US Department of Transportation Pipeline and Hazardous Materials Safety Administration Office of Pipeline Safety

Gas IMP Field Verification Inspection 49 CFR Subparts 192.911, 192.921, 192.933, & 192.935

General Notes:

- 1. This Field Verification Inspection is performed on field activities being performed by an Operator in support of their Integrity Management Program (IMP).
- 2. This is a two part inspection form:
 - i. A review of applicable Operations and Maintenance (O&M) and IMP processes and procedures applicable to the field activity being inspected to ensure the operator is implementing their O&M and IMP Manuals in a consistent manner.
 - ii. A Field Verification Inspection to determine that activities on the pipeline and facilities are being performed in accordance with written procedures or guidance.
- 3. Not all parts of this form may be applicable to a specific Field Verification Inspection, and only those applicable portions of this form need to be completed. The applicable portions are identified in the Table below by a check mark. Only those sections of the form marked immediately below need to be documented as either "Satisfactory"; "Unsatisfactory"; or Not Checked ("N/C"). Those sections not marked below may be left blank.

Operator Inspected:

Puget Sound Energy

Op ID:

22189

Perform Activity	Activity	Activity Description
(denoted by mark)	Number	[발표] [[마음] [[] [[] [[] [[] [[] [[] [[] [[] [[] [
	1A	In-Line Inspection
	1B	Hydrostatic Pressure Testing
X	1C	Direct Assessment Technologies
	1D	Other Assessment Technologies
X	2A	Remedial Actions
X	2B	Remediation – Implementation
	3A	Preventive & Mitigative – additional measures evaluated for HCAs
	3B	Preventive & Mitigative – automatic shut-off valves
X	4A	Field Inspection for Verification of HCA Locations
	4B	Field Inspection for Verification of Anomaly Digs
	4C	Field Inspection to Verify adequacy of the Cathodic Protection
		System
	4D	Field inspection for general system characteristics
	attachment	Anomaly Evaluation Report
,	attachment	Anomaly Repair Report

Gas IMP Field Verification Inspection Form

Name of Operator: Puget Sound Energy

Headquarters Address: PO Box 90868 EST-07W

Bellevue, WA 98009-0868

Company Official:

Bert Valdman

Phone Number:

(425) 462-3193

Fax Number:

(425) 462-3770

Operator ID:

22189

Persons Interviewed	Title	Phone No.	E-Mail
Darryl Hong	Primary Contact	(425) 462-3911	Darryl.hong@pse.com
Alan Mulkey	Consulting Engineer	(425) 462-3889	Alan.mulkey@pse.com

OPS/State Representative(s): Joe Subsits

Date(s) of Inspection: June 29, 2010

Date: July 12, 2010

Inspector Signature: Joe Subsits

Pipeline Segment Descriptions: [note: Description of the Pipeline Segment Inspected as part of this field verification. (If information is available, include the pipe size, wall thickness, grade, seam type, coating type, length, normal operating pressure,

MAOP, %SMYS, HCA locations, class locations, and Pipeline Segment boundaries.)]

2 Miles in Midway

1 Mile in South Seattle

Site Location of field activities: [note: Describe the portion of the pipeline segment reviewed during the field verification, i.e. milepost/stations/valves/pipe-to-soil readings/river crossings/etc. In addition, a brief description and case number of the follow up items in any PHMSA compliance action or consent agreement that required field verification. Note: Complete pages 8 & 9 as appropriate.]

No field work done during visit. Information obtained for checklist was based on PSE records.

Summary:

The East King County unit has three miles of HCA. All HCA's were assessed using direct assessment. One anomaly with damaged pipe was found. This is believed to have resulted from original construction damage. A clock spring was installed though it was not required. PSE was being conservative in their repair work. PSE transmission lines operate at < 30% SMYS.

Findings:

Several anomalies were dug. All but one anomaly was coating damage only. The one instance of pipe damage was a rock dent probably resulting from original construction.

Key Documents Reviewed:

Document Title	Document No.	Rev. No	Date
Rock dent anomaly report			3/25/2010
Repair report			5/26/2010
QA report			6/10/2010
Repair procedure			4/20/2010

Part 1 - Performance of Integrity Assessments

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1A. In-Line Inspection	Satisfactory	Unsatisfactory	N/C	Notes:
Verify that Operator's O&M and IMP procedural				N. Y. Y.
requirements (e.g. launching/receiving tools) for			Х	No ILI
performance of ILI were followed. Verify Operator's ILI procedural requirements were fol	lowed (o a	oneration of t	L	
for launching and receiving of pig, operational control of			гар	
Verify ILI tool systems and calibration checks before ru			ıre	
tool was operating correctly prior to assessment being p				
Verify ILI complied with Operator's procedural require				:
successful assessment (e.g. speed of travel within limits				:
coverage), as appropriate.				
Document ILI Tool Vendor and Tool type (e.g. MFL, D	eformation). Document		
other pertinent information about Vendor and Tool, as a				
Verify that Operator's personnel have access to applicate				
running and monitoring the pipeline for ILI tools include			nts	
(e.g.: tool speeds, pipe cleanliness, operation of tool se	nsors, and I	LI field		[Note: Add location specific
calibration requirements), as appropriate.				information, as appropriate.]
Other:				ingormation, as appropriately
1B. Hydrostatic Pressure Testing	Satisfactory	Unsatisfactory	N/C	No hydrotesting done
Verify that hydrostatic pressure tests complied with				
Part 192 Subpart J requirements.			Х	
Review documentation of Hydrostatic Pressure Test par	rameters and	l results. Ver	ify	
test was performed without leakage and in compliance	with Part 19	2 Subpart J		
requirements.				
Review test procedures and records and verify test acce	ptability and	d validity.		
Review determination of the cause of hydrostatic test fa	ilures, as ap	propriate.		
Document Hydrostatic Pressure Test Vendor and equip	ment used, a	as appropriate		
Verify that the baseline assessment is conducted in a ma		inimizes		
environmental and safety risks (reference §192.919(e) a		inimizes		
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Part 2 - Remediation of Anomalies

2A. Remedial Actions – Process	Satisfactory	Unsatisfactory	N/C	Notes:
Verify that remedial actions complied with the				
Operator's procedural requirements.			Х	
Witness anomaly remediation and verify documentation	n of remedia	tion (e.g.		No anomaly repair work currently being
Exposed Pipe Reports, Maintenance Report, any Data A			ry	done
compliance with Operator's O&M Manual and Part 192	2 requirement	nts.		
Verify that Operator's procedures were followed in loca	ating and ev	nosing the		
anomaly (e.g. any required pressure reductions, line loc				
approximate location of anomaly for excavation, excav				
Verify that procedures were followed in measuring the	anomaly, de	termining the		
severity of the anomaly, and determining remaining stre				
class location factor and failure pressure ratio used by C				
of anomaly.	-	•		Cathodic Protection readings of pipe to
·				soil at dig site (if available):
Verify that Operator's personnel have access to and known	wledge of a	pplicable		On Potential:mV
procedures.				Off Potential:mV
Other	-			[Note: Add location specific information
Other:				and note whether CP readings were from
				the surface or from the pipe following
				exposure, as appropriate.]
D. Domodistica Tambana 44	0-4:-6-4	**************************************	21/0	
B. Remediation - Implementation Verify that the operator has adequately implemented	Satisfactory	Unsatisfactory	N/C	Notes:
ts remediation process and procedures to effectively				Ground gouge out and installed Clock
emediate conditions identified through integrity	х			spring. Only one anomaly had pipe
				damage. The damage was a dent/gouge
SSESSIBERTS OF INTOFINATION ANALYSIS.				
	ompleted in	accordance w	ith	
If documentation is available, verify that repairs were co			ith	which resulted from rock impingement.
If documentation is available, verify that repairs were conthe operator's prioritized schedule and within the time f			rith	which resulted from rock impingement.
If documentation is available, verify that repairs were conthe operator's prioritized schedule and within the time f §192.933(d).	rames allow	ed in		which resulted from rock impingement.
If documentation is available, verify that repairs were continuously the operator's prioritized schedule and within the time for §192.933(d). Review any documentation for this inspection site for an experimental statement of the statement of t	rames allow	red in		which resulted from rock impingement.
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	On Potential: mV
	Off Potential:mV
Other:	
	[Note: Add location specific information
	and note whether CP readings were from
	the surface or from the pipe following
	exposure, as appropriate.]

Part 3 - Preventive and Mitigative Actions

3A D&M Massayes for Third Party Damage	Satisfactory	Unsatisfactory	N/C	Notes:
3A. P&M Measures for Third Party Damage Identify additional measures evaluated for the HCA	Satisfactory	Olisatisfactory	N/C	More frequent patrols at HCA's, On site
section of the pipeline and facilities.	х			inspection required during construction
Verify that P & M measures regarding threats due to thi	rd party dar	nage are hein	Or .	work near proximity of the pipeline.
implemented: [§192.915(c), §192.935(b)(1)(iv)]:	ra party dar	nage are being	5	work near proximity of the pipeline.
implemented: [3172.715(0), 3172.755(0)(1)(17)].				
Confirm the use of qualified personnel for marking, local	ating, and d	irect supervisi	on	
of known excavation work, as appropriate.				
· · · · · · · · · · · · · · · · · · ·				
Confirm the use of qualified personnel for monitoring o	f excavation	ns conducted o	on	
covered pipeline segments by pipeline personnel, as app	ropriate.			
Other:				
				-
				[Note: Add location specific information,
				as appropriate.]
2D Tradalla I Andrew di Chad acceptation	PIRT TUTO			[조건경력 발발생인일 환경 호텔 (A.) - ()
3B. Installed Automatic Shut-off Valves (Protocol H.07)	Satisfactory	Unsatisfactory	N/C	Notes:
Verify additional preventive and mitigative actions	-		\dashv	Not done, about three miles of pipe is
implemented by Operator.	x			affected
Document that additional measures evaluated by the ope	erator cover	alternatives	$\overline{}$	
such as, installing Automatic Shut-off Valves or Remot			ng	•
computerized monitoring and leak detection systems, re				
pipe of heavier wall thickness, providing additional train				
response procedures, conducting drills with local emerg	ency respor	iders and	ŀ	
implementing additional inspection and maintenance pr				•
Verify that the operator has a process to decide if autom				
remote control valves represent an efficient means of ad		tion to		
potentially affected high consequence areas. [§192.935(c)]			
Varification of installed named control colors.		4		
Verify operation of installed remote control valve by re- inspection/remote control records for partially opening a			:	
appropriate.	ind closing	tile valve, as	:	
арргориасс.				
Other:				
				
				[Note: Add location specific information,
				as appropriate.]
				

Part 4 - Field Investigations (Additional Activities as appropriate)

A. Field Inspection for Verification of HCA Locations Review HCAs locations as identified by the Operator. Utilize NPMS and Operator maps, as appropriate. Verify that the operator's integrity management progra updated system maps or other suitably detailed means segment locations that are located in high consequence [§192.905(a)]	x m includes a	Unsatisfactory		
Review HCAs locations as identified by the Operator. Utilize NPMS and Operator maps, as appropriate. Verify that the operator's integrity management progra updated system maps or other suitably detailed means segment locations that are located in high consequence [§192.905(a)]	x m includes a	Chibatiblactory	N/C	Notes:
Verify that the operator's integrity management progra updated system maps or other suitably detailed means segment locations that are located in high consequence [§192.905(a)]	_ m includes a		1,,0	
updated system maps or other suitably detailed means segment locations that are located in high consequence [§192.905(a)]				
updated system maps or other suitably detailed means segment locations that are located in high consequence [§192.905(a)]		ccurate and		HCA s evaluated with data collected
[§192.905(a)]		the pipeline		during patrols
	areas, as ap	propriate.		•
Review the operator's applicable procedures and forms			. 1	
information from one-calls, surveys, aerial & ground p field personnel to communicate new developments that			ру	
consequence areas or that may create new high conseq			el	·
as appropriate. [§192.905(c)]		o x persona.	·.,	
Review the operator's applicable procedures and form				
and class location changes are being identified through	it's continui	ing surveilland	ce	Mata. Add la antinu an anifo information
program as required by §192.613 and §192.905.				[Note: Add location specific information, as appropriate.]
B. Field Inspection for Verification of Anomaly Digs	Satisfactory	Unsatisfactory	N/C	Notes:
verify repair areas, ILI verification sites, etc.			х	No ILI performed
Document the anomaly dig sites observed and reviewe	d as part of t	his field activ	ity	[Note: Add location specific information, as appropriate.]
and the actions taken by the operator.				as appropriate.j
C. Field Inspection to Verify adequacy of the	Tana		24/0	Notes:
Cathodic Protection System	Satisfactory	Unsatisfactory	N/C	
n case of hydrostatic pressure testing, Cathodic				
rotection (CP) systems must be evaluated for general			Х	No hydrotesting performed
dequacy.		,1		·
The operator should review the CP system performanc hydrostatic pressure test to ensure the integrity assessm				
threats to the integrity of the pipeline. Has the operato				
performance in conjunction with the hydrostatic pressu		ic or system		
		nsure minimu	m	Cathodic Protection readings of pipe to
Review records of CP readings from C15 and/or annua	•			soil at dig site (if available):
Review records of CP readings from CIS and/or annua code requirements are being met, if available.				
				On Potential:mV
code requirements are being met, if available.				Off Potential: mV Off Potential: mV
code requirements are being met, if available. Review results of random field CP readings performed				Off Potential:mV
Review results of random field CP readings performed minimum code requirements are being met, if possible	. Perform ra	ndom rectifier	ŗ	Off Potential: mV [Note: Add location specific information
code requirements are being met, if available. Review results of random field CP readings performed	. Perform ra	ndom rectifier	ŗ	Off Potential: mV [Note: Add location specific information and note whether CP readings were from
Review results of random field CP readings performed minimum code requirements are being met, if possible	. Perform ra	ndom rectifier	ŗ	Off Potential: mV [Note: Add location specific information
Review results of random field CP readings performed minimum code requirements are being met, if possible checks during this activity and ensure rectifiers are ope	. Perform ra	ndom rectifier	ŗ	Off Potential:mV [Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]
Review results of random field CP readings performed minimum code requirements are being met, if possible	Perform ra	ndom rectifier	e.	Off Potential: mV [Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.] Pipe appeared in good shape, one pipe anomaly noted and probably resulted
Review results of random field CP readings performed minimum code requirements are being met, if possible checks during this activity and ensure rectifiers are open. D. Field inspection for general system characteristics	Perform ra	ndom rectifier	e.	Off Potential: mV [Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.] Pipe appeared in good shape, one pipe anomaly noted and probably resulted from original construction. All other
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code requirements are being met, if available.	dimin c 41.5			

Anomaly Evaluation Report (to be completed as appropriate)

Pipeline System and Line	e Pine Information
Operator (OpID and System Name): 22189	or a per a matter
Unit ID (Pipeline Name) King County East	
Pipe Manufacturer and Year: 1968	Seam Type and Orientation:
Pipe Nominal OD (inch):16-inch	Depth of Cover:
Pipe Nominal Wall thickness (inch): .219-inch	<u> </u>
Grade of Pipe: x-42	Coating Type and Condition: coal tar MAOP:306 psig
ILI Reported Info	the same and the s
ILI Technology (e.g., Vendor, Tools):	mation IVA
Anomaly Type (e.g., Mechanical, Metal Loss):	-
Is anomaly in a segment that can affect an HCA? (Yes / No)
	nspection Report (MM/DD/YY):
Date of "Discovery of Anomaly" (MM/DD/YY):	
Type of "Condition" (e.g.; Immediate; 60-day; 180-day):	
	(O'clock position):
Anomaly Details: Length (in): Width (in):	Depth (in):
Anomaly Log Distance (ft): Distance from the Dis	om Upstream weld (ft):
Length of joint(s) of pipe in which anomaly is identified (ft):
Anomaly Dig Site Informa	Y
Date of Anomaly Dig (MM/DD/YY):	,
Location Information (describe or attach map):	
	om A/G Reference (ft):
Distance from Upstream weld (ft):	
GPS Readings (if available) Longitude:	Latitude:
Anomaly Feature (Int/Ext): Orientation	:
Length of joint of pipe in which anomaly is found (ft):	
For Mechanical Dan	nage Anomaly
Damage Type (e.g., original construction, plain dent, gouge	
	5-inch Depth (in): .187-inch
Near a weld? (Yes / No): No	
Gouge or metal loss associated with dent? (Yes / No): No	Are multiple dents present? (Yes / No): No
Did operator perform additional NDE to evaluate presence	······································
Cracks associated with dent? (Yes / No): No	
For Corrosion Metal Lo	oss Anomaly N/A
Anomaly Type (e.g., pitting, general):	
Length (in): Width (in):	Max. Depth (in):
	num % Wall Loss measurement(%):
Safe pressure calculation (psi), as appropriate:	
For "Other Types" of	Anomalies N/A
Describe anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss, crack, seam describes anomaly (e.g., dent with metal loss).	
Length (in): Width (in):	Max. Depth (in):
Other Information, as appropriate:	
Did operator perform additional NDE to evaluate presence	of cracks? (Yes / No):
Cracks present? (Yes / No):	

Anomaly Repair Report (to be completed as appropriate)

Repair Information
Was a repair of the anomaly made? (Yes / No): Yes
Was Operating Pressure Reduced per 192.933(a) requirements? N/A
Was defect ground out to eliminate need for repair? (Yes / No): No
If grinding used, complete the following for affected area: N/A
Length (in): Depth (in):
If NO repair of an anomaly for which RSTRENG/B31.G is applicable, were the Operator's RSTRENG/B31.G
calculations reviewed? (Yes / No): N/A
If Repair made, complete the following:
Repair Type (e.g., Type B-sleeve, composite wrap) Clock spring
Was defect ground out prior to making repair? (Yes / No): N/A
Operating Pressure at the time of repair: reduced from 306 psig
Length of Repair: Pipe re-coating material used:
Comments on Repair material, as appropriate (e.g., grade of steel, wall thickness):
Comments on Repair procedure, as appropriate (e.g., welded sleeve, composite wrap): Clock Spring
General Observations and Comments N/A
Was a diagram (e.g., corrosion map) of the anomaly made? (Yes / No): (Include in report if available)
Were pipe-to-soil cathodic protection readings taken? (Yes / No):
were pipe-to-son camouic protection readings taken? (res / No).
If CP readings taken, Record: On Potential: mV; Off Potential: mV
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