix 300A to satisfy this portion of the regulation, however, this appendix does not provide diameter, grade, type, and nominal wall thickness of pipe.	1. Appendix 300A will be updated with the following information regarding our pipeline system: diameter, grade, type, and nominal wall thickness of all pipe. 2. Change cross-reference matrix to refer to Appendix 300A.	1-Mar-12	1. Josh Jarman/Brian Rankin 2. Brian Rankin	After further review it was determined that the information already exists in Table 218-1. The cross-reference has been updated to reflect this.
12	49 CFR 195.428(c) requires aboveground breakout tanks which meet this criteria to have overfill protection per API 2350. It cannot be determined which, if any, of Tidewater's regulated breakout tanks meet this criteria or if Tidewater's overfill protection meets API 2350. Tidewater should have procedures in place to meet this regulation should a breakout tank be significantly altered.	1. Determine what (if any) tanks meet the criteria. 2. Write procedures (per API 2350) to meet requirements to be inserted in 205.8 of manual.	1-Mar-12	1. Ron McClary 2. Ron McClary/Brian Rankin	Procedures have been updated in 205.8 to meet requirements of API 2350.
13	49 CFR 195.440(d)(2)(part of subpart F) specifically requires educating the public regarding the hazards associated with activities at Tidewater's Snake River Terminal. However, this Manual only describes how Tidewater helps its excavators and other interested parties identify their pipe. The Manual does not indicate that Tidewater has shared the hazards associated with unintended releases from the pipeline with the general public or the other interested parties.	1. Section 214 "Public Education" will be modified to reflect who exactly is notified and how they are educated on the hazards of unintended releases. Public awareness notifications are sent out annually. 2. Update manual to meet requirements.	1-Mar-12	1. Josh Jarman 2. Brian Rankin	

14	49 CFR 195.440(d)(3) and (4)(part of subpart F) require the operator of hazardous liquid pipeline to educate the public as to physical indications of a possible release and what to do if a release does happen. The manual does not specify if Tidewater has 1) notified potentially affected parties what to look for and 2) what to do if a release occurs.	1. Section 214 "Public Education" will be modified to reflect who exactly is notified and how they are educated as to physical indications of a possible release and what to do if it occurs. Public awareness notifications are sent out annually. 2. Update manual to meet requirements.	1-Mar-12	1. Josh Jarman 2. Brian Rankin	Section 214 (d) has been modified to meet these requirements and crossreference updated accordingly.
15	49 CFR 195.442(c)(1) requires the operator to include the identity of persons normally engaged in excavation activities. The Manual does note that a list of such excavators is kept by Tidewater, however, this list is not in the Manual or a specific location identified.	1. Section 214 "Public Education will be updated with a list of persons normally engaged in excavation activities. Public awareness notifications are sent out annually. 2. Add information to manual	1-Mar-12	1. Josh Jarman 2. Brian Rankin	
16	49 CFR 195.442(c)(2) requires specific notice to affected persons around the operator's pipeline system. The Manual does not address how the general public in the vicinity of the pipeline is informed on the existence of the pipeline or the damage prevention program or how to locate an underground pipeline before excavation activities begin.	1.Section 214 "Public Education" will be modified to reflect how the general public in the vicinity of the pipeline is informed on the existence of the pipeline and how to locate an underground pipeline before excavation activities begin. Public awareness notifications are sent out annually. 2. Add information to manual.	1-Mar-12	1. Josh Jarman 2. Brian Rankin	
17	49 USC 60132(b) requires operators to annually update the National Pipeline Mapping System. The Manual does not indicate that Tidewater submits mapping updates annually or reports "no modifications have occurred".	1. Update manual in Section 800 with information about ESS tasking to meet this requirement. 2. Add 49 USC 60132(b) and corresponding manual section to cross reference matrix.	1-Mar-12	1. Brian Rankin	Task exists to update National Pipeline Mapping System. Added requirement to manual. Updated crossreference accordingly.
18	49 CFR 195.555 requires supervisors to maintain a thorough knowledge of each portion of the corrosion control procedures for which they are responsible. The Manual does not detail how Tidewater verifies that supervisors are maintaining appropriate knowledge of their area of responsibility for corrosion control procedures.	1. Section 400 "Corrosion Control" will be modified to reflect that on an annual basis supervisors' knowledge of corrosion control will be tested. Testing will occur in March as part of our annual lock closure training and annually thereafter. 2. Update manual to include information.	1-Mar-12	1. Josh Jarman 2. Brian Rankin	Section 400.1 has been updated to include this requirement. In addition a task in ESS has been created to ensure compliance.
19	49 CFR 195.264(b)(1)(i)(ii) requires the operator to use a specific NFPA standard. The Manual references an incorrect or outdated NFPA standard. The correct standard is NFPA 30 Sec 4.3.2.3.2 and 30 Sec 4.3.2.3.1 for remote impoundments.	1. Update manual to reflect correct NFPA reference. 2. Review correct reference to ensure compliance.	1-Mar-12	1. Brian Rankin	Manual has been updated to reflect correct reference. Reference has been rreviewed for compliance.
20	49 CFR 195.307(d) Section 205.5 of the Manual indicates an incorrect reference to API Standard 653. The Manual indicates section 10.3 and the correct reference is 12.3.	1. Update manual to reflect correct API Standard reference. 2. Review correct reference to ensure compliance.	1-Mar-12	1. Brian Rankin	Manual has been updated to reflect correct reference. Reference has been rreviewed for compliance.
21	49 CFR 195.310(a) and (b) give specific requriements for pressure testing. The Manual does not cite specific Tidewater policy and/or procedure to comply with these regulations.	1. Section 585 "Hydrostatic Testing" will be modified to reference the procedure "Hydrostatic Test - D.O.T. Piping Systems" (TM-SRT-005). 2. Add policy/procedure references to O&M Manual.	1-Mar-12	1. Josh Jarman 2. Brian Rankin	Section 585.1 modified to add reference to TM-SRT-005.

22	49 CFR 195.405 requires specific procedures for protection against certain ignition sources. The Manual does not indicate how Tidewater complies with this regulation.	1. Determine current procedures in place to comply with requriements. 2. Write section for O&M Manual, Section 205, to reflect current procedures to comply with requirements. 3. Update manual.	1-Mar-12	1. Ron McClary 2. Ron McClary/Josh Jarman 3. Brian Rankin	Sections 205.6.2 "Tidewater Practices" and 205.6.3 "Access/Egress for Floating Roof Tanks" have been revised to reflect current procedures.
23	49 CFR 195.428 applies if Tidewater significantly alters or repairs a regulated breakout tank. Tidewater needs to have a procedure in place to ensure regulation is met in the event a repair is necessary.	1. Write procedure to ensure requirements of 49 CFR 195.428 are met in case of significant alteration or repair. 2. Insert reference to procedure into Section 205.8. 3. Add procedure to O&M Manual 4. Update cross-reference matrix to reflect change. 5. Write a procedure meeting Operator Qualification requirements.	1-Mar-12	1. Ron McClary 2. Ron McClary 3. Brian Rankin 4. Brian Rankin 5. Ron McClary	Revised manual to include information required. Updated crossreference accordingly. Also referred out to our Management of Change process which will ensure all requirements are met in the event of a change.
24	Tidewater's Manual references NACE RP0193-2001 not the API Standard 651. Additionally, the Manual does not reference a specific breakout tank cathodic protection survey procedure.	1. Update reference to reflect API Standard 651 2. Write or reference current procedure in manual for breakout cathodic protection survey. 3. Verify NACE standards are current and that we are in compliance..	1-Mar-12	1. Brian Rankin 2. Ron McClary/Brian Rankin 3. Ron McClary	Updated reference to reflect API Standard 651. Added cathodic breakout survey to section 402.5. Verified NACE Standards for currency and made necessary changes.
25	Section 402.5(b) of the Manual states that interference currents will be checked for during routine Right-of-way inspections and during annual pipe-to-soil readings. However, TO-SRT-026 does not mention looking for possible interference issues as part of routine inspection. Also, TO-SRT-029 does not discuss an annual pipe-to-soil reading as part of the procedure, nor who performs it.	1. Revise TO-SRT-026 and TO-SRT-029 to reflect requirements and responsibilities.	1-Mar-12	1. Ron McClary	Upon review decision was made to add information to section 402.5 of the manual rather than refering it out to procedures.
26	WAC 480-75-620 requires operators to file a report to the UTC 45 days prior to pressure testing. This requirement is not identified in the Manual or the written Tidewater Hysrostatic Test-DOT Piping Systems procedure TM-SRT-005.	1. Section 585 "Hydrostatic Testing" and the "Hydrostatic Test - D.O.T Piping Systems" (TM-SRT-005) Procedure will be updated to include the notification to UTC 45 days prior to pressure testing.	1-Mar-12	1. Brian Rankin/Josh Jarman	45 day requirement added to O&M Manual and corresponding procedure in section 219. Crossreference updated accordingly.
27	WAC 480-75-300 requires operators be able to detect a leak under flow or no flow conditions. The Manual does not specify whether the leak detection system can detect a leak under no flow conditions.	1. Section 302 "System Surveillance" to be define procedure for no-flow detection. 2. Update manual to reflect capabilities. 3. Create task in ESS to ensure that no-flow leak detection is monitored.	1-Mar-12	1. Mark Davis 2. Brian Rankin	Revised section 302 to refer out to Pipeline System Surveillance procedure. Task created in PPM to ensure completion.
28	WAC 480-75-400 has objective material requirements for bedding and backfill to ensure damage to the pipline will not occur. However, Tidewater does not specify a material for acceptable backfill which would ensure the requirements of this regulation are met.	1. Determine backfill materials to ensure regulation requirements are met. 2. Specify acceptable material in O&M Manual, Section 603.5.	1-Mar-12	1. Ron McClary 2. Brian Rankin	Section 504.2 of the manual updated to reflect requirements. Crossreference updated accordingly.
29	WAC 480-75-660 has been revised. Please ensure the Manual is updated as necessary to conform to new regulations and any subsequent changes to Tidewater O&M policies and procedures.	1. Determine changes made in revision to WAC 480-75-660. 2. After review of WAC 480-75-660, Tidewater believs that the requirements are met by Section 325 (c) "Emergency Shutdown Procedure" and Section 328 "Abnormal Operations". 3. Change cross reference to reflect 325(c) rather than 325(b).	1-Mar-12	1. Mark Davis 2. Mark Davis 3. Brian Rankin	Crossreference updated accordingly.

The following finding is for information only. It addresses an upcoming change in the regulations, a change in the referenced standard or addresses an operational concern.					
1	There is a new NACE reference for this section. The Manual should be updated as necessary to concern to new referenced standard and subsequent changes to Tidewater O&M policies and procedures. (49 CFR 195.571 Cathodic protection required by this subpart must comply with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE SP 0169).	1. Review requirements in new NACE reference. 2. Revise procedures to reflect changes. 3. Update manual accordingly.	1-Mar-12	1. Ron McClary 2. Ron McClary 3. Brian Rankin	Updated reference in O&M Manual. Reviewed and updated applicable policies and procedures.

805.4.3 Telephone Reports

(a) Telephone reports shall be made promptly to the EH&S Department and various governmental agencies when necessary. If unable to contact the EH&S Department, the Terminals Manager will make agency notifications.

(b) Report the accident immediately, normally within one hour of discovery, but no later than 24 hours after discovery, to the agencies having jurisdiction where the accident occurred and when the accident meets the reporting requirements of the respective agency.

(c) Telephone numbers for federal, state and local agencies that require notification are shown on the emergency telephone list, in the Tidewater Field Manual.

(d) When reporting a pipeline accident by telephone:

- Complete the form "Information for Telephone Reporting" (Use form shown in Appendix 700 A as a guide). Forward this form to the EH&S Department with the leak report.

805.4.3.1 Calculation for Initial Estimate of Release Product

For initial reporting purposes, the volume of released product can initially be estimated by multiplying the flow rate at the time of the release by the time required for the pipeline operator to respond and stop flow and adding the volume associated with the line drain down (i.e., pipeline displacement).

$V = (FR \times RT) + (D^2 \times 0.0408) \times L$

Where:

- V = Volume released (Gallons)
- FR = Flow rate (Gallons per minute, gpm)
- RT = Response time to srop flow (Minutes)
- D = Inside diameter (Inches)
- L = (Length of pipeline displacement (Feet)

Note:

1. Inside pipeline diameter = 6.249 inches.
2. Total length of pipeline from Tidewater block valve to Chevron manifold = 4,903 feet.
3. $D^2 \times 0.0408$ = gallons of pipeline displacement per foot of pipeline (gals/ft)

Example:

FR = 450 gpm (Worse case)
RT = 5 minutes
L = 4,903 feet (Worse case, total line displacement)

Finding #1 (cont.)

$V = (450 \text{ gpm} \times 5) + ((6.294^2 \times 0.0408) \times 4{,}903)$
$= (2{,}250) + ((39.05 \times 0.0408) \times 4{,}903)$
$= (2{,}250) + (1.59 \times 4{,}903)$
$= 2{,}250 + 7{,}812$
$= 10{,}062$ gallons

The release volume calculated by the method above can be compared with the release volume determined by subtracting the volume in the tank prior to and after the transfer as determined using a tank strapping chart and then subtracting the volume received or transferred through the Chevron manifold and the volume retained in the pipeline (i.e., line retain).

$V = SV - CV - RV$; $RV = (D^2 \times 0.0408) \times L$

Where:

- V = Volume released (Gallons)
- SV = Volume transferred into/removed from tank determined from tank strapping chart (Gallons)
- MV = Volume transferred or received as metered at the Chevron manifold (Gallons)
- RV = Volume retained in the pipeline (Gallons)
- D = Inside diameter (Inches)
- L = Length of pipeline containing retain (Feet)

Note:

1. Inside pipeline diameter = 6.249 inches.
2. $D^2 \times 0.0408$ = gallons of pipeline retain per foot of pipeline (gals/ft).

806 thru 809 RESERVED

810 REPORTS

(a) The Terminals Manager or Designee will prepare and submit the necessary written reports as required by this procedure to the EH&S Department. Written reports include the following:

Tidewater:

- Tidewater Oil Spill Report Form

Federal:

- DOT 7000-1 - Accident Report - Hazardous Liquid Pipeline

Reports should be submitted electronically concurrently to:

http://opsweb.phmsa.dot.gov

(b) Accident reports shall be submitted promptly to federal, state and local agencies as required by this procedure. Reports required by Part 195 will be

Finding # 2

Section 800

EMERGENCIES AND ACCIDENT REPORTING PROCEDURES

800.1 Introduction, Purpose and Scope

This section of the manual provides a ready reference and guide to assist Tidewater management and field personnel in achieving an efficient, coordinated and effective response to any emergency that may occur in the operation of Tidewater pipeline systems. This section sets forth procedures to be followed in the event of releases or other emergency situations that may occur on the pipelines. This reference will be used in conjunction with Tidewater's Oil Spill Contingency Plan. Extraordinary circumstances dictated by local conditions or outside events may require deviations from this procedure; however, the basic outlines contained in the procedure should always be followed. In some instances, assistance from outside organizations may be required.

NOTE: All required reports to PHMSA, the National Pipeline Mapping System, and UTC will include the OPID number issued by PHMSA. Tidewater's OPID number is 31051.

800.2 Company Policy and Position - Prevention of Releases

(a) Preservation of the natural environment is of utmost importance. Tidewater supports and practices positive and balanced conservation of all resources in the public interest.

(b) Specifically Tidewater will support and practice positive conservation measures by:

- Taking precautions reasonably necessary to provide environmental protection of the surroundings in the vicinity of the pipelines.
- Designing, operating and maintaining the pipelines to minimize the risk of, and prevent discharge of hazardous substances to public waters and land.
- Complying with all applicable environmental and toxic substance laws and regulations.

(c) The Terminals Manager is responsible for operating and maintaining the pipelines in conformity with these laws and regulations, except when prevented by unforeseeable or uncontrollable events. This will be done without regard to degree of enforcement.

(d) The Terminals Manager shall be responsible for conformity with this policy

Finding #2 (cont.)

submitted as soon as possible but not later than 30 days after the discovery of the accident.

(c) Submit a copy of the Tidewater Oil Spill Report to the EH&S Department within 48 hours of discovery of the leak/release.

(d) Refer to Appendix 700 A for instructions for completing DOT 7000-1 Accident Report - Hazardous Liquid Pipeline and a sample form.

(e) The EH&S Department will review accident reports for completeness and forward the reports to the management and to regulatory agencies as required by regulations.

(f) All reports will be labeled with Tidewater's OPID number (31051).

811 ACCIDENT ANALYSES AND PROCEDURE REVIEW

811.1 Accident Analysis

(a) It shall be the responsibility of the Terminals Manager to analyze accident/accidents in accordance with the procedures in this Section and Tidewater's Incident Investigation Program. The Maintenance Department will be responsible for arranging for metallurgical analysis of failed pipe when required.

(b) It is extremely important that a thorough analysis and report be made of the circumstances and handling of each accident/accidents. The following guidelines should be used as a basis for preparing these reports.

(c) Determine What Happened:

- Interview witnesses
- Conduct an onsite evaluation
- Assess the following information:

(1) Did the system pressure exceed design pressure?
(2) Was there a recent survey of pipe condition?
(3) Inspect the maintenance and leak history of the segment.
(4) Was there recent outside construction activity?

(d) Why Did It Happen?

(1) Conduct follow-up interviews
(2) Collect physical evidence for analysis:
- Take photographs
- Failed components

Finding #2 (cont.)

TIDEWATER TERMINAL CO., INC.

OPERATIONS & MAINTENANCE MANUAL

SNAKE RIVER TERMINAL

Regulated Petroleum Pipeline and Breakout Tank Facilities

OPID #: 31051

Finding #2 (cont.)

CROSS REFFERENCE

49CFR Part 195	Manual Section
SUBPART A - General	
§195.0 Scope	N/A
§195.1 Applicability	N/A
§195.2 Definitions	N/A
§195.3 Matter incorporated by reference	N/A
§195.4 Compatibility necessary for transportation of hazardous liquids or carbon dioxide	N/A
§195.5 Conversion to service subject to this part	N/A
§195.8 Transportation of hazardous liquid or carbon dioxide in pipelines constructed with other than steel pipe	N/A
§195.9 Outer continental shelf pipelines.	N/A
§195.10 Responsibility of operator for compliance with this part	600.2
SUBPART B - Reporting Accidents and Safety-Related Conditions	
§195.50 Reporting accidents.	805.2, 810
§195.52 Telephonic notice of certain accidents.	805.4.3, PART 1 NRC RPTG, 805.4.3.1
§195.54 Accident reports	
§195.54 (a)	810.1 (b)
§195.54 (b)	805.3
§195.55 Reporting safety-related conditions.	App. 600A
§195.56 Filing safety-related condition reports	App. 600A
§195.57 Filing offshore pipeline condition reports.	N/A
§195.58 Electronic report submission.	810 (a)
§195.60 Operator assistance in investigation	805.2 (b)
§195.62 Supplies of accident report DOT Form 7000-1.	N/A
§195.63 OMB control number assigned to information collection	N/A
§195.64 National Registry of Pipeline and LNG Operators	800.1
SUBPART C - Design Requirements	
§195.100 Scope.	N/A
§195.101 Qualifying metallic components other than pipe.	602 (c)
§195.102 Design temperature.	602 (d)
§195.104 Variations in pressure	602 (e)
§195.106 Internal design pressure.	602 (f)
§195.108 External pressure.	602 (g)
§195.110 External loads.	602 (g)
§195.111 Fracture propagation	No CO^2 Pipelines
§195.112 New pipe.	602.1
§195.114 Used pipe.	602.2
§195.116 Valves.	602.9
§195.118 Fittings.	602.4
§195.120 Passage of internal inspection devices	420
§195.122 Fabricated branch connections	602.5
§195.124 Closures.	602.6
§195.126 Flange connection	602.7
§195.128 Station piping	602.8
§195.130 Fabricated assemblies.	602.8
§195.132 Design and construction of aboveground breakout tanks	205.1
§195.134 CPM leak detection	624

Finding #3

$V = (450 \text{ gpm} \times 5) + ((6.294^2 \times 0.0408) \times 4{,}903)$
$= (2{,}250) + ((39.05 \times 0.0408) \times 4{,}903)$
$= (2{,}250) + (1.59 \times 4{,}903)$
$= 2{,}250 + 7{,}812$
$= 10{,}062$ gallons

The release volume calculated by the method above can be compared with the release volume determined by subtracting the volume in the tank prior to and after the transfer as determined using a tank strapping chart and then subtracting the volume received or transferred through the Chevron manifold and the volume retained in the pipeline (i.e., line retain).

$V = SV - CV - RV$; $RV = (D^2 \times 0.0408) \times L$

Where:

- V = Volume released (Gallons)
- SV = Volume transferred into/removed from tank determined from tank strapping chart (Gallons)
- MV = Volume transferred or received as metered at the Chevron manifold (Gallons)
- RV = Volume retained in the pipeline (Gallons)
- D = Inside diameter (Inches)
- L = Length of pipeline containing retain (Feet)

Note:

1. Inside pipeline diameter = 6.249 inches.
2. $D^2 \times 0.0408$ = gallons of pipeline retain per foot of pipeline (gals/ft).

806 thru 809 RESERVED

810 REPORTS

(a) The Terminals Manager or Designee will prepare and submit the necessary written reports as required by this procedure to the EH&S Department. Written reports include the following:

Tidewater:

- Tidewater Oil Spill Report Form

Federal:

- DOT 7000-1 - Accident Report - Hazardous Liquid Pipeline

Reports should be submitted electronically concurrently to:

http://opsweb.phmsa.dot.gov

(b) Accident reports shall be submitted promptly to federal, state and local agencies as required by this procedure. Reports required by Part 195 will be

Finding #4

TIDEWATER TERMINAL PASCO

Section IX
QW-484 WELDER / WELDING OPERATOR PERFORMANCE QUALIFICATIONS (WPQ)
(See QW-301, Section IX ASME Boiler and Pressure Vessel Code)

Welder's name Allen Gross SS # 519 – 94 – 9578 Stamp No. N/A
Welding process(es) used SMAW Type Manual
Identification of WPS followed by welder during welding of test coupon ANSI / AWS B2.1 – 1 – 017 – 94
Base material(s) welded A106 Thickness .280"

Manual or Semiautomatic Variables for Each Process (QW-350)	Actual Values	Range Qualified
Backing (metal, weld metal, welded from both sides, flux, etc.) (QW-402)	W/O Backing	W/ or WO Backing
ASME P-No. _____ to ASME P-No. (QW-403)	P1 – P1	P1 thru P11
[ ] Plate [X] Pipe (enter diameter, if pipe)	6.25"	2 7/8" to Unlimited
Filler metal specification (SFA): 5.1 Classification (QW-404)	E 6010	
Filler metal F-No.	F3	
Consumable insert for GTAW or PAW	N/A	
Weld deposit thickness for each welding process	.125"	.560"
Welding position (1G, 5G, etc.) (QW-405)	6G	All Positions
Progression (uphill / downhill)	Uphill	Uphill
Backing gas for GTAW, PAW, or GMAW; fuel gas for OFW (QW-408)	W/O Backing Gas	W/O Backing Gas
GMAW transfer mode (QW-409)	N/A	
GTAW welding current type / polarity	N/A	

Machine Welding Variables for the Process Used (QW-360)		
Direct / remote visual control	N/A	
Automatic voltage control (GTAW)	N/A	
Automatic joint tracking	N/A	
Welding position (1G, 5G, etc.)	N/A	
Consumable insert	N/A	
Backing (metal, weld metal, welded from both sides, flux, etc.)	Open Root	W/ or WO Backing

Guided Bend Test Results

Guided Bend Tests Type ☐ QW-462.2 (Side) Results ☐ QW-462.3(a) (Trans. R & F) Type ☐ QW-462.3(b) (Long. R & F) Results

N/A	N/A	N/A	N/A

Visual examination results (QW-302.4) Accept
Radiographic test results (QW-304 and QW-305) Accept
(For alternative qualification of groove welds by radiography) Accept (See RT Report)
Fillet Weld—Fracture test N/A Length and percent of defects None in.
Macro Test fusion N/A Fillet leg size _____ in. x _____ Concavity/convexity _____ in.
Welding test conducted by NorthWest Inspection, Inc. / Tony Martini
Mechanical tests conducted by N/A Laboratory test no 30

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in Accordance with the requirements of Section IX of the ASME Code.

Organization TIDEWATER TERMINAL

Date _____ By _____

Finding #4 (Cont.)

TIDEWATER TERMINAL PASCO

QW-485 DEMONSTRATION OF STANDARD WELDING PPROCEDURE SPECIFICATIONS (WPS)
(See Article V)

Identification of Standard Welding Procedure Specification Demonstrated: ANSI / AWS B2.1 – 1 – 017 – 94

Demonstration Welding Conditions

Specification, Type and Grade of Base Metal(s): API – 5L, Group A

To Specification, Type and Grade of Base Metal(s): API – 5L, Group A

Base Metal P- or S-Number P1 to Base Metal P- or S-Number P1 Thickness: .280"

Welding Process (es) used: GMAW

☐ Plate ☒ Pipe (enter Diameter of Pipe or Tube): 6.25"

Groove Type (Single V, Double V, Single U, etc.): Single V

Initial Cleaning Method: Mechanical

Backing (Metal, Weld Metal, Backwelded, etc.): N/A

Filler Metal (SFA) Specification: 5.1

Filler Metal or Electrode Classification: E 6010

Filler Metal or Electrode Trade Name: E 6010 Fleetweld 5pt

Tungsten Electrode Type and Size for GTAW: N/A

Consumable Insert Class and Size for GTAW or PAW: N/A

Backing Gas Composition and Flow Rate for GTAW, PAW, GMAW: N/A

Preheat Temperature (°F): 50° F

Position (F, V, OH, H) of Weld: 6G

Progression (Uphill or Downhill): Uphill

Interpass Cleaning Method: Mechanical

Measured Interpass Temperature (°F): 200° F

Approximate Deposit Thickness for Each Filler Metal or Electrode Type (in.): .125"

Current Type/Polarity (AC, DCEP, DCEN): DCEP

Postweld Heat Treatment Time and Temperature: N/A

Visual Examination of Completed Weld: 1/30/01 Date of Test: 1/30/01

Bend Test ☐ Transverse Root and Face [QW-462.3 (a)] ☐ Side (QW-462.2)

Type	Result	Type	Result	Type	Result
N/A	N/A	N/A	N/A	N/A	N/A

Alternative Radiographic Examination Results: Accept (See RT Report)

Specimens Evaluated By: Tony Martin Tony Martin Title: NDE Level III Company: NorthWest Inspection, Inc.

Welding Supervised By: Tony Martin Tony Martin Title: NDE Level III Company: NorthWest Inspection, Inc.

Welder's Name Allen Gross Stamp No. 519 – 94 – 9578

We certify that the statements in this record are correct and that the weld described above was prepared, welded, and tested in Accordance with the requirements of Section IX of the ASME Code.

Manufacturer or Contractor: TIDEWATER TERMINAL PASCO

By: [signature] Date: Demonstration Number: 30

Finding #4 (cont.)

NORTHWEST inspection
1809 South Sheppard Kennewick, WA 99338
509 946-7590 Fax 509 946-7850

Radiographic Examination Report

DATE 1/30/01 PAGE 1 OF 1
CLIENT: Tidewater Terminal
LOCATION: Pasco, WA
PROCEDURE: RT-01 REV: 0

Acceptance Criteria		Film Count	
ANSI		5 x 7	
X ASME	Sect. IX	4 x 10	3
API		4 1/2 x 17	
AWS		7 x 17	
OTHER		14 x 17	

Weld Discontinuity Code		
SL - Slag Lines	DT - Drop Through	CX - Root Convexity
SU - Surface Indication	SI - Slag Inclusion	CV - Root Concavity
T - Tungsten Inclusion	BT - Burn Through	OX - Oxidation
IF - Incomplete Fusion	UC - Undercut	MM - Mismatch
IP - Incomplete Penetration	C - Crack	P - Porosity

AREA	COMMENTS	ACC	REJ	AREA	COMMENTS	ACC	REJ
	Welder Qual						
	WPS # B2.1-1-017-94						
	6" x .280" wt.						
	Welder- Allen Gross						
0-1		X					
1-2		X					
2-0		X					

Radiographer Tony Martin Level III Interpreter Tony Martin Level III

Customer _____

Finding A4 (Cont.)

Ray Poland & Sons, Inc
Welder Qualification Test (WPQ)
(See API 1104, American Petroleum Institute Code)

Welder Name Dwight Betker Check No. Stamp No. D1

Using WPS No. AWS B21.1-1-203-96 Rev. 0 Date: May 28, 1996

the above welder is qualified for the following ranges.

Variables	Record Actual Values Used in Qualification	Qualification Range
Process	SMAW	SMAW
Process Type	Manual	Manual
Backing (metal, weld metal, flux, ect.	Open Root	Open Root
Material Spec.	1.1 to 1.1	1.1 to 1.1
Thickness		
Groove	.280	.750
Fillet	None	None
Diameter		
Groove	6" Sch. 40	2.375 thru 6.625" OD
Fillet	6" Sch 40	2.375 thru 6.626 " OD
Filler Metal		
Spec No.	5.1	5.1
Class	E6010	E6010
F No.	3	3
Deposited Metal Thickness		
Groove	.280	.750
Fillet	Allowed	Allowed
Position	6G	6G
Weld Progression	Uphill	Uphill
Gas Type		
Backing Gas	None	None
Electrical Characteristics		
Current	DCEP	DCEP
Polarity	Reverse	Reverse

Welder Qualification Results API 1104 Section 3

Butt Weld (Type and Fig No.)	Results	Branch Weld (Type & Fig. No.)	Results
1. Tensile API 1104.2.6.2	Accept	1. Nick Break API 1104 2.7	Accept
2. Tensile API 1104.2.6.2	Accept	2. Nick Break API 1104 2.7	Accept
3. Nick Break API 1104.2.6.3	Accept	3. Nick Break API 1104 2.7	Accept
4. Nick Break API 1104.2.6.3	Accept	4. Nick Break API 1104 2.7	Accept
5. Root Bend API 1104.2.6.4	Accept		
6. Root Bend API 1104.2.6.4	Accept		

Radiographic Test Results (API 1104.3.6) N/A
NorthWest Inspection

AWS QC 1 LEW M. MARTIN 05100127 CWI

Test Conducted By Tony Martini Laboratory Test No.

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section 1104 of the American Petroleum Institute Code.

Organization Ray Poland & Sons, Inc.

Date: 10-23-01 By

Details of record of tests are illustrative and may be modified to conform to the type and number of tests required by the Code.

NOTE: Any essential variables in addition to those above shall be recorded.

Finding #4 (Cont.)

Ray Poland & Sons, Inc
Welder Qualification Test (WPQ)
(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

Welder Name Dwight Betker Check No. _____ Stamp No. D1

Using WPS No. AWS B21.1-1-203-96 Rev. 0 Date 10-23-01

the above welder is qualified for the following ranges.

Variables	Record Actual Values Used in Qualification	Qualification Range
Process	SMAW	SMAW
Process Type	Manual	Manual
Backing (metal, weld metal, flux, etc. (QW-402)	Open Root	F4, 2, 1 WOB
Material Spec. (QW-403)	1.1 to 1.1	1.1 to 1.1
Thickness		
Groove	.280	.560
Fillet	None	Unlimited
Diameter		
Groove	6" Sch 40	2.85" OD & Larger
Fillet	None	Unlimited
Filler Metal (QW-404)		
Spec No.	SFA 5.1	SFA 5.1
Class	E6010	E 6010
F No.	F3	F3
Deposited Metal Thickness		
Groove	.280	.560
Fillet	None	Unlimited
Position (QW-405)	6G	6G
Weld Progression	Uphill	Uphill
Gas Type (QW-408)		
Backing Gas	None	None
Electrical Characteristics		
Current	Direct	Direct
Polarity	Reverse	Reverse

Guided Bend Test Results QW-462.2(a), QW-462.3(a), QW-462.3(b)

Type and Fig No.	Results
1. Face QW-463.2	Pass
2. Face QW-463.2	Pass
3. Root QW-463.2	Pass
4. Root QW-463.2	Pass

Radiographic Test Results (QW-304 & QW-305) _____

Visual Results QW-190 Acceptable

Test Conducted By _____ Laboratory – Test No. _____

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

Organization Ray Poland & Sons, Inc.

Date: 10-23-01 By _____

Details of record of tests are illustrative and may be modified to conform to the type and number of tests required by the Code.

NOTE: Any essential variables in addition to those above shall be recorded.

Finding # 4 (cont.)

Standard Welding Procedure Specification (WPS)

POSTWELD HEAT TREATMENT (PWHT)

Postweld Heat Treatment: None (Not qualified for PWHT applications)

ELECTRICAL CHARACTERISTICS

GROOVE WELDS AND FILLET WELDS

Electrodes[1]			Current	
Layer	Classification	Dia. (in.)	Amperes	Polarity
Root or Fill	E6010	3/32	40–80	DCEP (Reverse)
Root or Fill	E6010	1/8	75–125	DCEP (Reverse)
Fill	E6010	5/32	110–170	DCEP (Reverse)
Fill	E6010	3/16[2]	140–215	DCEP (Reverse)

1. The care and storage of electrodes shall be as recommended by the electrode manufacturer.
2. Flat and Horizontal positions only.

TECHNIQUE

Weave or Stringer Bead: Either
Peening: Not permitted
Initial Cleaning: Chemical or mechanical; joint shall be dry prior to welding
Interpass Cleaning: Mechanical only
Backgouging: Mechanical or thermal when required by Figure 1
Single or Multiple Passes: Either. All pressure retaining welds shall be a minimum of two passes
Maximum Bead Thickness: 1/4 in.
Repair: Defects in welds shall be removed by mechanical or thermal methods. The repair cavity may differ in contour and dimension from a normal joint preparation and may present different restraint conditions. Repair of base metal defects shall be in accordance with the requirements of the fabrication document(s)

COMPANY NAME TIDEWATER TERMINAL CO.

In the name of the Company stated above, I accept full responsibility for the application of this Standard WPS for use with:

_____ Dated _____

Fabrication Document(s): (such as Code, Specification, or Contract Document)

DATE 3/5/2012 APPROVED BY Ron McCoy TITLE MAINTENANCE SUPERVISOR

Finding #4 (cont.)

Standard Welding Procedure Specification (WPS)

POSTWELD HEAT TREATMENT

Postweld Heat Treatment: Welds may either be as-welded or postweld heat treated at 1100 to 1200°F. If heat treated, the heat treatment time shall be 1 hour per inch of thickness (15 minutes minimum) unless otherwise noted in the fabrication document.

ELECTRICAL CHARACTERISTICS

Electrode[1]		Current	
Classification	Dia.[2] in.	Amperes	Polarity
E6010	3/32	40–80	DCEP (Reverse)
E6010	1/8	75–125	DCEP (Reverse)
E6010	5/32	110–170	DCEP (Reverse)
E6010	3/16	140–215	DCEP (Reverse)

1. The care and storage of electrodes shall be as recommended by the electrode manufacturer.
2. 3/16 in. electrodes shall not be used for tack or root pass welding nor for welding in the vertical or overhead positions.

Pulsing Current: Not permitted

TECHNIQUE

Weave or Stringer Bead: Either
Peening: Not required; if used, proceed as directed by the fabrication document
Initial Cleaning: Chemical or mechanical; joint shall be dry prior to welding
Interpass Cleaning: Mechanical only
Backgouging: Mechanical or thermal when required by Figure 1
Gouging: Mechanical or thermal
Single or Multiple Passes: Either
Maximum Bead Thickness: 1/4 in.

COMPANY NAME Tidewater Terminal Co.

In the name of the Company stated above, I accept full responsibility for the application of this Standard WPS for use with:

_____ Dated _____
Fabrication Document(s): such as Code, Specification or Contract Document

DATE 3/5/2012 APPROVED BY _____ TITLE Maintenance Supervisor

View Report

General

Enterprise Entity: Snake River Terminal

Task Statement: Annual Operations and Maintenance Manual Review

Task ID: 11880 Audit Log

Due Date: 1/1/2013

State: Open

Creation Date: 1/1/2012

Task Description: Review the O&M manual and confirm that the plan meets the requirements identified in the Order and identify updates as necessary to to reflect any modifications to air pollution equipment, operating parameters, or monitoring/inspection procedures. Includes review of applicable federal and state codes for changes/revisions. Confirm that 60 mnoth of data is present in the O&M manual. Notify the Environmental Manager of any issues identified during the annual review or if updates are required.

Task Setup | Operational Controls Document Links | Completion Progress | Completion Evidence Document Links | Rules And Requirements | Email Notification | Send E-Mail | Task Groups | Task Recurrence

Task Owner: Davis, Mark

Team:

Task Driver:

Task Type: Tracked Untracked

Task Priority: Performance Metric

Task Initiator: Collins, Bill

Supervisor: Jensen, Patrick

Supervisor Team:

Verification Method:

Estimated Cost:

Estimated Hours:

Track Deviations:

Enable Quick Complete:

Enable Quick Close:

Copy Task When Closed: (only applies to non-Recurring Tasks)

Disable Tab View

Finding A - 5. (Cont.)

(e) See Section 202 of this manual for procedures for determining which pipeline facilities are located in areas where an immediate response is required to prevent hazards to the public in case of failure or malfunction and minimizing any hazards identified.

(f) Section 203 of this manual details the procedure for abandoning pipeline facilities.

(g) See Section 204 of this manual for the procedure on establishing and maintaining liaison with fire, police, and other appropriate public officials to enhance response to pipeline emergencies.

(h) Daily operating records are maintained at the Tidewater's Snake River Terminal. Refer to Section 705(b) for further information on records.

(i) States that have been certified under the pipeline safety laws may require the operator, after proper notice and a hearing, to amend its plans and procedures as necessary to provide a reasonable level of safety.

(j) When pipeline facilities are modified, all construction records and revisions to affected maps will be updated within six months.

201.1 Manual Review

(a) The Terminals Manager is responsible for insuring that this Manual is reviewed, and updated, as needed each calendar year at intervals not to exceed 15 months to make any changes needed to keep the manuals current and ensure that the procedures are adequate. The Terminals Manager will arrange updates to the manual at the annual review interval.

(b) As part of this annual review, the Terminals Manager is responsible for reviewing all applicable federal and state code revisions to ensure that applicable revisions are captured in the manual.

(b) To aid in maintaining the manuals in a current state, the Terminals Manager may use a form similar to the one shown in Appendix 700A, Form (SRT-018), or other means to communicate needed changes to the person for posting updates. If no changes are needed, the revision log should note that the manual was reviewed and no changes are needed.

202 - IDENTIFICATION OF FACILITIES LOCATED IN AREAS THAT REQUIRE IMMEDIATE RESPONSE IN CASE OF FAILURE OR MALFUNCTION TO PREVENT HAZARDS TO THE PUBLIC

(a) Any malfunction which poses a threat to public safety or the environment

Finding #6

requires an immediate response. The following types of locations are those where immediate response is required in the event of facility failure or malfunction to prevent hazards to the public.

- Suburban or highly populated residential areas
- Areas near rivers, lakes or streams
- Commercial/industrial areas
- Low areas near HVL facilities (applies to HVL pipelines) or,
- Areas near public thoroughfares.

(b) These types of locations may be identified by walking the pipeline right-of-way or by other means. See Appendix 700A for a sample of a form, (TTC-007), that may be used to facilitate identification of areas requiring an immediate response.

(c) Facilities located in any of these areas require immediate attention if they fail or malfunction, to prevent hazards to the public.

(d) The following locations near Tidewater Terminal Company have been identified as having potential flammable liquids or gases: Tidewater Terminal Company – Snake River Terminal, Cascade Natural Gas Pipeline, Chevron Northwest Terminal, and Chevron Pipeline.

202.1 Minimizing Hazards in Areas Identified in Section 202 (a)

(a) Operations personnel will monitor pressures and flow rates for systems traversing locations identified in Section 202 (a). When the pressure and or flow deviate from normal and there is no readily assignable cause, the system shall be shut down until system integrity can be checked and verified.

(b) See Section 204 of this manual for other means for minimizing identified hazards.

203 - ABANDONMENT OF PIPELINE FACILITIES

203.1 General

Removal, abandonment, or mothballing of pipelines should be done in a manner that minimizes any present or future risk to the public or the environment. These guidelines were developed with this in mind. Although they will apply in most situations, each case should be evaluated individually to ensure that all unique local conditions have been considered and properly remedied.

203.2 Preplanning

(a) The first steps in removing, abandoning, or idling a pipeline shall include:

Finding #6 (cont.)

§195.402(c)(10) Abandoning pipeline facilities, including safe disconnection from an operating pipeline system, purging of combustibles, and sealing abandoned environmental hazards.	203
§195.402(c)(11) Minimizing the likelihood of accidental ignition of vapors in areas near facilities identified under paragraph (c)(4) of this section where the potential exists for the presence of flammable liquids or gases.	202 (d)
§195.402(c)(12) Establishing and maintaining liaison with fire, police, and other appropriate public officials to learn responsibility and resources of each hazardous liquid pipeline emergency and acquaint the officials with the operator's ability in responding to a hazardous liquid pipeline emergency and means of communication.	204
§195.402(c)(13) Periodically reviewing the work done by operator personnel to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiency is found.	216
§195.402(c)(14) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.	503.2 (c), 504, 504.1
§195.402(d) Written procedures must be followed to provide safety when operating design limits have been exceeded. Does the operator have procedures for: 1. Responding to, investigating and correcting the cause of:	300
a. Unintended closure of valves?	328
b. Unintended shutdowns?	328
c. An increase or decrease in pressure?	328
d. A flow rate outside normal operating limits?	328
e. Loss of communications?	328
f. The operation of any safety device?	328
g. Any other malfunction of a component?	328
h. Any deviation from normal operation?	328
i. Any personnel error?	328
2. Checking variations from normal operation after abnormal operations have ended at sufficient critical locations in the system to determine continued integrity and safe operation?	328.1
3. Correcting variations from normal operation of pressure and flow equipment and controls?	328
4. The operating personnel to notify responsible operator personnel when notice of an abnormal operation is received	328 (a)
5. Periodically reviewing the response of operating personnel to determine the effectiveness of the procedures and taking corrective action where deficiencies are found?	216
§195.402(e) Emergencies	

Finding #7

notify the terminal operator who will initiate the system shut down procedure and notify the Terminals Manager or Terminals Supervisor at once. If safe operation of the system can continue by having personnel attend or monitor the facility where the failure occurred, notify the Terminals Manager or Terminals Supervisor and continue to operate the system. The Terminals Manager or Terminals Supervisor will investigate and correct the cause of the failure or malfunction before operations are restored to normal. If the system is shut down, restart the system only after the Terminals Manager or Terminals Supervisor advises the system is ready for operation. The terminal operator will closely monitor system operation by checking flow rates and pressures until the system is stabilized and operations are normal.

- **Earthquake.**
  - **ACTION:** If evidence of an earthquake is experienced, the pipeline will immediately be shut down, and the Terminals Manager or Terminals Supervisor will be notified. A Right-of-Way inspection and standup test will be performed before pipeline is re-started. Following pipeline re-start, the Terminal Operator will monitor the system for two hours.

328.1 System Restart After An Abnormal Operation

After the cause of the abnormal operation has been identified and corrected, and the Terminals Manager or Terminals Supervisor has approved the system for operations, restart the system following the normal start-up procedures. The system should be checked at sufficient key locations to verify system integrity before resuming operations.

The following critical systems and locations shall be checked before restart:

- M400 pump, seal, and flanges (Snake River Terminal)
- M600 pump, seal, and flanges (Snake River Terminal)
- All flanges in pipeline systems from M400 or M600 to Northwest Terminal.
- All valves in pipeline systems.
- Inspect piping involved in pipeline system from Snake River Terminal to Northwest Terminal.
- Conduct right-of-way inspection from Snake River Terminal to Northwest Terminal.
- Pressure gauge at M400 (Snake River Terminal).
- High/High, High Level Alarms if activated (Snake River Terminal).
- Meter to meter verify proper operations (Snake River Terminal and Northwest Terminal).
- Visually inspect sun relief valves (Snake River Terminal).
- Visually inspect pressure relief valve (Snake River Terminal.)

328.2 Abnormal Operation Notification

Finding #8

(a) The Terminals Manager, working with the EH&S Department, maintains liaison with fire, police and other appropriate officials in each jurisdiction where Tidewater operates pipelines. The purpose of the liaison is to learn the resources of each organization that may respond to an emergency, acquaint the officials with the Tidewater's available resources and response capability, and to establish or verify the proper and timely means of communication. This liaison also is to include supplying local emergency response planners with pipeline route maps, Material Safety Data Sheets (MSDS) for materials transported, plan how to engage in mutual assistance to minimize hazards to life and property. Pre-response planning should include participation in mock emergency drills and reviews held by communities to test the plans and familiarize response personnel with their roles and responsibilities.

(b) The following types of information should be exchanged with the public service officials:

- A list of names and addresses for appropriate public officials including the city police, county sheriff's office, fire department, Civil Defense unit, mayor's office (Department of Emergency Preparedness or other appropriate agency, state police district office, and federal, state, and local environmental agencies having jurisdiction over areas occupied by Tidewater's pipelines)
- Name of the organization
- Type of responsibility
- Geographic area covered
- Availability to assist in case of a pipeline incident
- Responsibility and resources for fire, bodily injury, control and area evacuation problems in connection with a pipeline incident
- Type, size, and capacity of equipment and vehicles
- Procedures to facilitate prompt communications in emergencies
- A corresponding list of district personnel responsible for maintaining the liaison with each of the above contact officials
- A record of times and types of contact (such as meetings, phone conversations and correspondence) as well as participants shall be maintained
- A list of information obtained from and updated periodically by those officials

This information can be found in the Integrated Contingency Plan (Core Plan Volume 1, Section 3, Pages 3-24 through 3-27).

(c) In less vulnerable rural areas, liaison may simply consist of furnishing local

1. Receiving, identifying, & classifying notices of events which need immediate response by the operator or fire, police, or others, and notifying appropriate operator personnel for corrective action.	104, 801.1, 801.2 –
2. Making a prompt & effective response to a notice of each type of emergency - fire, explosion, accidental release of hazardous liquid, operational failure, natural disaster affecting the pipeline.	801.1, 801.2,
3. Making personnel, equipment, instruments, tools & material available at the scene of an emergency.	500.2
4. Taking action, such as emergency shutdown, or pressure reduction, to minimize release of liquid at a failure site.	Summary (500) 501
5. Controlling the release of liquid at the failure site.	Summary (500), 501, 502
6. Minimizing the public exposure and accidental ignition - evacuation, halting traffic on roads, railroads, etc.	502
7. Notifying fire, police, others, of hazardous liquid emergencies - preplanned responses including HVLs.	204 (b)
8. Determining extent & coverage of vapor cloud & hazardous areas of HVLs by using appropriate instruments.	503.2 (c)
9. Post-accident review of employee activities to determine if procedures were effective - corrective action.	811.1, 811.2
§195.402 (f) Safety-Related Condition Reports	Appendix 600 A, 209 (a)
§195.403 (a) 1 – 6 Training.	209 (a)
§195.403 (b) 1 Review performance	209 (b)
§195.403 (b) 2 Make changes to training program	209 (b)
§195.403 (c) Verify supervisor's knowledge	209 (d)
§195.404 Maps and records.	705 (b), App. 100A, Table 218-1
§195.405 (a) Protection against ignitions and safe access/ egress involving floating roofs	205.6, 205.6.2
§195.405 (b) Hazards associated ingress/egress	205.6.3, API Pub. 2026
§195.406 (a) Maximum operating pressure	218.1 (a), Table 218-1
§195.406 (b)	218.1 (b)
§195.408 (a) Communications	106
§195.408 (b) Emergency Communications	106, Oil Spill Cont.PlnSec.700
§195.410 Line markers	
§195.410 (a) (1)	211.1 (a)
§195.410 (a) (2)	211.1 (b)
§195.410 (a) (2) (i)	211.1 (b)
§195.410 (a) (2) (ii)	211.1 (b)
§195.410 (b) (1) (i) (ii)	211.1 (d)
§195.410 (c)	207 (a)
§195.412 Inspection of rights-or-way and crossings under navigable waters	
§195.412 (a)	207.1
§195.412 (b)	207.2
§195.413 Underwater inspection and reburial of pipelines in the Gulf of Mexico and its inlets	
§195.413 (a)	N/A
§195.413 (b) (1) (2) (3)	N/A
§195.414 Cathodic protection.	
§195.414 (a)	402.2
§195.414 (b)	403.5

Finding #9

- Proper firefighting procedures and the correct use of firefighting equipment in handling small fires. Training on firefighting equipment and procedures is conducted by the local fire department and takes place on an annual basis. A pipeline emergency will be simulated where each employee will extinguish a controlled fire under the supervision of the fire department.

- Safe and reliable methods or repairing pipeline facilities as outlined in Section 500 of this manual. This may include isolation and purging of the pipeline.

- Recognize safety-related conditions and procedures for reporting safety-related conditions.

(b) The training may be conducted in conjunction with safety meetings at convenient locations to the personnel receiving the training and shall be taught by the Terminals Manager or other specialists as appropriate. Training aids may include but will not be limited to audio visual aids, written lesson plans, or hands on training. The training material will be reviewed periodically by the Terminals Manager or other specialists as appropriate. They will make appropriate changes to this training program to insure its continued effectiveness as technology advances and to accommodate any changes in Company procedures. The Terminals Manager will be responsible for documenting training administered to personnel.

(c) At least once each calendar year but at no more than 15 month intervals, the Terminals Supervisor will review the performance of Operation and Terminals personnel to determine the effectiveness of training program as outlined in this manual. The Terminals Manager will make changes to the training program to correct any deficiencies noted. A form similar to SRT-017, in Appendix 700A will be completed, filed, and maintained.

(d) The Terminals Manager will be responsible for verifying that all operating personnel, including supervisors, maintain a thorough knowledge of the operating and Terminals procedures that they are responsible for. This will be done through annual performance appraisals or by other means. Supervisors receive an annual knowledge test to ensure their knowledge of emergency procedrues.

210 FIREFIGHTING EQUIPMENT

(a) Adequate firefighting equipment shall be maintained at all pump station and breakout tank areas. The equipment must be:

- Inspected monthly to ensure that it is in proper operating conditions at all times.

Finding #10

- Proper firefighting procedures and the correct use of firefighting equipment in handling small fires. Training on firefighting equipment and procedures is conducted by the local fire department and takes place on an annual basis. A pipeline emergency will be simulated where each employee will extinguish a controlled fire under the supervision of the fire department.

- Safe and reliable methods or repairing pipeline facilities as outlined in Section 500 of this manual. This may include isolation and purging of the pipeline.

- Recognize safety-related conditions and procedures for reporting safety-related conditions.

(b) The training may be conducted in conjunction with safety meetings at convenient locations to the personnel receiving the training and shall be taught by the Terminals Manager or other specialists as appropriate. Training aids may include but will not be limited to audio visual aids, written lesson plans, or hands on training. The training material will be reviewed periodically by the Terminals Manager or other specialists as appropriate. They will make appropriate changes to this training program to insure its continued effectiveness as technology advances and to accommodate any changes in Company procedures. The Terminals Manager will be responsible for documenting training administered to personnel.

(c) At least once each calendar year but at no more than 15 month intervals, the Terminals Supervisor will review the performance of Operation and Terminals personnel to determine the effectiveness of training program as outlined in this manual. The Terminals Manager will make changes to the training program to correct any deficiencies noted. A form similar to SRT-017, in Appendix 700A will be completed, filed, and maintained.

(d) The Terminals Manager will be responsible for verifying that all operating personnel, including supervisors, maintain a thorough knowledge of the operating and Terminals procedures that they are responsible for. This will be done through annual performance appraisals or by other means. Supervisors receive an annual knowledge test to ensure their knowledge of emergency procedrues.

210 FIREFIGHTING EQUIPMENT

(a) Adequate firefighting equipment shall be maintained at all pump station and breakout tank areas. The equipment must be:

- Inspected monthly to ensure that it is in proper operating conditions at all times.

View Report

General

Enterprise Entity: Snake River Terminal

Task Statement: Annual Verification of Supervisors' Knowledge of Emergency Response

Task ID: 11705 Audit Log

Due Date: 3/31/2012

State: Open

Creation Date: 10/29/2011

Task Description: Verify that Operations & Maintenance supervisor(s) maintain a thorough knowledge of the emergency response procedures for which they are responsible to ensure compliance. This verification will consist of reviewing the the Integraged Contingency Plan, the items defined in 49 CFR 195.402(e) and 49 CFR 195.403 (b), and satisfactory completion of the Supervisor Review of O&M Emergency Procedures quiz. Verfication of the O&M supervisors review of the emergency response training program should be doucmented using a Record of Training form and the Supervisor

Task Setup | Operational Controls Document Links | Completion Progress | Completion Evidence Document Links | Rules And Requirements | Email Notification | Send E-Mail | Task Groups | Task Recurrence

Task Owner: Jarman, Josh

Team:

Task Driver:

Task Type: (•) Tracked ( ) Untracked

Task Priority: [ ] Performance Metric

Task Initiator: Collins, Bill

Supervisor: Pounds, Samuel

Supervisor Team:

Verification Method:

Estimated Cost:

Estimated Hours:

Track Deviations: [ ]

Enable Quick Complete: [x]

Enable Quick Close: [x]

Copy Task When Closed: [ ] (only applies to non-Recurring Tasks)

Disable Tab View

Finding # 11

Table 218-1
MOP Calculations

Description	Pipe Specification	Nominal Wall Thickness (t)	Nominal Outside Diameter (D)	Minimum Specified Yield Strength (S)	Design Factor (F)	Long. Joint Factor (E)	Temp. Factor (T)	Maximum Operating Pressure (MOP)	Date:
		(in)	(in)	(psi)				(psi)	
Buried/coated pipe from Tidewater tank farm to Hwy. 12	API 5L Grade B ERW	0.188	6.625	35,000	0.72	1	1	1430	7/15/80
Buried /coated pipe from East side of Hwy. 12 to West side of Hwy 12	API 5L Grade X42	0.188	6.625	42,000	0.72	1	1	1716	9/30/83
Buried/coated pipe from Hwy. 12 to crossing of Sacajawea Road	API 5L Grade X 46	0.188	6.625	46,000	0.72	1	1	1880	1/5/01
Buried/coated 90 degree pipe bend	API 5L Grade B ERW	0.280	6.625	35,000	0.72	1	1	2130	1/5/01
Buried/coated pipe under Sacajawea Road.	A53 Grade B ERW	0.280	6.625	35,000	0.72	1	1	2130	1/5/01
Buried/coated S-bend where pipe comes above grade inside Chevron fence line	API 5L Grade B ERW	0.280	6.625	35,000	0.72	1	1	2130	1/5/01
Above ground pipe inside Chevron Terminal	API 5L Grade X 42	0.280	6.625	42,000	0.72	1	1	2556	1/16/01
Above ground pipe inside Chevron Terminal	API 5L Grade X 42	0.280	6.625	42,000	0.72	1	1	2556	1/16/01
Total Length of Pipelines									

219 PRESSURE TESTING REPORTING REQUIREMENTS

WAC 480-75-620: If pressure testing is to be used to increase the maximum operating pressure of a pipeline, Tidewater shall file a report with the commission at least forty-five days prior to pressure testing. The report must include the change in the maximum operating pressure and include the information required to qualify the pipeline for higher operating pressure.

Finding # 11 (Cont.)

1. Receiving, identifying, & classifying notices of events which need immediate response by the operator or fire, police, or others, and notifying appropriate operator personnel for corrective action.	104, 801.1, 801.2 –
2. Making a prompt & effective response to a notice of each type of emergency - fire, explosion, accidental release of hazardous liquid, operational failure, natural disaster affecting the pipeline.	801.1, 801.2,
3. Making personnel, equipment, instruments, tools & material available at the scene of an emergency.	500.2
4. Taking action, such as emergency shutdown, or pressure reduction, to minimize release of liquid at a failure site.	Summary (500) 501
5. Controlling the release of liquid at the failure site.	Summary (500), 501, 502
6. Minimizing the public exposure and accidental ignition - evacuation, halting traffic on roads, railroads, etc.	502
7. Notifying fire, police, others, of hazardous liquid emergencies - preplanned responses including HVLs.	204 (b)
8. Determining extent & coverage of vapor cloud & hazardous areas of HVLs by using appropriate instruments.	503.2 (c)
9. Post-accident review of employee activities to determine if procedures were effective - corrective action.	811.1, 811.2
§195.402 (f) Safety-Related Condition Reports	Appendix 600 A, 209 (a)
§195.403 (a) 1 – 6 Training.	209 (a)
§195.403 (b) 1 Review performance	209 (b)
§195.403 (b) 2 Make changes to training program	209 (b)
§195.403 (c) Verify supervisor's knowledge	209 (d)
§195.404 Maps and records.	705 (b), App. 100A, Table 218-1
§195.405 (a) Protection against ignitions and safe access/ egress involving floating roofs	205.6, 205.6.2
§195.405 (b) Hazards associated ingress/egress	205.6.3, API Pub. 2026
§195.406 (a) Maximum operating pressure	218.1 (a), Table 218-1
§195.406 (b)	218.1 (b)
§195.408 (a) Communications	106
§195.408 (b) Emergency Communications	106, Oil Spill Cont.PlnSec.700
§195.410 Line markers	
§195.410 (a) (1)	211.1 (a)
§195.410 (a) (2)	211.1 (b)
§195.410 (a) (2) (i)	211.1 (b)
§195.410 (a) (2) (ii)	211.1 (b)
§195.410 (b) (1) (i) (ii)	211.1 (d)
§195.410 (c)	207 (a)
§195.412 Inspection of rights-or-way and crossings under navigable waters	
§195.412 (a)	207.1
§195.412 (b)	207.2
§195.413 Underwater inspection and reburial of pipelines in the Gulf of Mexico and its inlets	
§195.413 (a)	N/A
§195.413 (b) (1) (2) (3)	N/A
§195.414 Cathodic protection.	
§195.414 (a)	402.2
§195.414 (b)	403.5

Finding # 12

gauging. To be effective, the gauge will needs to be attached to the top and bottom of the tank so as to prevent development of a large voltage on the surface of the product within the well.

- **4.5.6.2 Waiting Period**
  - Where flammable atmosphere can be expected in the vapor space of a tank, metallic or conductive objects such as gauge tapes, sample containers, and thermometers should not be lowered into or suspended in the compartment, either during or immediately after loading of product. A sufficient waiting period should be followed to permit the product charge to dissipate.
  - A 30 minute waiting period before gauging or sampling if a gauge well is not being used.
  - Tidewater will allow a 30 minute relaxation period before introducing any gauging or sampling equipment into the tank.
  - During gauging and sampling operations a continuous metal to metal contact between the lowering device and the tank hatch will be maintained.
  - Synthetic fiber (e.g. nylon and polypropylene) rope will not be used.

205.6.3 Access/Egress for Floating Roof Tanks

If a floating roof is five feet or more below the top shell height, follow the Confined Space Entry procedure, S.028, in the Tidewater Safety Manual. In addition, refer to API Publication 2026, for confined space entry.

205.7 Reserved

205.8 Overpressure Safety Devices and Overfill Protection Systems

(a) Aboveground breakout tanks with a capacity of 600 gallons or more of storage capacity that are constructed or significantly altered after October 2, 2000 must have an overfill protection system that complies with API RP 2350. If the operator deems that compliance with any part of API RP 2350 is not necessary for the safety of the tank, compliance is not necessary if the operator notes in the O&M Manual the reasons that such compliance is not necessary.

(b) After October 2, 2000, the overfill protection system must be inspected and tested once each calendar year at intervals not exceeding 15 months. A record of the test and inspection must be made and signed by the person performing the inspection and test. Tidewater plans to install overpressure protection on its breakout tanks beginning in 2004.

(c) All Breakout Tanks will have Overfill Protection per Overfill Protection for Storage Tanks in Petroleum Facilities, API Recommended Practice 2350. This applies to all Breakout Tanks that have been constructed or significantly altered

Finding #12

after October 2, 2000.

(d) Overfill Protection System Installation will conform to API RP 2350 Sections 2 and 3 and Appendix A:

- The Normal fill is 90% of the tank maximum shell capacity.
- Safe fill is 95% of the tank maximum shell capacity.

(e) Operations will comply with Section 4, Procedures, of API 2350:

- Each Overfill alarm (Outbound Pipeline Startup – PO-SRT-014) will be tested prior to the start of a transfer operation. If an alarm fails to operate correctly, the operator will contact the manager on call. Transfer operations shall not start until the problem is corrected or alternate procedures are implemented.

(f) Maintenance, Inspection and Testing will comply with Section 4.8, Testing, Inspection, and Maintenance, of API 2350.

(g) Tanks that have been significantly altered after October 2000 are:

- Tank 29 – October 2003 – New Double Bottom
- Tank 25 – December 2003 – New Double Bottom
- Tank 23 – May 2010 – New Double Bottom

205.9 Inspection of In-service Breakout Tanks *(See Storage Tank Routine In-Service Inspection procedure, TO-ALL-008, found in the Terminal Operations Policies/Procedure manual.)*

(a) The physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks shall be inspected in accordance with Section 4 of API Standard 653. A routine in-service inspection shall include at least the following items.

Visual inspection of the of the tank's exterior surface for:

- Leaks
- Shell distortions
- Signs of settlement
- Corrosion
- Condition of foundation
- Paint coatings
- Insulation systems, if any.
- Appurtenances

(b) Inspection intervals shall be consistent with the conditions at the particular site but shall not exceed one month. The intervals of inspection begin on May 3, 1999 or on the last recorded date of an inspection, whichever is earlier.

Findings #13 - 16

educational program to enable the public, appropriate governmental agencies, and excavators to recognize a hazardous liquid pipeline emergency and report it to the pipeline operator, fire department, or other response agency.

(b) The Terminals Manager may make use of any trade association (API) developed material that provides information on how to locate pipelines, how to prevent accidents, and how to recognize and respond to pipeline leaks.

(c) The public education program will be presented in other languages in areas of non-English speaking populations as appropriate.

(d) The public education program may include, but is not limited to passing out materials to persons within a band spanning 220 yards on either side of the pipeline right-of-way. Annually, (not to exceed 15 months), Tidewater will send out an informational newsletter to public officials, emergency officials, neighboring businesses and residents, and excavating contractors in the area. This information packet includes a detailed map of the Tidewater pipeline, a letter from the Terminal Manager describing the pipeline and how to locate it, and a brochure that includes the following information: physical indications of a possible release, what to do if a leak is detected, hazards of gas/diesel pipelines, steps to be taken for public safety in the event of a release, how to report an accident, and information on "Call Before You Dig." (A complete mailing list and a copy of the informational packet is contained in the Tidewater Public Awareness Program Manual). In addition, Tidewater will annually, (not to exceed 15 months), run an informational newspaper ad for public awareness. A Public Education Report (TTC-025, Appendix 700A) will be completed by the Terminals Manager or Designee. Educational material and report forms will be kept on file at the terminal office.

214.1 Maps

(a) For jurisdictional pipelines, county engineers, city officials, fire and police departments, soil conservation engineers, excavation contractors or others who may engage in earth moving activities may be furnished a current copy of the appropriate pipeline map upon request.

(b) Excavation personnel should be contacted face-to-face or by written correspondence at least annually to emphasize the importance of notifying Tidewater before any excavation, blasting, or construction is planned. Information regarding ways to detect leaks or ruptures and how to recognize a pipeline marker and how to report an emergency should be conveyed.

(c) Information on how to obtain location data on Tidewater's pipelines and how to arrange for the lines to be marked or staked prior to commencement of excavation activities should imparted to these organizations.

Findings # 13-16 (cont.)

§195.442 (b) (2) (ii)	208.1
§195.442 (b) (2) (iii)	208.1
§195.442 (c)	208.1
§195.442 (c) (1)	208.2, 214
§195.442 (c) (2)	208, 214
§195.442 (c) (2) (i)	208.1, 214
§195.442 (c) (2) (ii)	208.1, 214
§195.442 (c) (3)	Figure 208-1
§195.442 (c) (4)	208.2
§195.442 (c) (5)	208.2 (c)
§195.442 (c) (6)	208.2 (c)
§195.442 (c) (6) (i)	208.2 (e)
§195.442 (c) (6) (ii)	208.2 (g)
§195.442 (d) (1) (2)	208.2 (h)
§195.444 CPM leak detection.	624
§195.452 Pipeline Integrity Management Program	572
SUBPART G - Operator Qualifications	
§195.501 Scope	OQMS Prog. Desc., Sec. 1
§195.503 Definitions	OQMS Prog. Desc., Sec. 6
§195.505 Qualification Program	OQMS Prog. Desc., Sec. 4,5
§195.507 Recordkeeping	OQMS Prog. Desc., Sec. 5.15
§195.509 General	OQMS Prog. Desc.
SUBPART H - Corrosion Control	
§ 195.551 What do the regulations in this subpart cover?	400.1 General
§ 195.553 What special definitions apply to this subpart?	404(a), 400.1(g), 402.2(a), 403.8(a), 404, 403.4(d)
§ 195.555 What are the qualifications for supervisors?	400.1(c)
§ 195.557 Which pipelines must have coating for external corrosion control?	402.2
§ 195.559 What coating material may I use for external corrosion control?	402.2
§ 195.561 When must I inspect pipe coating used for external corrosion control?	App. 500E, Sec. 5.1
§ 195.563 Which pipelines must have cathodic protection?	400.1 General
§ 195.565 How do I install cathodic protection on breakout tanks?	400.1
§ 195.567 Which pipelines must have test leads and what must I do to install and maintain the leads?	403.6
§ 195.569 Do I have to examine exposed portions of buried pipelines?	404
§ 195.571 What criteria must I use to determine the adequacy of cathodic protection?	401.1, 401.2
§ 195.573 What must I do to monitor external corrosion control?	403.4, 403.5
§ 195.575 Which facilities must I electrically isolate and what inspections, tests, and safeguards are required?	402.4
§ 195.577 What must I do to alleviate interference currents?	402.5
§ 195.579 What must I do to mitigate internal corrosion?	420
§ 195.581 Which pipelines must I protect against atmospheric corrosion and what coating material may I use?	403.7
§ 195.583 What must I do to monitor atmospheric corrosion control?	403.7
§ 195.585 What must I do to correct corroded pipe?	404, 528, 529
§ 195.587 What methods are available to determine the strength of corroded pipe?	404, 528, 529, App. 600A, Sec. 3.3, Figure 600A-1

View Report

General

Enterprise Entity: Snake River Terminal

Task Statement: Annual NPMS Pipeline Data Update

Task ID: 11701 Audit Log

Due Date: 6/15/2012

State: Open

Creation Date: 10/29/2011

Task Description: Update the pipeline system data on the National Pipeline Mapping System (NPMS). Operators are required to make update submissions every 12 months if any system modifications have occurred. Go to http://www.npms.phmsa.dot.gov/submission/ to review existing data on record. Also report no modifications if no modifications occurred since the last complete submission. Include operator contact information with all updates. Maintain documentation for the submittal in the terminal files.

Task Setup | Operational Controls Document Links | Completion Progress | Completion Evidence Document Links | Rules And Requirements | Email Notification | Send E-Mail | Task Groups | Task Recurrence

Task Owner: Jarman, Josh

Team:

Task Driver:

Task Type: (•) Tracked ( ) Untracked

Task Priority: [ ] Performance Metric

Task Initiator: Collins, Bill

Supervisor: Pounds, Samuel

Supervisor Team:

Verification Method:

Estimated Cost:

Estimated Hours:

Track Deviations: [ ]

Enable Quick Complete: [x]

Enable Quick Close: [x]

Copy Task When Closed: [ ] (only applies to non-Recurring Tasks)

Disable Tab View

Finding PT 17 (cont.)

provide management with a complete picture of cause, effect and response.

(b) The report will vary with the accident. A minor accident report can be brief with the narrative consisting of a few paragraphs. Sustained response efforts or major accidents will require a more extensive report.

(c) The Terminals Manager and EH&S Department will be jointly responsible to prepare and distribute the Final Report.

822 NATIONAL PIPELINE MAPPING SYSTEM

Tidewater shall provide an annual update to the National Pipeline Mapping System containing any updates to information concerning:

- Geospatial data
- Contact information
- Change in ownership or operational management

If there have been no changes, a reply of "no modifications have occurred" will be provided.

Finding #17 (Cont.)

§ 195.589 What corrosion control information do I have to maintain?	460, 465, App. 400A, 705(b), (d), App. 700A, Forms SRT-019, 020, 023
49 USC 60132 (b) National Pipeline Mapping System	822

CROSS REFFERENCE

	Manual Section
WAC 480-75 - Pipeline Safety Rule	607
General Rules	
480-75-100 Definitions	N/A
480-75-200 Application of rules	N/A
480-75-210 Additional requirements	N/A
480-75-220 Severability	N/A
480-75-240 Annual pipeline safety fee methodology	N/A
480-75-250 Civil penalty for violation of chapter 81.88 RCW	N/A
480-75-260 Exemption for rules in chapter 480-75 WAC	N/A
Design	
480-75-300 Leak Detection	302, 315
480-75-310 Geological considerations	603.2,
480-75-320 Overpressure protection	301(b), 590
480-75-330 Overfill protection	205.8(a), 316
480-75-340 Cathodic protection test station location	402.3(a), 403.6
480-75-350 Design specifications for new pipeline projects	602, 602.1
480-75-360 Class locations	603.2
480-75-370 Design factor (*F*) for steel pipe	App. 500D – 5.2.1(a)
480-75-380 Location of pump stations and breakout tanks for hazardous liquid pipelines	603.8
480-75-390 Valve spacing and rapid shutdown	602.9(a), 602.10
Construction And Repairs	
480-75-400 Backfill and bedding requirements	402.3(b), 602.3(c), 603.5(a), 504.2
480-75-410 Coatings	403.11
480-75-420(1) Hydrostatic Test requirements	604, 585.1,
480-75-420(2) Pressure relief valve must relieve @ 10% above hydrostatic test pressure	N/A
480-75-420(3) Bleed Valve may be used to protect the pipeline	N/A
480-75-420(4) Test chart/recording method must be maintained throughout the duration of the test	585.1, 585.5(b)
480-75-420(5) Warning signs must be posted indicating pipeline is under Test Conditions	585.2.1
480-75-420(6) Companies must notify Public Officials of the pipeline test	585.2.2
480-75-420(7) No additional water may be used once pressure test has begun	585.3(c)
480-75-420(8) Companies must consider DOE regs before disposing of test water	585.3(b), 586
480-75-430 Welding procedures	540.3, App. 500A
480-75-440 Pipeline repairs	500.1, 500.3
480-75-450 Construction specifications	603.1
480-75-460 Welding inspection requirements	521.1
Operation And Maintenance	
480-75-500 Moving and lowering hazardous liquid pipelines	565

Finding # 14

400 - CORROSION CONTROL.

400.1 General

(a) This section sets out the corrosion control procedures and program used by Tidewater to implement an effective corrosion control program and to comply with 49CFR Part 195 - Hazardous Liquids Pipeline Safety Rules. The purpose of this section is to ensure that each component in its pipeline systems is protected from external and internal corrosion that could result in structure failure. This section is the procedure used by Tidewater to determine that adequate cathodic protection has been achieved.

(b) See Appendix 700A for the Pipe Inspection, Repair, Replacement and Crossing Report (SRT-010) which will be used for corrosion records. Refer to Section 700 for record retention time and records location.

(c) Corrosion Technicians shall be qualified by NACE approved training and education courses, on the job training, and experience before being assigned to corrosion work. Supervisors must maintain a thorough knowledge of corrosion control procedures. The Terminal Manager will ensure and verify that supervisors maintain a thorough knowledge of corrosion control by testing their knowledge on an annual basis using the "Supervisor Corrosion Control Test".

(d) The procedures contained in this section are based on the requirements of 49 CFR Part 195 'Transportation of Hazardous Liquids by Pipeline' and State Liquid Pipeline Safety rules, and prescribe the requirements for the control of external and internal corrosion control. They are applicable to new and existing installations.

(e) Impressed current systems, galvanic anodes, and external coating systems are the primary means of providing external corrosion protection to the pipelines.

(f) Internal corrosion, if any, is monitored by smart pigging the pipelines at 5 year intervals.

(g) A cathodic protection system must be installed not later than 1 year after completion of construction for all buried or submerged facilities to mitigate corrosion that might result in a structural failure.

(h) If an aboveground breakout tank has a capacity more than 500 bbls. and is constructed to API Specification 12F, API Standard 620, or API Standard 650 (or its predecessor Standard 12C), a cathodic protection system must be installed in accordance with API RP 651.

(i) If a tank bottom liner is installed after October 2, 2000 on tanks built to API Specification 12F, API Standard 620, or API Standard 650, it must be installed in accordance with API Recommended Practice 652.

View Report

General

Enterprise Entity: Snake River Terminal

Task Statement: Annual Test of Supervisors Knowledge of Corrosion Control

Task ID: 12148 Audit Log

Due Date: 3/31/2012

State: Open

Creation Date: 2/28/2012

Task Description: Administer the "Supervisor Corrosion Control Test" to all supervisors to ensure and verify that they maintain a thorough knowledge of corrosion control procedures.

Task Setup | Operational Controls Document Links | Completion Progress | Completion Evidence Document Links | Rules And Requirements | Email Notification | Send E-Mail | Task Groups | Task Recurrence

Task Owner: Jensen, Patrick

Team:

Task Driver:

Task Type: (•) Tracked ( ) Untracked

Task Priority: [ ] Performance Metric

Task Initiator: Jarman, Josh

Supervisor: Collins, Bill

Supervisor Team:

Verification Method:

Estimated Cost:

Estimated Hours:

Track Deviations: [ ]

Enable Quick Complete: [x]

Enable Quick Close: [x]

Copy Task When Closed: [ ] (only applies to non-Recurring Tasks)

Disable Tab View

Finding #19

(a) Tanks must be surrounded by dikes to contain hazardous liquids in the event of tank failure or tank overflow. The installation of the impoundment must be in accordance with the following paragraphs.

(b) After October 2, 2000 compliance with (a) requires the following:

Condition:	**Must be installed in accordance with:**
Impoundment around a breakout tank	NFPA 30 2003 Section 4.3.2.3.2
Impoundment to a remote impoundment area	NFPA 30 2003 Section 4.3.2.3.1

205.3.2 Protection from Unauthorized Entry

Fences or other means must be employed to prevent the unauthorized entry to breakout tank areas.

205.3.3 Venting or Pressure Relief Equipment

(a) Sufficient venting shall be provided for both normal and emergency conditions for each atmospheric pressure breakout tank.

(b) Normal/emergency relief venting installed on atmospheric pressure tanks built to API Standard 650 or its predecessor Standard 12C must be in accordance with API Standard 2000.

205.4 (Reserved)

205.5 Pressure Testing Above Ground Breakout Tanks

(a) Above ground breakout tanks built to API Standard 650 and first placed in service after October 2, 2000, the tank must be tested (hydrostatic and pneumatic) in accordance with section 7.3 of API Standard 650.

(b) Above ground atmospheric breakout tanks constructed of carbon and low alloy steel, welded or riveted, and non-refrigerated and tanks built to API Standard 650 or its predecessor Standard 12C that are returned to service after October 2, 2000, the necessity for hydrostatic testing of repair, alteration, and reconstruction is covered in section 12.3 of API Standard 653.

205.6 Protection Against Ignitions and Safe Access/Egress Involving Floating Roofs

205.6.1 General

Finding # 20

(a) Tanks must be surrounded by dikes to contain hazardous liquids in the event of tank failure or tank overflow. The installation of the impoundment must be in accordance with the following paragraphs.

(b) After October 2, 2000 compliance with (a) requires the following:

Condition:	Must be installed in accordance with:
Impoundment around a breakout tank	NFPA 30 2003 Section 4.3.2.3.2
Impoundment to a remote impoundment area	NFPA 30 2003 Section 4.3.2.3.1

205.3.2 Protection from Unauthorized Entry

Fences or other means must be employed to prevent the unauthorized entry to breakout tank areas.

205.3.3 Venting or Pressure Relief Equipment

(a) Sufficient venting shall be provided for both normal and emergency conditions for each atmospheric pressure breakout tank.

(b) Normal/emergency relief venting installed on atmospheric pressure tanks built to API Standard 650 or its predecessor Standard 12C must be in accordance with API Standard 2000.

205.4 (Reserved)

205.5 Pressure Testing Above Ground Breakout Tanks

(a) Above ground breakout tanks built to API Standard 650 and first placed in service after October 2, 2000, the tank must be tested (hydrostatic and pneumatic) in accordance with section 7.3 of API Standard 650.

(b) Above ground atmospheric breakout tanks constructed of carbon and low alloy steel, welded or riveted, and non-refrigerated and tanks built to API Standard 650 or its predecessor Standard 12C that are returned to service after October 2, 2000, the necessity for hydrostatic testing of repair, alteration, and reconstruction is covered in section 12.3 of API Standard 653.

205.6 Protection Against Ignitions and Safe Access/Egress Involving Floating Roofs

205.6.1 General

Finding #2L

retained for at least two years in accordance with 49CFR §195.404 (c) (3).

(d) The biannual main line block valve inspection is to include a partial operation of the valve to determine if it operates freely.

(e) Refer to each valve manufacturer's maintenance information/literature for specific maintenance instructions.

(f) All valves in the system are protected from unauthorized operation and vandalism by being inside Tidewater's fenced terminal facility, which is manned 24-hours a day.

581 thru 584 RESERVED

585 - HYDROSTATIC TESTING

585.1 General

(a) In accordance with the Hydrostatic Testing Requirements listed in 49CFR Part 195 Sub part E and §195.406, and WAC 480-75-420, all pipelines subject to regulatory jurisdiction shall be hydrostatically tested for four continuous hours at a pressure equal to at least 125 percent of the maximum operating pressure and if the pipe is not visually inspected for leakage during the test, at least an additional four continuous hours and without leakage. All Hydrostatic Testing will follow Tidewater's procedure "Hydrostatic Test – D.O.T Piping System" (TM-SRT-005).

(b) Tidewater will not return to service a segment of pipeline that has been replaced, relocated, or otherwise changed until it has been pressure tested under 49CFR Part 195 Subpart E §195.302(a) and WAC 480-75-420 without leakage. Tidewater will select pipelines that will be subject to a risk-based alternative to pressure testing criterion. Such pipelines must meet the requirements listed in 49CFR §195.303.

585.2 Testing of Components

Each hydrostatic test must test all pipe and attached fittings, including components, unless the component is the only item being replaced or added to the pipeline system need not be hydrostatically tested if the manufacturer certifies that either of the following occurred.

- The component was hydrostatically tested at the factory;

  or
- The component was manufactured under a quality control system that ensures each component is at least equal in strength to a prototype that was hydrostatically tested at the factory.

Tidewater's procedure, TM-SRT-005 Piping Systems Hydrostatic Test, in the Terminal Operations Policies/Procedures Manual, will be used for hydrostatic testing of its pipeline system.

585.2.1 Warning Signs

When conducting a Hydro-Test of the pipeline, warning signs will be posted indicating

(a) Operation and Terminals activities involving aboveground breakout tanks must be in accordance with API RP 2003. The principle hazard associated with the storage of flammable liquids is the accidental release of the liquid, or its vapor, into the surrounding environment. Transfer operations are the most hazardous time for using a storage tank. Therefore, tank transfers require strict adherence to prescribed safety practices.

(b) Open top floating roof tanks and cone roof tanks with internal floating roofs are widely used for storing lighter, more volatile liquids because of vapor conservation and environmental concerns. Floating roof tanks also provide the greatest degree of fire safety for the above ground storage of petroleum products. Although fires have occurred in floating roof tanks, mainly as a result of lightning strikes, they are relatively uncommon and are usually restricted to the seal space between the floating roof and the tank shell.

(c) These fires are usually extinguishable; however, explosions have occurred in floating roof tanks, when the liquid was drawn down below where the floating roof or pan was resting on its legs. Consequently, the pan is no longer in direct contact with the surface of the liquid. Such a practice is extremely dangerous for the following reasons:

- Vapors accumulate in the space between the floating roof or internal pan and the liquid surface. These vapors are usually in the explosive/flammable range.
- When a tank is refilled, and the floating roof or the internal pan is refloated, vapors previously accumulated in the space below are displaced. These vapors may cause damage to the seal and force product onto the floating roof or internal pan and create conditions within or external to the tank that can result in a fire or explosion. Upon refilling, the space above an open top-floating roof can be in the explosive/flammable range for about an hour. In a cone roof tank with an internal floater, the explosive range may exist for up to 48 hours. The duration is a function of atmospheric conditions and the tank's configuration. Therefore, when the tank is in the explosive/flammable range, a fire potential always exists. Any source of ignition, such as lightning or static electricity, etc., can cause a fire or explosion.
- There is an increased risk of damaging or sinking a floating roof during refilling; especially if it has settled unevenly on the legs or other loads such as snow or ice are unequally distributed on the roof.

205.6.2 Tidewater Practices

(a) The following practices are the standard operating procedures as outlined in API RP 2003 Protection Against Ignitions Arising Out of Static, Lighting, and Stray Currents

Finding #22 (cont.)

- **4.5.8.2 Internal Floating-Roof Tanks**
  - Internal floating-roof tanks require some form of bonding, either by the use of shunts or a metal cable between the floating roof or cover and the tank roof or shell.
  - Tidewater floating roofs are bonded by the use of a metal bonding cable that is connected to the floating roof and the tank roof.
  - During normal operations the floating roof remains floating and its legs do not touch the tank bottom.
- **4.5.2 Control of Electrostatic Charge Generation**
  - Avoid splash filling and upward spraying. The fill-pipe outlet should discharge near the bottom of the tank.
  - Limit both the fill and discharge velocity of the incoming liquid stream to 3 ft/s until the fill pipe is submerged either two pip diameters or 2 ft. whichever is less. In the case of a floating room tank, observe the 3 ft/s velocity limitation until the roof becomes buoyant.
  - Check for undergrounded loose or floating objects in the tank and remove them (i.e. loose gauge floats and sample cans).
  - Check the immediate vicinity of the tank for potential sources of ignition.
  - Avoid pumping substantial amounts of air or other entrained gas into the tank through the liquid.
  - In the case of a floating-roof tank, observe the 3 ft/s velocity limitation until the roof becomes buoyant.
  - To minimize generation, the maximum fill rate after the initial rate is complete will be 23 ft/s to 33 ft/s.
  - Monitor the atmosphere at ground level around the tank using an explosion meter. If the vapors reach 10% LEL (Lower Explosive/Flammable Limit) at any time, filling shall stop immediately.
  - To prevent sparking, keep the gauge tape in contact with the edge of the tank while gauging.
- **4.5.3 Grounding**
  - Storage tanks on grade-level foundations are considered inherently grounded for dissipation of electrostatic charges.
- **4.5.4 Spark Promoters**
  - Care should be exercised to avoid spark promoters, such as unbounded conductive objects within a storage tank.
- **4.5.6 Gauging and Sampling**
  - Sampling and gauging operations can introduce spark promoters into a storage tank, increasing the likelihood for static discharge. During tank filling operations an electrostatic charge can accumulate on the product because of various charge mechanisms. Where possible, a conductive gauge well is recommended for all manual sampling and

Finding #22 (Cont.)

gauging. To be effective, the gauge will needs to be attached to the top and bottom of the tank so as to prevent development of a large voltage on the surface of the product within the well.

- **4.5.6.2 Waiting Period**
  - Where flammable atmosphere can be expected in the vapor space of a tank, metallic or conductive objects such as gauge tapes, sample containers, and thermometers should not be lowered into or suspended in the compartment, either during or immediately after loading of product. A sufficient waiting period should be followed to permit the product charge to dissipate.
  - A 30 minute waiting period before gauging or sampling if a gauge well is not being used.
  - Tidewater will allow a 30 minute relaxation period before introducing any gauging or sampling equipment into the tank.
  - During gauging and sampling operations a continuous metal to metal contact between the lowering device and the tank hatch will be maintained.
  - Synthetic fiber (e.g. nylon and polypropylene) rope will not be used.

205.6.3 Access/Egress for Floating Roof Tanks

If a floating roof is five feet or more below the top shell height, follow the Confined Space Entry procedure, S.028, in the Tidewater Safety Manual. In addition, refer to API Publication 2026, for confined space entry.

205.7 Reserved

205.8 Overpressure Safety Devices and Overfill Protection Systems

(a) Aboveground breakout tanks with a capacity of 600 gallons or more of storage capacity that are constructed or significantly altered after October 2, 2000 must have an overfill protection system that complies with API RP 2350. If the operator deems that compliance with any part of API RP 2350 is not necessary for the safety of the tank, compliance is not necessary if the operator notes in the O&M Manual the reasons that such compliance is not necessary.

(b) After October 2, 2000, the overfill protection system must be inspected and tested once each calendar year at intervals not exceeding 15 months. A record of the test and inspection must be made and signed by the person performing the inspection and test. Tidewater plans to install overpressure protection on its breakout tanks beginning in 2004.

(c) All Breakout Tanks will have Overfill Protection per Overfill Protection for Storage Tanks in Petroleum Facilities, API Recommended Practice 2350. This applies to all Breakout Tanks that have been constructed or significantly altered

Finding # 23

gauging. To be effective, the gauge will needs to be attached to the top and bottom of the tank so as to prevent development of a large voltage on the surface of the product within the well.

- **4.5.6.2 Waiting Period**
  - Where flammable atmosphere can be expected in the vapor space of a tank, metallic or conductive objects such as gauge tapes, sample containers, and thermometers should not be lowered into or suspended in the compartment, either during or immediately after loading of product. A sufficient waiting period should be followed to permit the product charge to dissipate.
  - A 30 minute waiting period before gauging or sampling if a gauge well is not being used.
  - Tidewater will allow a 30 minute relaxation period before introducing any gauging or sampling equipment into the tank.
  - During gauging and sampling operations a continuous metal to metal contact between the lowering device and the tank hatch will be maintained.
  - Synthetic fiber (e.g. nylon and polypropylene) rope will not be used.

205.6.3 Access/Egress for Floating Roof Tanks

If a floating roof is five feet or more below the top shell height, follow the Confined Space Entry procedure, S.028, in the Tidewater Safety Manual. In addition, refer to API Publication 2026, for confined space entry.

205.7 Reserved

205.8 Overpressure Safety Devices and Overfill Protection Systems

(a) Aboveground breakout tanks with a capacity of 600 gallons or more of storage capacity that are constructed or significantly altered after October 2, 2000 must have an overfill protection system that complies with API RP 2350. If the operator deems that compliance with any part of API RP 2350 is not necessary for the safety of the tank, compliance is not necessary if the operator notes in the O&M Manual the reasons that such compliance is not necessary.

(b) After October 2, 2000, the overfill protection system must be inspected and tested once each calendar year at intervals not exceeding 15 months. A record of the test and inspection must be made and signed by the person performing the inspection and test. Tidewater plans to install overpressure protection on its breakout tanks beginning in 2004.

(c) All Breakout Tanks will have Overfill Protection per Overfill Protection for Storage Tanks in Petroleum Facilities, API Recommended Practice 2350. This applies to all Breakout Tanks that have been constructed or significantly altered

Finding #23 (Cont.)

after October 2, 2000.

(d) Overfill Protection System Installation will conform to API RP 2350 Sections 2 and 3 and Appendix A:

- The Normal fill is 90% of the tank maximum shell capacity.
- Safe fill is 95% of the tank maximum shell capacity.

(e) Operations will comply with Section 4, Procedures, of API 2350:

- Each Overfill alarm (Outbound Pipeline Startup – PO-SRT-014) will be tested prior to the start of a transfer operation. If an alarm fails to operate correctly, the operator will contact the manager on call. Transfer operations shall not start until the problem is corrected or alternate procedures are implemented.

(f) Maintenance, Inspection and Testing will comply with Section 4.8, Testing, Inspection, and Maintenance, of API 2350.

(g) Tanks that have been significantly altered after October 2000 are:

- Tank 29 – October 2003 – New Double Bottom
- Tank 25 – December 2003 – New Double Bottom
- Tank 23 – May 2010 – New Double Bottom

205.9 Inspection of In-service Breakout Tanks *(See Storage Tank Routine In-Service Inspection procedure, TO-ALL-008, found in the Terminal Operations Policies/Procedure manual.)*

(a) The physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks shall be inspected in accordance with Section 4 of API Standard 653. A routine in-service inspection shall include at least the following items.

Visual inspection of the of the tank's exterior surface for:

- Leaks
- Shell distortions
- Signs of settlement
- Corrosion
- Condition of foundation
- Paint coatings
- Insulation systems, if any.
- Appurtenances

(b) Inspection intervals shall be consistent with the conditions at the particular site but shall not exceed one month. The intervals of inspection begin on May 3, 1999 or on the last recorded date of an inspection, whichever is earlier.

Finding #23 (cont.)

200.2.1 Fail Safe Definition

Fail safe means to incorporate in a pipeline system or pipeline facilities a system that will automatically counteract the effect of operational or mechanical failure by some method to protect the system. A system will be considered to fail safe if, in the event of failure of any component of that system, the system or the applicable part of that system, is automatically shut down or the resulting abnormality is otherwise compensated for to prevent exceeding the operational design limits of the system (110% of the MOP).

200.2.2 Pipeline Systems That Are Not Designed To Fail-Safe

Systems that are not designed to fail-safe must be monitored from an attended location by monitoring pressure and pumping rate until steady state flow and pressure conditions are reached. The system must be monitored to ensure that the system MOP (except for surges, 110% of MOP) is not exceeded.

200.2.3 Facilities That Are Not Designed To Fail-Safe

Systems that are not designed to fail-safe or control receipt and delivery of hazardous liquid must be monitored from an attended location to detect abnormal conditions. This can be done by monitoring pressure, flow, temperature and other appropriate operational data and transmitting the data to an attended location.

201 - MANUAL CONTENT AND REVIEW REQUIREMENTS

(a) This manual contains information and the procedures required for compliance with 49CFR Part 195 and Washington State Pipeline Safety Regulations WAC 480-75. This manual contains or references all procedures used on the subject pipeline systems. A cross reference is located at the front of the manual and responds to 49CFR §195 and WAC 480-75 with sections of this manual.

(b) See Section 700 of this manual for construction and operating records required for safe operation and Terminals of the various systems. Completed construction activities, such as facility modifications will be communicated to the Operator using the Management of Change (749) procedure. These changes will be documented on a Management of Change and Functional Review Form (MOC-1). The responsibility for creating and maintaining these records is also included in Section 700. Records will be updated within 6 months. Sample forms are contained in Appendix 700A.

(c) See Section 811 of this manual for procedures to gather data for accident reporting and analysis and possibility of a recurrence of the accident.

(d) See Section 500 of this manual for pipeline Terminals and repair procedures and steps to be taken to minimize the accidental ignition of vapors.

§195.414 (c)	403.8
§195.416 External corrosion control	
§195.416 (a)	403.1 (a)
§195.416 (b)	402.3
§195.416 (c)	403.2
§195.416 (d)	403, 405 (b)
§195.416 (e)	404 (a)
§195.416 (f)	404 (a)
§195.416 (g)	404 (a); 529
§195.416 (h)	404 (a); 529 (b)
§195.583 Atmospheric coating inspection	403.7
§195.416 (j)	403.10
§195.418 Internal corrosion control.	
§195.418 (a)	420.1 (a)
§195.418 (b)	420.1 (b)
§195.418 (c)	420.1 (c)
§195.418 (d)	404 (a)
§195.420 Valve maintenance	
§195.420 (a)	580 (b)
§195.420 (b)	580 (c)
§195.420 (c)	580 (f)
§195.422 Pipeline repairs.	
§195.422 (a)	500.1(a), Appendix 500 C
§195.422 (b)	537, 602.9, 602.4
§195.424 Pipe movement.	
§195.424 (a)	565 (b)
§195.424 (b)	N/A
§195.424 (b) (1)	565.1 (a)
§195.424 (b) (2)	565.1 (c)
§195.424 (b) (3)	N/A
§195.424 (b) (3) (i) (ii)	565.1 (c)
§195.424 (c)	No HVL lines joined by means other than welding
§195.426 Scraper and sphere facilities.	450
§195.428 Overpressure safety devices and overfill protection systems.	
§195.428 (a)	590 (c) (e)
§195.428 (b)	205.8 (a)
§195.428 (c)	205.8 (b)
§195.428 (d)	205.8 (c) (d) (e) (f) (g)
§195.430 Firefighting equipment	210
§195.432 Inspection of in-service breakout tanks.	
§195.432 (a)	205.9 (a)
§195.432 (b) (c) (d)	205.9 (b) (c) (d) (e)
§195.434 Signs	211.2
§195.436 Security of facilities.	212
§195.438 Smoking or open flames.	213
§195.440 Public education.	214
§195.442 Damage prevention program	
§195.442 (a)	208.2
§195.442 (b)	208.1
§195.442 (b) (1)	208.1
§195.442 (b) (2)	208.1
§195.442 (b) (2) (I)	208.1

Finding #24

401 CRITERIA FOR CATHODIC PROTECTION

401.1 Reference Documents

NACE SP0169-2007	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE SP0572-2007	Design, Installation, Operation, and Maintenance of Impressed Current Deep Ground Beds
NACE RP0193-2001	External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms
NACE SP0286-2007	Electrical Isolation of Cathodically Protected Pipelines
NACE SP0102-2010	In-Line Inspection of Pipelines
API RP 651	Cathodic Protection of Aboveground Petroleum Storage Tanks

401.2 Criteria for Achieving Cathodic Protection

(a) Any of the below listed criteria, when complied with separately or collectively will indicate adequate cathodic protection has been achieved for steel pipe or external carbon steel storage tank bottoms.

- A negative (cathodic) potential of at least 850 mV with the current applied. This potential shall be measured with respect to a saturated copper/copper sulfate reference electrode (CSE) contacting the electrolyte. Consideration must be given to voltage drops other than those across the structure-to-electrolyte boundary for valid interpretation of this voltage measurement.

- Consideration is understood to mean the application of sound engineering practice in determining the significance of voltage drops by methods such as:

  (a) Measuring or calculating the voltage drop(s)
  (b) Reviewing the historical performance of the cathodic protection system
  (c) Evaluating the physical and electrical characteristics of the pipe or tank bottom and its environment, and
  (d) Determining whether or not there is physical evidence of corrosion

- A negative polarized potential of at least 850 mV relative to a CSE

- A minimum of 100mV of cathodic polarization between the carbon steel surface of the pipe or tank bottom and a stable reference electrode contacting the electrolyte. The formation or decay of polarization may be measured to satisfy this criterion.
- Measurement circuit IR Drop: The soil under the tank bottom or around the pipe has a very high electrolyte resistance. Under these conditions, an IR drop error occurs in the measuring circuit if a low input impedance meter is used. This error can be minimized using a meter with input impedance greater than 10^6 ohms.

(b) The cathodic protection criteria to be used for a segment of pipeline will be established and not changed except for technical reasons. The Terminals Supervisor will, after consultation with the NACE qualified engineer, make this determination. If the criterion for cathodic protection has changed, the reasons for the change will be documented.

Finding #24 (Cont.)

installation of test leads shall be repaired with a material that is compatible with the existing pipe coating and the insulation on the test lead. Spliced test leads will not be permitted.

(b) Test leads must be installed by providing sufficient slack in the wires to prevent breakage during backfilling. Test leads installed in steel conduit will be suitably insulated from the conduit.

(c) The test leads must be maintained so that electrical measurements can be obtained to ensure adequate cathodic protection.

402.4 Insolating Devices

(a) Insolating devices, such as insolating flanges and unions and casing spacers, will be used to isolate parts of the system for cathodic protection purposes. Typical locations for the installation of insulating devices include but are not limited to:

- Points where system ownership changes.
- Junction of main line piping and station piping.
- Where pipe passes through reinforced concrete.
- Points where electrical conduit is connected to a device attached to the pipeline.
- Pipe supports.
- Where more than one type of cathodic protection system is used.
- Where it may help in controlling stray earth currents.
- Cased crossings.
- Risers on offshore platforms

(b) Insolating devices shall be installed and maintained in accordance with NACE Standard SP-0286-2007.

402.5 Stray Current Interference

(a) Cathodic protection systems may adversely affect neighboring structures by accelerating corrosion. For new construction, the system designer will take this into consideration so as to minimize interference. Rectifier ground bed placement near a foreign structure will be harmful and this needs to be carefully considered when selecting the ground bed location. Interference also occurs at locations where two or more pipelines cross; where they are parallel to each other; near HVDC transmission systems; near locations where D.C. welding operations are taking place.

(b) Right of way inspections are utilized to ensure there is no encroachment within our pipeline right of way that may cause a source of interference. Monthly Rectifier Inspection and Pipe to Soil Survey are conducted by a qualified Tidewater OQ employee and an annual Cathodic Protection survey conducted by a NACE Corrosion Engineer to determine possible sources of interference

current on existing systems. During the inspection, personnel should be aware of electrical or physical conditions, which could indicate interference from a neighboring source. If such an area is identified, electrical tests must be conducted within six months to determine the
extent of interference if any, and appropriate corrective action taken to remedy the interference.

(c) The Terminals Manager or designate will be responsible for notifying owners of underground structures to be crossed by new construction. The notification will give the location, type, and size of cathodic protection installation contemplated. A strip map showing the route of the new construction will also be furnished. Owners of foreign structures will be invited to participate in joint interference testing. Foreign structure owners will be asked in the notification to advise of any other crossings unknown to the Terminals Manager. See Section 208 of this manual.

(d) Test stations will be installed on all onshore foreign structure crossings where practical. See Drawing dated 4-16-99 in Appendix 400A.

(e) Tests will be conducted by a NACE Qualified Corrosion Engineer to determine the extent of interference, if any, and the need for a drainage bond or other means for eliminating the interference. If needed, drainage bonds will be sized to restore the pipe-to-soil potential to its original value. Interference data will be recorded and forwarded to the Terminals Supervisor.

403 MAINTENANCE INSPECTIONS

403.1 General

(a) The Terminals Supervisor is responsible for external corrosion control and will conduct cathodic protection tests using a NACE Qualified Corrosion Engineer at intervals not exceeding 15 months but at least once each calendar year on each underground facility, which is under cathodic protection to determine the adequacy of the corrosion control program.

(b) Isolation points are inspected using a NACE Qualified Corrosion Engineer at intervals not exceeding 15 months but at least once each calendar year on each isolation point. During scheduled maintenance activity isolation points will be tested by a qualified operator.

(c) The Terminals Supervisor will arrange for a report to be prepared by the corrosion engineer every calendar year at intervals not exceeding 15 months. The report will contain recommendations, as needed, for maintaining adequate protection and for meeting all other requirements of this section.

403.2 Rectifiers (*Cathodic Protection System Components Inspections procedure may be found in the Terminal Operations Policies/Procedures manual)*

installation of test leads shall be repaired with a material that is compatible with the existing pipe coating and the insulation on the test lead. Spliced test leads will not be permitted.

(b) Test leads must be installed by providing sufficient slack in the wires to prevent breakage during backfilling. Test leads installed in steel conduit will be suitably insulated from the conduit.

(c) The test leads must be maintained so that electrical measurements can be obtained to ensure adequate cathodic protection.

402.4 Insolating Devices

(a) Insolating devices, such as insolating flanges and unions and casing spacers, will be used to isolate parts of the system for cathodic protection purposes. Typical locations for the installation of insulating devices include but are not limited to:

- Points where system ownership changes.
- Junction of main line piping and station piping.
- Where pipe passes through reinforced concrete.
- Points where electrical conduit is connected to a device attached to the pipeline.
- Pipe supports.
- Where more than one type of cathodic protection system is used.
- Where it may help in controlling stray earth currents.
- Cased crossings.
- Risers on offshore platforms

(b) Insolating devices shall be installed and maintained in accordance with NACE Standard SP-0286-2007.

402.5 Stray Current Interference

(a) Cathodic protection systems may adversely affect neighboring structures by accelerating corrosion. For new construction, the system designer will take this into consideration so as to minimize interference. Rectifier ground bed placement near a foreign structure will be harmful and this needs to be carefully considered when selecting the ground bed location. Interference also occurs at locations where two or more pipelines cross; where they are parallel to each other; near HVDC transmission systems; near locations where D.C. welding operations are taking place.

(b) Right of way inspections are utilized to ensure there is no encroachment within our pipeline right of way that may cause a source of interference. Monthly Rectifier Inspection and Pipe to Soil Survey are conducted by a qualified Tidewater OQ employee and an annual Cathodic Protection survey conducted by a NACE Corrosion Engineer to determine possible sources of interference

Item # 25 (cont.)

current on existing systems. During the inspection, personnel should be aware of electrical or physical conditions, which could indicate interference from a neighboring source. If such an area is identified, electrical tests must be conducted within six months to determine the
extent of interference if any, and appropriate corrective action taken to remedy the interference.

(c) The Terminals Manager or designate will be responsible for notifying owners of underground structures to be crossed by new construction. The notification will give the location, type, and size of cathodic protection installation contemplated. A strip map showing the route of the new construction will also be furnished. Owners of foreign structures will be invited to participate in joint interference testing. Foreign structure owners will be asked in the notification to advise of any other crossings unknown to the Terminals Manager. See Section 208 of this manual.

(d) Test stations will be installed on all onshore foreign structure crossings where practical. See Drawing dated 4-16-99 in Appendix 400A.

(e) Tests will be conducted by a NACE Qualified Corrosion Engineer to determine the extent of interference, if any, and the need for a drainage bond or other means for eliminating the interference. If needed, drainage bonds will be sized to restore the pipe-to-soil potential to its original value. Interference data will be recorded and forwarded to the Terminals Supervisor.

403 MAINTENANCE INSPECTIONS

403.1 General

(a) The Terminals Supervisor is responsible for external corrosion control and will conduct cathodic protection tests using a NACE Qualified Corrosion Engineer at intervals not exceeding 15 months but at least once each calendar year on each underground facility, which is under cathodic protection to determine the adequacy of the corrosion control program.

(b) Isolation points are inspected using a NACE Qualified Corrosion Engineer at intervals not exceeding 15 months but at least once each calendar year on each isolation point. During scheduled maintenance activity isolation points will be tested by a qualified operator.

(c) The Terminals Supervisor will arrange for a report to be prepared by the corrosion engineer every calendar year at intervals not exceeding 15 months. The report will contain recommendations, as needed, for maintaining adequate protection and for meeting all other requirements of this section.

403.2 Rectifiers (*Cathodic Protection System Components Inspections procedure may be found in the Terminal Operations Policies/Procedures manual)*

Finding #26

Table 218-1
MOP Calculations

Description	Pipe Specification	Nominal Wall Thickness (t)	Nominal Outside Diameter (D)	Minimum Specified Yield Strength (S)	Design Factor (F)	Long. Joint Factor (E)	Temp. Factor (T)	Maximum Operating Pressure (MOP)	Date:
		(in)	(in)	(psi)				(psi)	
Buried/coated pipe from Tidewater tank farm to Hwy. 12	API 5L Grade B ERW	0.188	6.625	35,000	0.72	1	1	1430	7/15/80
Buried /coated pipe from East side of Hwy. 12 to West side of Hwy 12	API 5L Grade X42	0.188	6.625	42,000	0.72	1	1	1716	9/30/83
Buried/coated pipe from Hwy. 12 to crossing of Sacajawea Road	API 5L Grade X 46	0.188	6.625	46,000	0.72	1	1	1880	1/5/01
Buried/coated 90 degree pipe bend	API 5L Grade B ERW	0.280	6.625	35,000	0.72	1	1	2130	1/5/01
Buried/coated pipe under Sacajawea Road.	A53 Grade B ERW	0.280	6.625	35,000	0.72	1	1	2130	1/5/01
Buried/coated S-bend where pipe comes above grade inside Chevron fence line	API 5L Grade B ERW	0.280	6.625	35,000	0.72	1	1	2130	1/5/01
Above ground pipe inside Chevron Terminal	API 5L Grade X 42	0.280	6.625	42,000	0.72	1	1	2556	1/16/01
Above ground pipe inside Chevron Terminal	API 5L Grade X 42	0.280	6.625	42,000	0.72	1	1	2556	1/16/01
Total Length of Pipelines									

219 PRESSURE TESTING REPORTING REQUIREMENTS

WAC 480-75-620: If pressure testing is to be used to increase the maximum operating pressure of a pipeline, Tidewater shall file a report with the commission at least forty-five days prior to pressure testing. The report must include the change in the maximum operating pressure and include the information required to qualify the pipeline for higher operating pressure.

480-75-510 Remedial action for corrosion deficiencies	529, 403.1
480-75-520 Inspections during excavation	App. 500C
480-75-530 Right of way inspections	207.1
480-75-540 Pipeline markers and above ground facilities	211.1, 571, 577
480-75-550 Change in class location	N/A

Reporting	
480-75-600 Maps, drawings, and records of hazardous liquid pipeline facilities	App. 100A, 201(j)
480-75-610 Reporting requirements for proposed construction	602(c)
480-75-620 Pressure testing reporting requirements	219
480-75-630 Incident reporting	805.4 Part 2
480-75-640 Depth of cover survey	602.3.1, Table 602.3.1
480-75-650 Annual reports	702(f)
480-75-660 Operations Safety Plan requirements	
480-75-660(1) Company must prepare an Operations Safety Plan	Tidewater Pipeline Integrity Management Program
480-75-660(2) Plan Amendment Log	O/M Manual Revision Log
480-75-660(2)(a) Must include the following:	
480-75-660(2)(a)(i) The requirements in WAC 480-75	Tidewater Operations & Maintenance Manual
480-75-660(2)(a)(ii) Inspection & Testing of Electronic and mechanical components	587, 705
480-75-660(2)(a)(iii) Structural integrity of all pipelines determined through pressure testing, in-line inspection surveys, etc.	585
480-75-660(2)(a)(iv) Failsafe systems, including emergency shutdown / isolation procedures	200.2.1, 200.2.2, 325, 328
480-75-660(2)(a)(v) Emergency management training for operators	209, 325, 328
480-75-660(2)(a)(vi) Procedures for responding to earthquakes	325(c), 328
480-75-660(2)(a)(vii) Procedures for assessing potential impacts to the pipeline from landslides	N/A
480-75-660(3) Companies must submit a copy of the plan within 12 months after the adoption of this rule	
480-75-999 Adoption by reference	N/A

Finding #27

The monitoring system also monitors the Outbound Products Pipeline shipping pump status and records a change of state, start or stop. Additionally, the Outbound Products Pipeline system is equipped with a flow switch on the discharge of the pressure relief valve. Any indication of flow will initiate the audio and visual alarms and shutdown the shipping pump. Operating data is stored in the monitoring instrument for approximately one week. Each week the data is backed up onto a personal computer where it is archived.

(c) In the fall or 2004 Tidewater installed a meter-to-meter leak detection system on all three DOT regulated pipelines between Tidewater Terminal and Northwest Terminal. This system compares the difference between meters in gallons. If flow between the meters exceeds 7.5 percent, the system will alarm and shut down. Alarms, audio and visual are located at the West end of main tank farm, in the middle of the tank farm (light only), at the east end of the tank farm at top of hill and at the petroleum dock shack.

(d) Tank levels are checked and recorded at the beginning and end of each pipeline transfer into and out of each breakout tank. Pipeline transfer volumes are calculated when each transfer is completed. These volumes are compared to similar numbers recorded at the NWTC terminal to determine the loss or gain for each batch. Discrepancies will be investigated according to the **Pipeline Shipment Reconciliation Procedure** (TO-SRT_020), in the Terminal Operations Policies/Procedures Manual.

(e) In the fall of 2004 Tidewater installed High Level alarms on each breakout tank. These high level alarms are set to alarm if tank exceeds 95 percent of capacity. Audio and visual alarms are located at the West end of main tank farm, in the Middle of the tank farm (light only), at the East end of the tank farm at top of hill and at the petroleum dock shack.

(f) For surveillance during no-flow conditions refer to the Tidewater Pipeline System Surveillance (PPM No. 1266).

(f) Terminal operating personnel will be alert to operational changes such as a radical change in pressure or an unexplained loss of product on a shipment in or out of the terminal. The pipeline will be shut down until the reason for the change or loss can be determined. If the operator is not able to reconcile a batch shipment within acceptable parameters, the Operations Supervisor or Terminals Manager will be notified and the **Pipeline Shipment Imbalance Investigation and Troubleshooting Procedure** (TO-SRT-023) will be used to determine the reason for the imbalance.

303 SCHEDULING

The Pipeline Shipping schedule is coordinated between the Tidewater's Liquid Products Coordinator and the Tidewater Lead Man, and Chevron Pipe Line's Terminal Coordinator and Customer Service Representative. Data for pipeline start-up, shutdown, or product switch is posted on the Tank Assignments Barge and Pipeline Transfers form. This form is posted in the Terminal's assignment office.

Finding # 27 (Cont.)

TIDEWATER TERMINAL COMPANY
Terminal Operations Manual

Title: Pipeline System Surveillance
No: 1266
Version: 1
Date Approved: Not Approved Yet
Document Owner: Davis, Mark (Manager)
Approved By: Jensen, Pat (Manager)

Purpose/Scope

To detect a leak in a no flow condition. The pipeline leak detection system continually monitors Temperature and Pressure thus each day creating a trend as the Temperature increases or decreases the pressure follows a similar tend on the chart graph that can be monitored This will be accomplished by verifying the trending of the pipelines by temperature and pressure. Operators will view this information on a daily basis and log the date, time, and findings.

ACTION

1. Prior to shift change 0600 Operator will verify trending on pipelines

2. At computer in the Ops./Maint. Office

3. Log into pipeline monitoring Computer (Case Sensitive)
   - User Name srt
   - Password srt

4. Log into RS BizWare
   - User Name: buck
   - Password: cael

5. Open **Inbound Gas** graph.

6. On graph at the upper right hand corner of the graph. Change 2 to 5 and then change Hour to Day, using the drop down menus.

7. Refresh page (In the upper corner on Left Hand side of graph page, on the second line from top.)

8. Observe past 5 days history on graph. (Graph should show a clear trend of: As the Temperature rises or falls the Pressure rises or falls.

NOTE: Color codes are indicated at bottom of graph.

9. If no discrepancies are found. Fill out Daily Leak Detection Log and proceed to Step 11

10. If a discrepancies is found. Notify Manage on call. Note this information on Daily Leak Detection Log. Then proceed to Step 11 **(Do not Start Pipeline)**

Finding #27 (Cont.)

11. Open **Outbound Gas** graph.

12. Repeat 6 thru 9

13. Open **2D-15 Outbound/Inbound** graph.

14. Repeat 6 thru 9

15. This task must be complete each morning, 7 days a week.

Finding #27 (Cont.)

Title: Pipeline System Surveillance
No: 1266
Version: 1
Date Approved: Not Approved Yet
Document Owner: Davis, Mark (Manager)
Approved By: Jensen, Pat (Manager)

Applicable Policy, Law, Regulation

Tidewater Terminal Company Operations Manual
O&M Manual Sec. 302
WAC 480-75-620

Training

General Manager, Operations Supervisor and Leadman

Supervision

General Manager, Operations Supervisor and Leadman.

Documentation

Operators Log book

Document Owner:

Davis, Mark (Manager) – Administration

Approved by:

Jensen, Pat (Manager) - Not Assigned

View Report

General

Enterprise Entity: Snake River Terminal

Task Statement: Verify trending in no-flow conditions on pipeline

Task ID: 12179

Audit Log

Due Date: 4/2/2012

State: Open

Creation Date: 3/5/2012

Task Description: On a monthly basis, verify that trending has been reviewed on a daily basis by an OQ operator or Supervisor.

Email Notification | Send E-Mail | Task Groups | Task Recurrence

Task Setup | Operational Controls Document Links | Completion Progress | Completion Evidence Document Links | Rules And Requirements

Task Owner: Davis, Mark

Team:

Task Driver:

Task Type: (•) Tracked ( ) Untracked

Task Priority: [ ] [...] [ ] Performance Metric

Task Initiator: Davis, Mark

Supervisor: Jensen, Patrick

Supervisor Team:

Verification Method:

Estimated Cost:

Estimated Hours:

Track Deviations: [ ]

Enable Quick Complete: [x]

Enable Quick Close: [x]

Copy Task When Closed: [ ] (only applies to non-Recurring Tasks)

Disable Tab View

(h) Where the area to be excavated is located in a densely wooded area, ravines, near creeks, or in low places where air movement is restricted, a special effort is required to ensure that the area in and around the excavation is vapor-free.

(i) Whenever possible, temporary repairs should be made without welding or torch cutting. Permanent repairs requiring welding or cutting will not be conducted until product cleanup and vapor dissipation have been completed. Do not cut into the pipeline until the LEL inside the pipeline has been verified to be "0" or until the line is properly prepared for cutting by other means, such as inerting. The Incident Commander/ Terminals Supervisor must authorize such activities.

(j) Line cuts, when required should be made with mechanical cutters (See Section 535).

(k) If welding is to be performed, the excavation and its surrounding area should be checked for vapor. It may be necessary to spread dry dirt around and on the bottom of the excavation. If hot work is necessary, a zero LEL reading is required. Any deviations from this requirement must be made by the Incident Commander / Terminals Supervisor.

(l) Ensure that proper welding procedures (refer to Section 521) and backfilling requirements and that replacement and repair material is approved and tested (refer to Sections 531, 532, 533, 535, 536, and 537) for its intended application.

504.1 Precautions to be Observed When Refilling Lines Filled With Air or N^2

If a pipeline has been emptied or filled with nitrogen during repairs, special precautions must be followed when refilling the pipeline with liquid. Every effort should be made to vent as much air/nitrogen as possible during the refilling operation. If the excess air/nitrogen is allowed to enter a tank, it is likely to cause serious damage to the tank as tanks are not designed to receive large quantities of air/nitrogen in slugs. If it is not possible to vent the air/nitrogen from the pipeline before it enters a tank, the line should be routed to a temporary tank such as a frac tank until all air/nitrogen has been vented. See Section 507 Venting/Flaring.

504.2 Backfilling and Bedding Requirements

(1.) When a pipeline company constructs a new pipeline or conducts maintenance on an existing pipeline, the backfill and bed must provide firm support for the pipeline such that neither the pipe nor the pipe coating is damaged by the backfill material or by subsequent surface activities.

(2.) If the backfill material contains rocks or hard lumps that could damage the pipeline coating, the pipeline company must take care to protect the pipe and the pipe coating from damage, such as using mechanical shield material.

(3.) A pipeline company's backfill practices must not cause distortion of the

Finding #28 (Cont.)

pipe cross-section that would be detrimental to the operation of the piping, or the passage of cleaning devices, internal inspection devices, or other similar devices.

(4.) A pipeline company must apply backfill material in such a manner as to prevent excessive subsidence or erosion of the backfill and support material. Where a ditch is flooded, the pipeline company must assure that the pipe is not floated from the bottom of the ditch prior to completing the backfill.

(5.) For open trench installations that cross paved areas subject to vehicular loading, the pipeline company must compact the backfill in layers to a minimum of ninety-five percent relative density.

(6.) The bedding and backfill material a pipeline company uses must consist of clean sand or soil and it must not contain any stones larger than one-half inch. The pipeline company must place the bedding and backfill material at a minimum depth of six inches under the pipe and six inches over the top of the pipe. The remaining backfill must not contain rock larger than six inches. The pipeline company shall not use organic material or wood for bedding or backfill.

505 POST-REPAIR ACTIONS

(a) The Terminals Supervisor or designee should observe all repairs during start-up to ensure they are satisfactory.

(b) The Terminals Supervisor will complete a "Pipe Inspection, Repair, Replacement, Crossing and Leak Report" (Form SRT-010), and a Tidewater Break and Leak Report (Form SRT-013). Copies of these forms are found in Appendix 700A. The Terminals Supervisor will maintain these documents. See Section 700 for record handling procedures.

Finding #28 (cont.)

§ 195.589 What corrosion control information do I have to maintain?	460, 465, App. 400A, 705(b), (d), App. 700A, Forms SRT-019, 020, 023
49 USC 60132 (b) National Pipeline Mapping System	822

CROSS REFFERENCE

	Manual Section
WAC 480-75 - Pipeline Safety Rule	607
General Rules	
480-75-100 Definitions	N/A
480-75-200 Application of rules	N/A
480-75-210 Additional requirements	N/A
480-75-220 Severability	N/A
480-75-240 Annual pipeline safety fee methodology	N/A
480-75-250 Civil penalty for violation of chapter 81.88 RCW	N/A
480-75-260 Exemption for rules in chapter 480-75 WAC	N/A
Design	
480-75-300 Leak Detection	302, 315
480-75-310 Geological considerations	603.2,
480-75-320 Overpressure protection	301(b), 590
480-75-330 Overfill protection	205.8(a), 316
480-75-340 Cathodic protection test station location	402.3(a), 403.6
480-75-350 Design specifications for new pipeline projects	602, 602.1
480-75-360 Class locations	603.2
480-75-370 Design factor (*F*) for steel pipe	App. 500D – 5.2.1(a)
480-75-380 Location of pump stations and breakout tanks for hazardous liquid pipelines	603.8
480-75-390 Valve spacing and rapid shutdown	602.9(a), 602.10
Construction And Repairs	
480-75-400 Backfill and bedding requirements	402.3(b), 602.3(c), 603.5(a), 504.2
480-75-410 Coatings	403.11
480-75-420(1) Hydrostatic Test requirements	604, 585.1,
480-75-420(2) Pressure relief valve must relieve @ 10% above hydrostatic test pressure	N/A
480-75-420(3) Bleed Valve may be used to protect the pipeline	N/A
480-75-420(4) Test chart/recording method must be maintained throughout the duration of the test	585.1, 585.5(b)
480-75-420(5) Warning signs must be posted indicating pipeline is under Test Conditions	585.2.1
480-75-420(6) Companies must notify Public Officials of the pipeline test	585.2.2
480-75-420(7) No additional water may be used once pressure test has begun	585.3(c)
480-75-420(8) Companies must consider DOE regs before disposing of test water	585.3(b), 586
480-75-430 Welding procedures	540.3, App. 500A
480-75-440 Pipeline repairs	500.1, 500.3
480-75-450 Construction specifications	603.1
480-75-460 Welding inspection requirements	521.1
Operation And Maintenance	
480-75-500 Moving and lowering hazardous liquid pipelines	565

Finding # 29

480-75-510 Remedial action for corrosion deficiencies	529, 403.1
480-75-520 Inspections during excavation	App. 500C
480-75-530 Right of way inspections	207.1
480-75-540 Pipeline markers and above ground facilities	211.1, 571, 577
480-75-550 Change in class location	N/A

Reporting	
480-75-600 Maps, drawings, and records of hazardous liquid pipeline facilities	App. 100A, 201(j)
480-75-610 Reporting requirements for proposed construction	602(c)
480-75-620 Pressure testing reporting requirements	219
480-75-630 Incident reporting	805.4 Part 2
480-75-640 Depth of cover survey	602.3.1, Table 602.3.1
480-75-650 Annual reports	702(f)
480-75-660 Operations Safety Plan requirements	
480-75-660(1) Company must prepare an Operations Safety Plan	Tidewater Pipeline Integrity Management Program
480-75-660(2) Plan Amendment Log	O/M Manual Revision Log
480-75-660(2)(a) Must include the following:	
480-75-660(2)(a)(i) The requirements in WAC 480-75	Tidewater Operations & Maintenance Manual
480-75-660(2)(a)(ii) Inspection & Testing of Electronic and mechanical components	587, 705
480-75-660(2)(a)(iii) Structural integrity of all pipelines determined through pressure testing, in-line inspection surveys, etc.	585
480-75-660(2)(a)(iv) Failsafe systems, including emergency shutdown / isolation procedures	200.2.1, 200.2.2, 325, 328
480-75-660(2)(a)(v) Emergency management training for operators	209, 325, 328
480-75-660(2)(a)(vi) Procedures for responding to earthquakes	325(c), 328
480-75-660(2)(a)(vii) Procedures for assessing potential impacts to the pipeline from landslides	N/A
480-75-660(3) Companies must submit a copy of the plan within 12 months after the adoption of this rule	
480-75-999 Adoption by reference	N/A

Concern #1

401 CRITERIA FOR CATHODIC PROTECTION

401.1 Reference Documents

NACE SP0169-2007	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE SP0572-2007	Design, Installation, Operation, and Maintenance of Impressed Current Deep Ground Beds
NACE RP0193-2001	External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms
NACE SP0286-2007	Electrical Isolation of Cathodically Protected Pipelines
NACE SP0102-2010	In-Line Inspection of Pipelines
API RP 651	Cathodic Protection of Aboveground Petroleum Storage Tanks

401.2 Criteria for Achieving Cathodic Protection

(a) Any of the below listed criteria, when complied with separately or collectively will indicate adequate cathodic protection has been achieved for steel pipe or external carbon steel storage tank bottoms.

- A negative (cathodic) potential of at least 850 mV with the current applied. This potential shall be measured with respect to a saturated copper/copper sulfate reference electrode (CSE) contacting the electrolyte. Consideration must be given to voltage drops other than those across the structure-to-electrolyte boundary for valid interpretation of this voltage measurement.

- Consideration is understood to mean the application of sound engineering practice in determining the significance of voltage drops by methods such as:

  (a) Measuring or calculating the voltage drop(s)
  (b) Reviewing the historical performance of the cathodic protection system
  (c) Evaluating the physical and electrical characteristics of the pipe or tank bottom and its environment, and
  (d) Determining whether or not there is physical evidence of corrosion

- A negative polarized potential of at least 850 mV relative to a CSE

- A minimum of 100mV of cathodic polarization between the carbon steel surface of the pipe or tank bottom and a stable reference electrode contacting the electrolyte. The formation or decay of polarization may be measured to satisfy this criterion.
- Measurement circuit IR Drop: The soil under the tank bottom or around the pipe has a very high electrolyte resistance. Under these conditions, an IR drop error occurs in the measuring circuit if a low input impedance meter is used. This error can be minimized using a meter with input impedance greater than 10^6 ohms.

(b) The cathodic protection criteria to be used for a segment of pipeline will be established and not changed except for technical reasons. The Terminals Supervisor will, after consultation with the NACE qualified engineer, make this determination. If the criterion for cathodic protection has changed, the reasons for the change will be documented.

Concern #1 (Cont.)

(a) Coated pipelines shall be electrically tested annually but at intervals not exceeding fifteen months by a qualified NACE corrosion engineer to determine the adequacy of cathodic protection. Tests shall be conducted by reading the pipe-to-soil potential, using a saturated copper-copper sulfate reference electrode and a high impedance voltmeter, at test stations and other locations where the pipeline is exposed, i.e., valve locations. The values observed shall be recorded and a report with recommendation forwarded to the Terminals Supervisor for review and approval. Other recognized survey methods, such as close-interval surveys, may be used when deemed necessary. Routine repairs to the cathodic protection system, performed by the Corrosion Engineer during the annual survey, will be recorded in the survey report form. A graphical record of the pipe-to-soil potential profile is prepared by the Corrosion Engineer. When a profile indicates that the cathodic protection system is not operating properly, the Corrosion Engineer prepares plans and recommendations for management that provide the required remedial action.

(b) A close- interval survey was conducted in 2005 on Tidewaters pipeline facility. Tidewater will work with third party Corrosion Engineer to establish a close-interval survey schedule to accomplish the objectives of paragraphs 10.1.1.3 of NACE SP-0169-2007.

(c) Where the criteria for cathodic protection as defined in NACE SP-0169-2007 is not met, the Corrosion Engineer (Contractor) will investigate to determine what action will be required to restore the cathodic protection to an acceptable level. Remedial action, if required, may include addition of anodes, increasing rectifier output, adding a rectifier, replacing a rectifier ground bed, or clearing interference, or a combination of any of these. A low pipe-to-soil potential reading must be corrected as soon as possible with the goal being to make corrections before the next inspection is due.

(d) Where practical, the maximum pipe-to-soil potential should be -1.2 volts polarized and referenced to a saturated copper-copper sulfate reference electrode. In some special cases, higher pipe-to-soil potentials may be required to achieve adequate protection, however the amount of cathodic protection must be controlled to prevent pipe coating damage.

(e) When pipe-to-soil potential is measured with the electrode on the soil surface, the reading will be in error if there is an IR drop measurement error in the soil between the electrode and the structure. On poorly coated lines, the IR drop may be significant. Where IR drop may be a problem, The electrode may be located nearer to the structure by boring a hole to place the electrode near the structure. If the structure is under the protection of a rectifier, the rectifier output may be interrupted and the polarized potential measured immediately after the rectifier is turned off. This will eliminate the IR drop caused by the impressed current flow but it will not eliminate IR drop caused by galvanic cells or stray currents. IR drop may be compensated for by maintaining the pipe-to-soil potential high enough to compensate for IR drop. Another method is to use a