

Inspection Output (IOR)

02-09-15 P12:39 RCVD

Inspection Information

Inspection Name	BP Pipelines-Olympic Pipe Line Company (ISID 3490)	Operator(s)	OLYMPIC PIPE LINE COMPANY (30781)	Plan Submitted	08/05/2014
Status	PLANNED	Lead	Dennis Ritter	Plan Approval	08/05/2014 by David Mulligan
Start Year	2014	Team Members	Claude E Allen	All Activity Start	03/03/2014
System Type	HL	Supervisor	Huy Nguyen, David Mulligan, Joe Subsits, David D Lykken	All Activity End	08/29/2014
Protocol Set ID	HL.2014.01	Director	Chris Hoidal	Inspection Submitted	11/26/2014
				Inspection Approval	-- HW 2/9/15

Inspection Summary

Begin inspection 08/11/14
End inspection 08/29/14
Exit interview 08/29/14
AFO days 10

Issue WL - Items
2,3,4,6,7
Issue NOPV/PCO
Items 1,5,8
04
2/25/15

Scope of inspection:

An Integrated Inspection was conducted of Olympic Pipeline Company (OPL) from August 11 to August 15, 2014 and from August 25 to August 29, 2014. An exit interview was conducted on August 29, 2014 at the Olympic Renton Station. Records were reviewed at the Renton Station for all units during the first week of the inspection. Field visits for all units were conducted during the second week. Based on potential risk factors from screening questions and past inspections/incidents, additional questions were added to the core IA question set for liquid operators focusing on damage prevention and abnormal operating conditions. The inspection did not find issues in these areas. However, the inspection did find areas of concern and potential violations in the cathodic protection program as well as issues associated with new casings found as a result of integrity management as explained below.

Facilities Inspected:

A complete listing of field sites visited is located in the "Field Notes" for each unit in the attachments. All three units, 925 (north), 32965 (South) and 39735 (Oregon) were inspected. Field visits focused on HCA locations and assets in those locations. It should be noted that most of the pipeline (over 90%) is located in an HCA or could affect area. All pump stations were visited as well as selected: breakout tanks, water crossings, known slide areas, block valves, check valves, rectifiers, bonds in each unit. Prior to the inspection, the operator self reported late readings in the cathodic protection program as noted below. During the inspection, it was noted that metal jacketed insulation on prover piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion. OPL was aware of this and actually had a project scheduled in September to remove the insulation and coat the pipe with a ceramic bead impregnated material which also has insulation characteristics. This will allow for atmospheric corrosion inspection. It was also noted during records review and confirmed in the field that OPL had AC on their pipeline greater than 15V. According to their procedures, this should initiate an investigation. These items are areas of concern as noted below.

Recommendations:

1) Did the operator integrate other data/information when evaluating tool data/results in the records reviewed? AR.IL.II INTEGRATION.R - 195.452(l)(1) (ii) 195.452(g)

Recommend including this as part of NOPV/PCO-see 8) below

2) Do records document required monitoring tests have occurred and that adequate cathodic protection levels exist? TD.CP MONITOR.TEST.R - 195.589(c) (195.573(a)(1)

There were 20 late readings in 2012 in the South Unit. There were 78 late reads in unit 925 and 23 late reads in unit 32965 in 2013.

Recommend a warning letter only. OPL has effectively mitigated this issue as noted in the results summary.

3) Do records document adequate electrical checks of rectifiers, interference bonds, diodes, and reverse current switches and at the required intervals? TD.CP MONITOR.CURRENTTEST.R - 195.589(c) (195.573(c)

OPL self-reported the following:

Three late rectifier readings in 2013 in Unit 925. Three late critical bond readings in 2013, 2 in Unit 925, 1 in Unit 32965.

Recommend a warning letter only. OPL has effectively mitigated this issue as noted in the results summary.

4) Do records document that the operator has minimized the detrimental effects of stray currents when found? TD.CP MONITOR.INTFRCURRENT.R - 195.589(c) (195.577(a)

There were 10 AC readings recorded as being greater than 15 VAC in Unit 925 in 2013, 4 in 2011. In Unit 32965, 6 in 2013 and 8 in 2011 (primarily in King County). This appears to be more a personnel safety issue than pipe integrity issue due to predominant coating, i.e., coal tar. Procedures (P195.551.2.2) which states that any AC interference on pipeline 15 VAC or greater will be investigated and remediated as necessary. There were no investigation records produced during the inspection to show compliance with this procedure.

Recommend a warning letter. OPL has effectively mitigated this issue as noted in the results summary.

5) Do maps and or records document cathodic protection system appurtenances that have been installed on pipelines that have been constructed, relocated, replaced, or otherwise changed or been converted to hazardous liquid service? TD.CP MONITOR.MAPRECORD.R - 195.589(a) (195.589(b)

After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy

areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas--OPL does not know if these are casings or not. OPL cannot demonstrate if these indications are casings and should be included in isolation testing monitoring and reflected in their maps and records.

Recommend including this as part of NOPV/PCO--see 8) below

6) Do records document adequate operator actions taken to correct any identified deficiencies in corrosion control?

TD.CPMONITOR.DEFICIENCY.R - 195.589(c) (195.573(e) **NOTE: Repeated Question (3)**

During the inspection, it was noted that metal jacketed insulation on prover piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion. Additionally, AC mitigation on pipeline in Unit 925 and 32965 needs to be addressed as required by OPL procedures.

Recommendations for these items are included in other concerns/violations.

7) Do records document inspection of aboveground pipe exposed to atmospheric corrosion? TD.ATM.ATMCORRODEINSP.R - (195.583(a) 195.583(b) 195.583(c)

During the inspection, it was noted that metal jacketed insulation on piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion.

Recommend a warning letter be sent stating OPL needs to inspect under insulation to ensure corrosion is not occurring.

8) After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas--OPL does not know if these are casings or not. If there are casings, this is unsatisfactory as OPL cannot discern whether their pipeline is electrically isolated from these buried metallic structures as there are no test leads.

Recommend a NOPV/PCO be sent to OPL specifically requiring: 1) a plan to have all the remaining indications mitigated within 3 years. All indications within HCAs should be completed within 2 years. The plan should include a prioritization of each dig. OPL will give the basis for prioritization (e.g. whether the casing is in a HCA/could affect area, Class location or other pertinent features or issues--permitting, Tribal or ecological resources etc.; 2) Status of current mitigation efforts; 3) An explanation as to why these indications were not picked up in previous ILI tool runs; 3) Description of programs in place to integrate the data from ILI runs, CIS, digs, mapping etc. and what changes to these existing IMP programs will be made as a result of finding these anomalies during data integration.

9) Do records document adequate installation and inspection of fault current and lightning protection? TD.CP.FAULTCURRENT.R - 195.589(c) (195.575(e)

Olympic has experienced ground faults which destroyed a rectifier at MP 110.5.

Recommend future inspections investigate if additional ground faults have occurred since the last inspection.

Scope (Assets)

#	Short Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Total Inspected	Required % Complete
1.	Unit 925	WA-UTC/OPL-NORTH	unit	925	Offshore CO2 HVL GOM Biofuels	168	139	164	100.0%
2.	Unit 32965	WA-UTC/OPL-SOUTH	unit	32965	Offshore GOM HVL CO2 Biofuels	168	139	163	100.0%
3.	Unit 39735	OLYMPIC - OREGON LINE	unit	39735	Offshore GOM HVL CO2 Biofuels	167	138	166	100.0%

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

Plans

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
1.	Unit 925, Unit 32965, Unit 39735	HL IM Implementation (4/2013)	ALO, AR, CR, DC, EP, FS, IM, MO, PD, RPT, SRN, TD, TQ, GENERIC	P, R, O, S	Detail	
2.	Unit 925, Unit 32965, Unit 39735	n/a	ALO	P, R, O, S	Detail	
3.	Unit 925, Unit 32965, Unit 39735	n/a	EP.ERL, EP.ETR, FS.TSAPIINSPECT, MO.LMOPP, MO.LOOPER, MO.ABNORMAL, MO.LOMOP, MO.LC, MO.LM, MO.LO, PD.RW, TD.CPMONITOR, TD.CPEXPOSED, TD.ATM, TD.CP, TD.ICP	R	Detail	
4.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.AR.ASSESSDELAY.S, SRN.AR.CRACKIDENT.S, SRN.AR.ILINONMFLDEF.S, SRN.AR.ILIUSE.S, SRN.AR.REPAIRCRITERIA.S, SRN.AR.RISKBASEDALT.S	P, R, O, S	Detail	
5.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.CR.LEAKDETMETHOD.S, SRN.CR.LEAKDETPERFORM.S	P, R, O, S	Detail	
6.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.DC.CONSTHYDROFAIL.S, SRN.DC.PRESSURETEST.S	P, R, O, S	Detail	
7.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.FS.PSDESIGN.S	P, R, O, S	Detail	
8.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.IM.HCANEW.S, SRN.IM.PERFMEASURE.S, SRN.IM.PMIMPGENERAL.S, SRN.IM.RAMOD.S, SRN.IM.REASSESSINTRVL.S	P, R, O, S	Detail	
9.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.MO.ABPROCESS.S	P, R, O, S	Detail	

10.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.MULTI.CONVERSION.S, SRN.MULTI.IDLERETURN.S, SRN.MULTI.IMPLANMOD.S	P, R, O, S	Detail
11.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.PD.PADPEXCAVATION.S, SRN.PD.POPGROWTH.S	P, R, O, S	Detail
12.	Unit 925, Unit 32965, Unit 39735	n/a	SRN.TD.BAREPIPENOC.P.S, SRN.TD.CORROSIONCNTRL.S, SRN.TD.CPPROJECT.S, SRN.TD.SCC.S	P, R, O, S	Detail
13.	Unit 925, Unit 32965, Unit 39735	n/a	TQ.OQ.ABNORMAL.P	P, R, O, S	Detail
14.	Unit 925, Unit 32965, Unit 39735	n/a	TQ.OQ.ABNORMAL.R	P, R, O, S	Detail
15.	Unit 925, Unit 32965, Unit 39735	n/a	MO.LO.OMEFFECTREVIEW.P	P, R, O, S	Detail
16.	Unit 925, Unit 32965, Unit 39735	n/a	MO.ABNORMAL.ABNORMALCORRECT.P	P, R, O, S	Detail
17.	Unit 925, Unit 32965	n/a	EP.ERL.ACCIDENTANALYSIS.P	P, R, O, S	Detail
18.	Unit 925, Unit 32965, Unit 39735	n/a	IM.HC.HCARELEASE.R	P, R, O, S	Detail
19.	Unit 925, Unit 32965, Unit 39735	n/a	IM.CA.PERIODICEVAL.R	P, R, O, S	Detail
20.	Unit 925, Unit 32965, Unit 39735	n/a	PD.OC.PROGRAM.R	P, R, O, S	Detail
21.	Unit 925, Unit 32965, Unit 39735	n/a	PD.PA.EVALEFFECTIVENESS.R	P, R, O, S	Detail
22.	Unit 925, Unit 32965, Unit 39735	n/a	PD.PA.SUPPLEMENTAL.P	P, R, O, S	Detail
23.	Unit 925, Unit 32965, Unit 39735	n/a	IM.PM.PMMGENERAL.P	P, R, O, S	Detail

Plan Implementations

#	Activity Name	SMART Act#	Start Date End Date	Focus Directives	Involved Groups/Subgroups	Assets	Qst Type(s)	Planned	Required	Total Inspected	Required % Complete
1.	Screening Questions	145870	03/03/2014 04/25/2014	n/a	all planned questions	Unit 925, Unit 32965, Unit 39735	S	78	78	78	100.0%
2.	Office Review	145870	08/11/2014 08/15/2014	n/a	all planned questions	Unit 925, Unit 32965, Unit 39735	P, R	299	299	299	100.0%
3.	North Field Inspection	147690 145870	08/25/2014 08/27/2014	n/a	all planned questions	Unit 925	R, O	136	107	132	100.0%
4.	South Field Inspection	147691 145870	08/27/2014 08/29/2014	n/a	all planned questions	Unit 32965	R, O	136	107	131	100.0%
5.	Oregon Field	145870 145872	08/28/2014 08/29/2014	n/a	all planned questions	Unit 39735	R, O	136	107	135	100.0%

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

Forms

No.	Entity	Form Name	Status	Date Completed	Activity Name	Asset
1.	Attendance List	Office Review	COMPLETED	01/30/2015	Office Review	Unit 925 Unit 32965 Unit 39735
2.	Breakout Tanks	North Field Inspection	COMPLETED	01/30/2015	North Field Inspection	Unit 925

Results (Unsat, Concern values, 16 results)

20 (instead of 16) results are listed due to re-presentation of questions in more than one sub-group.

ALO.TD: Time-Dependent Threats

- Question Result, ID, References** **Concern**, TD.CP.MONITOR.CURRENTTEST.O, 195.573(c) (also presented in: TD.CP.MONITOR)

Question Text *Are rectifiers, interference bonds, diodes, and reverse current switches properly maintained and are they functioning properly?*

Assets Covered Unit 39735

Result Issue Summary Regarding the non-critical cathodic protection bond to KM at the Linnton Delivery Facility (DF) in Portland Oregon, there are indications that the bond is actually critical. Should this be a critical bond?

Result Notes I have a question for Ross Degerstedt, CP Supr., regarding the non-critical bond to KM at the Linnton DF. The BP rectifier is continually cycled at 1 sec off, 4 sec on. P/S outside fence: 2.7 off, 3.15 on. Bond readings with 0.001 ohm shunt: BP rectifier off, 3.5 mV (3.5 A); rectifier on, 0.33 A. Should this be a critical bond? 8/27/14: Ross says they need to investigate. Otherwise, OK
- Question Result, ID, References** **Concern**, TD.CP.ISOLATE.O, 195.575(a) (195.575(b); 195.575(c); 195.575(d)) (also presented in: TD.CP)

Question Text *Are measures performed to ensure electrical isolation of each buried or submerged pipeline from other metallic structures unless they electrically interconnect and cathodically protect the pipeline and the other structures as a single unit?*

Assets Covered Unit 925, Unit 32965, Unit 39735

Result Issue Summary This casing is in OPL's test lead program to have leads attached, however, it is not known how long this condition has existed. There are about 97 casings which still need to be evaluated.

Result Notes Near Yelm WA at the Northern Pacific Road crossing, MP 2948+51, 46.949313, -122.594815, 150' casing in did not have test leads or casing vents. OPL was aware and it is on a construction list to add test leads. There are many other casings like this and OPL has a program to dig and add test leads.
- Question Result, ID, References** **Concern**, TD.CP.MONITOR.INTFRCURRENT.O, 195.577(a) (also presented in: TD.CP.MONITOR)

Question Text *Are areas of potential stray current identified, and if found, the detrimental effects of stray currents minimized?*

Assets Covered Unit 925

Result Issue Summary Same issue as Time Dependent Threats Question 18. Reading at MP 82.15 was 16.56 VAC on 20" pipeline. This location already has AC mitigation anodes in place. OPL is aware of this and is on list of facilities to repair or add mag bags.

Result Notes Same issue as Time Dependent Threats Question 18. Reading at MP 82.15 was 16.56 VAC on 20" pipeline. This location already has AC mitigation anodes in place. OPL is aware of this and is on list of facilities to repair or add mag bags.
- Question Result, ID, References** **Concern**, TD.ATM.ATM.CORRODEINSP.O, 195.583(c) (195.581(a)) (also presented in: TD.ATM)

Question Text *Is aboveground pipe that is exposed to atmospheric corrosion protected?*

Assets Covered Unit 925, Unit 39735

Result Issue Summary Some stations/terminals have metal to metal contact at pipe supports: especially at Bayview Terminal. There is insulated pipe for sound control (steel-jacketed fiberglass) and thermal insulation (coated open-celled foam) on provers at most pump stations and terminals. There are ongoing projects that appear to adequately address these potential corrosive situations.

Result Notes Some stations/terminals have metal-to-metal contact at pipe supports: especially at Bayview Terminal. There is insulated pipe for sound control (steel-jacketed fiberglass) and thermal insulation (coated open-celled foam) on provers at most pump stations and terminals. There are ongoing projects that appear to adequately address these potential corrosive situations.

AR.IL: In-Line Inspection (Smart Pigs)

- Question Result, ID,**

References	Concern , AR.I.L.IIINTEGRATION.R, 195.452(l)(1)(ii) (195.452(g))
Question Text	<i>Did the operator integrate other data/information when evaluating tool data/results in the records reviewed?</i>
Assets Covered	Unit 925, Unit 32965, Unit 39735
Result Issue Summary	This item will be included in NOPV/PCO request. See,14-Isolation from Other Metallic Structures-Result Issue Summary-
Result Notes	After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi-year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas--OPL does not know if these are casings or not. If there are casings, OPL cannot determine if they are electrically isolated from the carrier pipe as they do not have test leads.

IM.RA: Risk Analysis

6.	Question Result, ID, References	Concern , IM.RA.RADATA.O, 195.452(f)(3) (195.452(g))
	Question Text	<i>Are conditions on the pipeline segments accurately reflected in the appropriate risk assessment data and information?</i>
	Assets Covered	Unit 925, Unit 32965, Unit 39735
	Result Issue Summary	During the records review, OPL indicated they had a program to mitigate casings which did not have test leads. Further discussion revealed that OPL had found over 200 casings during their more recent ILI runs. Some of these casings OPL new about, but many were new discoveries. These casings were found after reviewing indications on the more recent ILI runs. Some of these indications were subsequently dug up. The digs revealed casings on the pipeline which were not on alignment sheets. OPL then re-evaluated the data to find the signatures associated with these indications and it revealed the 200 plus casings. OPL started a program in 2011 to dig and evaluate the casings. The results to date indicate 97 which still need to be evaluated. OPL has mitigated the others by adding test leads to actual casings and removing casings that are not needed (for instance, a short "casing" protecting the pipeline under a bar ditch).OPL will be asked to provide the answers to the following questions: 1) Do OPL's procedures adequately address the addition of this type of new information into the assessment plan and risk model? 2) Did they accurately integrate this new information into their risk model and did it change the results and P&M measures? 3) Did the ILI tool chosen find all the casings? Would another tool find more?
	Result Notes	During the records review, OPL indicated they had a program to mitigate casings which did not have test leads. Further discussion revealed that OPL had found over 200 casings during their more recent ILI runs. Some of these casings OPL new about, but many were new discoveries. These casings were found after reviewing indications on the more recent ILI runs. Some of these indications were subsequently dug up. The digs revealed casings on the pipeline which were not on alignment sheets. OPL then re-evaluated the data to find the signatures associated with these indications and it revealed the 200 plus casings. OPL started a program in 2011 to dig and evaluate the casings. The results to date indicate 97 which still need to be evaluated. OPL has mitigated the others by adding test leads to actual casings and/or removing casings that are not needed (for instance, a short "casing" protecting the pipeline under a bar ditch). However, there are some questions which OPL needs to answer about this program: 1) Do OPL's procedures adequately address the addition of this type of new information into the assessment plan and risk model? 2) Did they accurately integrate this new information into their risk model and did it change the results and P&M measures? 3) Did the ILI tool chosen find all the casings? Would another tool find more?

TD.CPMONITOR: External Corrosion - Cathodic Protection Monitoring

7.	Question Result, ID, References	Unsat , TD.CPMONITOR.TEST.R, 195.589(c) (195.573(a)(1))
	Question Text	<i>Do records document required monitoring tests have occurred and that adequate cathodic protection levels exist?</i>
	Assets Covered	Unit 925, Unit 32965
	Result Issue Summary	Issue a warning letter. OPL has effectively mitigated this issue as follows: after their previous CP tech left in approximately 2012, Olympic recognized they needed more personnel in this area as well as more management oversight and transparency. They have since hired a replacement and one additional person. Both are well qualified and the program is much improved.Olympic management (BP Pipelines North America) now has a person in Houston who is responsible for tracking status of CP work and inputting this information into a dashboard for operations managers so they see status of CP efforts.
	Standard Issues	B1 (Moderate or small impact/widespread occurrence) : 195.573(a)(1) : Records indicate requirement not completed at required

intervals

Result Notes There were 20 late readings in 2012 in the South Unit. There were 78 late reads in unit 925 and 23 late reads in unit 32965 in 2013. These were self reported by BP to WUTC several weeks before this inspection.

Additional Comments

Decision

TD.CPEXPOSED: External Corrosion - Exposed Pipe

8. **Question Result, ID, References** **Concern**, TD.CPEXPOSED.DEFICIENCY.R, 195.589(c) (195.573(e))

Question Text *Do records document adequate operator actions taken to correct any identified deficiencies in corrosion control?*

Assets Covered Unit 925, Unit 32965, Unit 39735

Result Issue Summary These issues are being mitigated in other code specific sections as noted.

Result Notes

- After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas-- OPL does not know if these are casings or not. If there are casings, OPL cannot determine if they are electrically isolated from the carrier pipe as they do not have test leads.
- During the inspection, it was noted that metal jacketed insulation on prover piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion.
- AC mitigation on pipeline in Unit 925 and Unit 32965 needs to be addressed as required by OPL procedures.
- Olympic has an ongoing program to evaluate in-station piping, and tanks for corrosion, not internal and external. This includes FIMP and GUL evaluation of pipe, shear wave of tank bottoms/chimes, and evaluation of metal-to-metal contact at pipe supports.

TD.CPMONITOR: External Corrosion - Cathodic Protection Monitoring

9. **Question Result, ID, References** **Unsat**, TD.CPMONITOR.CURRENTTEST.R, 195.589(c) (195.573(c))

Question Text *Do records document adequate electrical checks of rectifiers, interference bonds, diodes, and reverse current switches and at the required intervals?*

Assets Covered Unit 925, Unit 32965

Result Issue Summary Issue a warning letter. OPL has effectively mitigated this issue as follows: after their previous CP tech left in approximately 2012, Olympic recognized they needed more personnel in this area as well as more management oversight and transparency. They have since hired a replacement and one additional person. Both are well qualified and the program is much improved. Olympic management (BP Pipelines North America) now has a person in Houston who is responsible for tracking status of CP work and inputting this information into a dashboard for operations managers so they see status of CP efforts.

Standard Issues C (Documentation/administrative - no significant impact) : 195.573(c) : Records indicate requirement not completed at required intervals

Result Notes **OPL self-reported the following:**
Three late rectifier readings in 2013 in Unit 925 due to communication problems with remote monitoring technology (Bullhorn). Three late critical bond readings by 3-28 days in 2013 2 in Unit 925 1 in Unit 32965. BP replaced Bullhorn with Watchdog remote monitoring.

Additional Comments

Decision

10. Question Result, ID, References **Concern**, TD.CPMONITOR.CURRENTTEST.O, 195.573(c) (also presented in: ALO.TD)
- Question Text *Are rectifiers, interference bonds, diodes, and reverse current switches properly maintained and are they functioning properly?*
- Assets Covered Unit 39735
- Result Issue Summary Regarding the non-critical cathodic protection bond to KM at the Linnton Delivery Facility (DF) in Portland Oregon, there are indications that the bond is actually critical. Should this be a critical bond?
- Result Notes I have a question for Ross Degerstedt, CP Supr., regarding the non-critical bond to KM at the Linnton DF. The BP rectifier is continually cycled at 1 sec off, 4 sec on. P/S outside fence: 2.7 off, 3.15 on. Bond readings with 0.001 ohm shunt: BP rectifier off, 3.5 mV (3.5 A); rectifier on, 0.33 A. Should this be a critical bond? 8/27/14: Ross says they need to investigate. Otherwise, OK
11. Question Result, ID, References **Unsat**, TD.CPMONITOR.INTFRCURRENT.R, 195.589(c) (195.577(a))
- Question Text *Do records document that the operator has minimized the detrimental effects of stray currents when found?*
- Assets Covered Unit 925, Unit 32965
- Result Issue Summary Issue a warning letter. OPL has effectively mitigated this issue as follows: after their previous CP tech left in approximately 2012, Olympic recognized they needed more personnel in this area as well as more management oversight and transparency. They have since hired a replacement and one additional person. Both are well qualified and the program is much improved. Olympic management (BP Pipelines North America) now has a person in Houston who is responsible for tracking status of CP work and inputting this information into a dashboard for operations managers so they see status of CP efforts.
- Standard Issues C (Documentation/administrative - no significant impact) : 195.589(c)(1) : No records that show mitigating action performed for stray currents.
- Result Notes Historically, mag bags were installed for AC interference. Coal tar coating (>80%) is not very susceptible to AC interference. There were 10 AC readings recorded as being greater than 15 VAC in Unit 925 in 2013, 4 in 2011. In Unit 32965, 6 in 2013 and 8 in 2011 (primarily in King County). This appears to be more a personnel safety issue than pipe integrity issue due to predominant coating, i.e., coal tar. Ross Dagerstedt (CP Lead) understands this must be investigated per their procedures (BP/OPL OMER manual P195.551.2.2) which states that any AC interference on pipeline 15 VAC or greater will be investigated and remediated as necessary. There were no investigation records produced during the inspection to show compliance with this procedure. OPL did have an AC mitigation listing showing they are aware of the issues and have started the mitigation. Project list attached.
- Additional Comments
- Decision
12. Question Result, ID, References **Concern**, TD.CPMONITOR.INTFRCURRENT.O, 195.577(a) (also presented in: ALO.TD)
- Question Text *Are areas of potential stray current identified, and if found, the detrimental effects of stray currents minimized?*
- Assets Covered Unit 925
- Result Issue Summary Same issue as Time Dependent Threats Question 18. Reading at MP 82.15 was 16.56 VAC on 20" pipeline. This location already has AC mitigation anodes in place. OPL is aware of this and is on list of facilities to repair or add mag bags.
- Result Notes Same issue as Time Dependent Threats Question 18. Reading at MP 82.15 was 16.56 VAC on 20" pipeline. This location already has AC mitigation anodes in place. OPL is aware of this and is on list of facilities to repair or add mag bags.
13. Question Result, ID, References **Unsat**, TD.CPMONITOR.MAPRECORD.R, 195.589(a) (195.589(b))
- Question Text *Do maps and or records document cathodic protection system appurtenances that have been installed on pipelines that have been constructed, relocated, replaced, or otherwise changed or been converted to hazardous liquid service?*
- Assets Covered Unit 925, Unit 32965, Unit 39735
- Result Issue Summary **This item will be included in NOPV/PCO request. See, 14-Isolation from Other Metallic Structures-Result Issue Summary**
- Standard Issues B1 (Moderate or small impact/widespread occurrence) : 195.589(a)(2) : Documentation insufficient to demonstrate compliance with specific regulation
- Result Notes After reviewing the IY data for 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3033, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043, 3044, 3045, 3046, 3047, 3048, 3049, 3050, 3051, 3052, 3053, 3054, 3055, 3056, 3057, 3058, 3059, 3060, 3061, 3062, 3063, 3064, 3065, 3066, 3067, 3068, 3069, 3070, 3071, 3072, 3073, 3074, 3075, 3076, 3077, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3085, 3086, 3087, 3088, 3089, 3090, 3091, 3092, 3093, 3094, 3095, 3096, 3097, 3098, 3099, 3100, 3101, 3102, 3103, 3104, 3105, 3106, 3107, 3108, 3109, 3110, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133, 3134, 3135, 3136, 3137, 3138, 3139, 3140, 3141, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3150, 3151, 3152, 3153, 3154, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163, 3164, 3165, 3166, 3167, 3168, 3169, 3170, 3171, 3172, 3173, 3174, 3175, 3176, 3177, 3178, 3179, 3180, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3199, 3200, 3201, 3202, 3203, 3204, 3205, 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3227, 3228, 3229, 3230, 3231, 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239, 3240, 3241, 3242, 3243, 3244, 3245, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3260, 3261, 3262, 3263, 3264, 3265, 3266, 3267, 3268, 3269, 3270, 3271, 3272, 3273, 3274, 3275, 3276, 3277, 3278, 3279, 3280, 3281, 3282, 3283, 3284, 3285, 3286, 3287, 3288, 3289, 3290, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3300, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3338, 3339, 3340, 3341, 3342, 3343, 3344, 3345, 3346, 3347, 3348, 3349, 3350, 3351, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373, 3374, 3375, 3376, 3377, 3378, 3379, 3380, 3381, 3382, 3383, 3384, 3385, 3386, 3387, 3388, 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3398, 3399, 3400, 3401, 3402, 3403, 3404, 3405, 3406, 3407, 3408, 3409, 3410, 3411, 3412, 3413, 3414, 3415, 3416, 3417, 3418, 3419, 3420, 3421, 3422, 3423, 3424, 3425, 3426, 3427, 3428, 3429, 3430, 3431, 3432, 3433, 3434, 3435, 3436, 3437, 3438, 3439, 3440, 3441, 3442, 3443, 3444, 3445, 3446, 3447, 3448, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458, 3459, 3460, 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3504, 3505, 3506, 3507, 3508, 3509, 3510, 3511, 3512, 3513, 3514, 3515, 3516, 3517, 3518, 3519, 3520, 3521, 3522, 3523, 3524, 3525, 3526, 3527, 3528, 3529, 3530, 3531, 3532, 3533, 3534, 3535, 3536, 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547, 3548, 3549, 3550, 3551, 3552, 3553, 3554, 3555, 3556, 3557, 3558, 3559, 3560, 3561, 3562, 3563, 3564, 3565, 3566, 3567, 3568, 3569, 3570, 3571, 3572, 3573, 3574, 3575, 3576, 3577, 3578, 3579, 3580, 3581, 3582, 3583, 3584, 3585, 3586, 3587, 3588, 3589, 3590, 3591, 3592, 3593, 3594, 3595, 3596, 3597, 3598, 3599, 3600, 3601, 3602, 3603, 3604, 3605, 3606, 3607, 3608, 3609, 3610, 3611, 3612, 3613, 3614, 3615, 3616, 3617, 3618, 3619, 3620, 3621, 3622, 3623, 3624, 3625, 3626, 3627, 3628, 3629, 3630, 3631, 3632, 3633, 3634, 3635, 3636, 3637, 3638, 3639, 3640, 3641, 3642, 3643, 3644, 3645, 3646, 3647, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668, 3669, 3670, 3671, 3672, 3673, 3674, 3675, 3676, 3677, 3678, 3679, 3680, 3681, 3682, 3683, 3684, 3685, 3686, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3696, 3697, 3698, 3699, 3700, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 3708, 3709, 3710, 3711, 3712, 3713, 3714, 3715, 3716, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3737, 3738, 3739, 3740, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, 3790, 3791, 3792, 3793, 3794, 3795, 3796, 3797, 3798, 3799, 3800, 3801, 3802, 3803, 3804, 3805, 3806, 3807, 3808, 3809, 3810, 3811, 3812, 3813, 3814, 3815, 3816, 3817, 3818, 3819, 3820, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831, 3832, 3833, 3834, 3835, 3836, 3837, 3838, 3839, 3840, 3841, 3842, 3843, 3844, 3845, 3846, 3847, 3848,

Result Notes After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas--OPL does not know if these are casings or not.

OPL cannot demonstrate if these indications are casings and should be included in isolation testing monitoring and reflected in their maps and records.

Additional Comments

Decision

14. **Question Result, ID, References** **Concern**, TD.CPMONITOR.DEFICIENCY.R, 195.589(c) (195.573(e))
Question Text *Do records document adequate operator actions taken to correct any identified deficiencies in corrosion control?*
Assets Covered Unit 925, Unit 32965, Unit 39735
Result Issue Summary These issues are being mitigated in other code specific sections as noted.

Result Notes

- After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas--OPL does not know if these are casings or not. **As OPL does not know if these 54 ILI discrepancy areas are actually casings and if they could adversely affect the safe operation of its pipeline system, 49 CFR 195.401(b) requires that OPL perform the necessary investigation to determine if a safety condition exists and then repair it in a timely manner.**
- During the inspection, it was noted that metal jacketed insulation on prover piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion.
- AC mitigation on pipeline in Unit 925 and 32965 needs to be addressed as required by OPL procedures.
- Olympic has an ongoing program to evaluate in-station piping, and tanks for corrosion. This includes FIMP and GUL evaluation of pipe, shear wave of tank bottoms/chimes, and evaluation of metal-to-metal contact at pipe supports.

TD.ATM: External Corrosion - Atmospheric

15. **Question Result, ID, References** **Unsat**, TD.ATM.ATMCORRODEINSP.R, 195.589(c) (195.583(a); 195.583(b); 195.583(c))
Question Text *Do records document inspection of aboveground pipe exposed to atmospheric corrosion?*
Assets Covered Unit 925, Unit 32965
Result Issue Summary A warning letter should be sent stating OPL needs to inspect under insulation to ensure corrosion is not occurring.

Standard Issues B2 (Moderate or small impact/limited occurrence) : 195.583(b) : No record/documentation

Result Notes During the inspection, it was noted that metal jacketed insulation on piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion. OPL was aware of this and stated they had a project scheduled in September to remove the insulation and coat the pipe with a ceramic bead impregnated material which also has insulation characteristics. This will allow for atmospheric corrosion inspection.

Additional Comments

Decision

16. Question Result, ID, References **Concern**, TD.ATM.ATMCORRODEINSP.O, 195.583(c) (195.581(a)) (also presented in: ALO.TD)
- Question Text *Is aboveground pipe that is exposed to atmospheric corrosion protected?*
- Assets Covered Unit 925, Unit 39735
- Result Issue Summary Some stations/terminals have metal-to-metal contact at pipe supports: especially at Bayview Terminal. There is insulated pipe for sound control (steel-jacketed fiberglass) and thermal insulation (coated open-celled foam) on provers at most pump stations and terminals. There are ongoing projects that appear to adequately address these potential corrosive situations.
- Result Notes Some stations/terminals have metal-to-metal contact at pipe supports: especially at Bayview Terminal. There is insulated pipe for sound control (steel-jacketed fiberglass) and thermal insulation (coated open-celled foam) on provers at most pump stations and terminals. There are ongoing projects that appear to adequately address these potential corrosive situations.

TD.CP: External Corrosion - Cathodic Protection

17. Question Result, ID, References **Concern**, TD.CP.DEFICIENCY.R, 195.589(c) (195.573(e))
- Question Text *Do records document adequate operator actions taken to correct any identified deficiencies in corrosion control?*
- Assets Covered Unit 925, Unit 32965, Unit 39735
- Result Issue Summary These areas of concern are being mitigated in specific code sections as noted. Note same question as 23 and 12 above.
- Result Notes
- After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas-- OPL does not know if these are casings or not. **If there are casings, this is unsatisfactory as OPL cannot discern whether their pipeline is electrically isolated from these buried metallic structures as there are no test leads.**
 - During the inspection, it was noted that metal jacketed insulation on prover piping in several of the stations prevented actual inspection of the pipeline for atmospheric corrosion.
 - AC mitigation on pipeline in Unit 925 and Unit 32965 needs to be addressed as required by OPL procedures.
 - Olympic has an ongoing program to evaluate in-station piping, and tanks for corrosion, not internal and external. This includes FIMP and GUL evaluation of pipe, shear wave of tank bottoms/chimes, and evaluation of metal-to-metal contact at pipe supports.

18. Question Result, ID, References **Unsat**, TD.CP.ISOLATE.R, 195.589(c) (195.575(a); 195.575(b); 195.575(c); 195.575(d))
- Question Text *Do records document adequate electrical isolation of each buried or submerged pipeline from other metallic structures unless they electrically interconnect and cathodically protect the pipeline and the other structures as a single unit?*
- Assets Covered Unit 925, Unit 32965, Unit 39735
- Result Issue Summary
- **Recommend a NOPV/PCO be sent to OPL specifically requiring: 1) a plan to have all the remaining indications mitigated within 3 years. All indications within HCAs should be completed within 2 years. The plan should include a prioritization of each dig. OPL will give the basis for prioritization (e.g. whether the casing is in a HCA/could affect area, Class location or other pertinent features or issues--permitting, Tribal or ecological resources etc.; 2) Status of current mitigation efforts; 3) An explanation as to why these indications were not picked up in previous ILI tool runs; 3) Description of programs in place to integrate the data from ILI runs, CIS, digs, mapping etc. and what changes to these existing IMP programs will be made as a result of finding these anomalies.**

Standard Issues B1 (Moderate or small impact/widespread occurrence) : 195.575(a), (b), (c) : The operator has not inspected and tested electrical isolations periodically, at least each calendar year.

electrical isolations periodically, at least each calendar year.

Result Notes After integrating ILI data from 2010 runs with previous ILI data and their cathodic protection data management system (CDPM), OPL discovered discrepancies in the data. This lack of correlation led OPL to start a multi year program to investigate and mitigate, as necessary, these areas. There were 114 discrepancy areas as noted on the attached listing (ILI-CDPM Casing Indication Correlation). OPL then added a number of already known test lead/casing problem areas to the list. This brought the total number to over 200. Of the original 114, OPL has field investigated 60. They found 31 of the 60 were casings which were already being monitored. 18 were new, previously unknown casings of which 6 were removed and 12 had new test leads attached. Eight of the 60 were not casings at all. OPL believes these "new" casings were installed during original construction in 1965. There are still 97 sites on OPL's project list of which 54 are the ILI discrepancy areas--OPL does not know if these are casings or not. **If there are casings, this is unsatisfactory as OPL cannot discern whether their pipeline is electrically isolated from these buried metallic structures as there are no test leads.**

Additionally, OPL must determine which of the casings are located in HCAs and act accordingly:

- §195.401 General requirements. (b) An operator must make repairs on its pipeline system according to the following requirements:
 - (1) Non Integrity management repairs. Whenever an operator discovers any condition that could adversely affect the safe operation of its pipeline system, it must correct the condition within a reasonable time. However, if the condition is of such a nature that it presents an immediate hazard to persons or property, the operator may not operate the affected part of the system until it has corrected the unsafe condition.
 - (2) Integrity management repairs. When an operator discovers a condition on a pipeline covered under § 195.452, the operator must correct the condition as prescribed in § 195.452, (h).

Additional Comments

Decision

19. **Question Result, ID, References** **Concern**, TD.CP.ISOLATE.O, 195.575(a) (195.575(b); 195.575(c); 195.575(d)) (also presented in: ALO.TD)

Question Text *Are measures performed to ensure electrical isolation of each buried or submerged pipeline from other metallic structures unless they electrically interconnect and cathodically protect the pipeline and the other structures as a single unit?*

Assets Covered Unit 925, Unit 32965, Unit 39735

Result Issue Summary This casing is in OPL's test lead program to have leads attached, however, it is not known how long this condition has existed. There are about 97 casings which still need to be evaluated.

Result Notes Near Yelm WA at the Northern Pacific Road crossing, MP 2948+51, 46.949313,-122.594815, 150' casing in did not have test leads or casing vents. OPL was aware and it is on a construction list to add test leads. There are many other casings like this and OPL has a program to dig and add test leads.

20. **Question Result, ID, References** **Concern**, TD.CP.FAULTCURRENT.R, 195.589(c) (195.575(e))

Question Text *Do records document adequate installation and inspection of fault current and lightning protection?*

Assets Covered Unit 925

Result Issue Summary Olympic has experienced ground faults. OPL uses lightning arrestors, grounding, and mag bags at rectifiers and other equipment to protect from ground faults. Future inspections should investigate if additional ground faults have occurred since the last inspection.

Result Notes Olympic has experienced ground faults in Unit 925. OPL operates in location directly under high tension power lines. OPL uses lightning arrestors, grounding, and mag bags at rectifiers and other equipment to protect from ground faults. Watchdog system notifies BP if rectifiers go off-line (due to power surge like ground faults).

Report Parameters: Results: Unsat,Concern

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