

**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 (denoted by mark)	Activity Number	Activity Description
	1A	In-Line Inspection
	1B	Hydrostatic Pressure Testing
x	1C	Direct Assessment Technologies
	1D	Other Assessment Technologies
	2A	Remedial Actions
	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 - Snohomish District

<p>Headquarters Address: Puget Sound Energy PO Box 90868 MS EST07W Bellevue, Wa 98009-0869</p> <p>Company Official: Bert Valdman</p> <p>Phone Number: 425-462-3193</p> <p>Fax Number: 425-462-3770</p> <p>Operator ID: 22189</p>
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Persons Interviewed	Title	Phone No.	E-Mail
Darryl Hong	Primary Contact	(425) 462-3911	
Steve Schueneman	Consulting Engineer	425-766-5577	
Alan Mulkey	Consulting Engineer	(425) 462-3889	

OPS/State Representative(s): Joe Subsits and Dave Cullom **Date(s) of Inspection:** August 16-18th and 23-25th

Inspector Signature: Joe Subsits, WUTC

Date: 9/10/2010

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.)]*

There is 7648 feet of HCA piping in the Snohomish District.

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:

There is 7648 feet of HCA piping in the Snohomish District. Direct Assessment was performed using CIS and DCVG. Casings were filled with water to facilitate the analyses of the encased pipe.

Findings:

The casings that were filled with water allowed the CIS and DCVG technologies to work properly in the areas being tested. No anomalies were found. The casings were then cut out to visually confirm the accuracy of their readings.

Key Documents Reviewed:

Document Title	Document No.	Rev. No	Date
ECDA Feasibility Analysis Reports			06-24-2009
CIS & DCVG Study			
Casing Evaluation			

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.			x	<p>N/A no anomalies, all pipe above – 850 mV criteria. Schedule to be re-done in 20 years.</p> <p>Cathodic Protection readings of pipe to soil at dig site (if available): On Potential: _____ mV Off Potential: _____ mV</p> <p><i>[Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</i></p>
Witness anomaly remediation and verify documentation of remediation (e.g. Exposed Pipe Reports, Maintenance Report, any Data Acquisition Forms). Verify compliance with Operator’s O&M Manual and Part 192 requirements.				
Verify that Operator’s procedures were followed in locating and exposing the anomaly (e.g. any required pressure reductions, line location, identifying approximate location of anomaly for excavation, excavation, coating removal).				
Verify that procedures were followed in measuring the anomaly, determining the severity of the anomaly, and determining remaining strength of the pipe. Review the class location factor and failure pressure ratio used by Operator in determining repair of anomaly.				
Verify that Operator’s personnel have access to and knowledge of applicable procedures.				
Other:				
2B. Remediation - Implementation	Satisfactory	Unsatisfactory	N/C	Notes:
Verify that the operator has adequately implemented its remediation process and procedures to effectively remediate conditions identified through integrity assessments or information analysis.			x	<p>Integrity Management group at PSE was recently formed to implement the IMP and DIMP programs.</p> <p>No repairs as no anomalies were found</p> <p>Cathodic Protection readings of pipe to soil at dig site (if available): On Potential: _____ mV</p>
If documentation is available, verify that repairs were completed in accordance with the operator’s prioritized schedule and within the time frames allowed in §192.933(d).				
Review any documentation for this inspection site for an immediate repair condition (§192.933(d)(1)) where operating pressure was reduced or the pipeline was shutdown. Verify for an immediate repair condition that temporary operating pressure was determined in accordance with the requirements in §192.933(a) or, if not applicable, the operator should provide an engineering basis justifying the amount of pressure reduction.				
Verify that repairs were performed in accordance with §192.103, §192.111, §192.713, §192.717, §192.719, §192.933 and the Operator’s O&M Manual, as appropriate. If welding is performed, verify a qualified welding procedure and qualified welders are used to perform repairs. If composite repair methods are used, verify that a method approved by the Operator is used, procedures are followed, and qualified personnel perform the repair.				
Review CP readings at anomaly dig site, if possible. (See Part 4 of this form – “Field Inspection to Verify adequacy of the Cathodic Protection System”, as appropriate.				

Other:	Off Potential: _____ mV <i>[Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</i>
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Part 3 - Preventive and Mitigative Actions

3A. P&M Measures for Third Party Damage	Satisfactory	Unsatisfactory	N/C	Notes:
Identify additional measures evaluated for the HCA section of the pipeline and facilities.	x			<p>More frequent patrols at HCA's. On site inspection is required during construction work near proximity of the pipeline</p> <p><i>[Note: Add location specific information, as appropriate.]</i></p>
Verify that P & M measures regarding threats due to third party damage are being implemented: [§192.915(c), §192.935(b)(1)(iv)]:				
Confirm the use of qualified personnel for marking, locating, and direct supervision of known excavation work, as appropriate.				
Confirm the use of qualified personnel for monitoring of excavations conducted on covered pipeline segments by pipeline personnel, as appropriate.				
Other:				
3B. Installed Automatic Shut-off Valves (Protocol H.07)	Satisfactory	Unsatisfactory	N/C	Notes:
Verify additional preventive and mitigative actions implemented by Operator.	x			<p>Not done, about 1.5 miles of pipe is affected</p> <p><i>[Note: Add location specific information, as appropriate.]</i></p>
Document that additional measures evaluated by the operator cover alternatives such as, installing Automatic Shut-off Valves or Remote Control Valves, installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders and implementing additional inspection and maintenance programs, as appropriate				
Verify that the operator has a process to decide if automatic shut-off valves or remote control valves represent an efficient means of adding protection to potentially affected high consequence areas. [§192.935(c)]				
Verify operation of installed remote control valve by reviewing operator inspection/remote control records for partially opening and closing the valve, as appropriate.				
Other:				

Anomaly Evaluation Report *(to be completed as appropriate)*

No Anomalies Found

Pipeline System and Line Pipe Information	
Operator (OpID and System Name):	
Unit ID (Pipeline Name)	
Pipe Manufacturer and Year:	Seam Type and Orientation:
Pipe Nominal OD (inch):	Depth of Cover:
Pipe Nominal Wall thickness (inch):	Coating Type and Condition:
Grade of Pipe:	MAOP:
ILI Reported Information	
ILI Technology (e.g., Vendor, Tools):	
Anomaly Type (e.g., Mechanical, Metal Loss):	
Is anomaly in a segment that can affect an HCA? (Yes / No)	
Date of Tool Run (MM/DD/YY):	Date of Inspection Report (MM/DD/YY):
Date of "Discovery of Anomaly" (MM/DD/YY):	
Type of "Condition" (e.g.; Immediate; 60-day; 180-day):	
Anomaly Feature (Int/Ext):	Orientation (O'clock position):
Anomaly Details: Length (in):	Width (in): Depth (in):
Anomaly Log Distance (ft):	Distance from Upstream weld (ft):
Length of joint(s) of pipe in which anomaly is identified (ft):	
Anomaly Dig Site Information Summary	
Date of Anomaly Dig (MM/DD/YY):	
Location Information (describe or attach map):	
Mile Post Number:	Distance from 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 Damage Anomaly	
Damage Type (e.g., original construction, plain dent, gouge):	
Length (in):	Width (in): Depth (in):
Near a weld? (Yes / No):	
Gouge or metal loss associated with dent? (Yes / No):	Are multiple dents present? (Yes / No):
Did operator perform additional NDE to evaluate presence of cracks in dent? (Yes / No):	
Cracks associated with dent? (Yes / No):	
For Corrosion Metal Loss Anomaly	
Anomaly Type (e.g., pitting, general):	
Length (in):	Width (in): Max. Depth (in):
Remaining minimum wall thickness (in):	Maximum % Wall Loss measurement(%):
Safe pressure calculation (psi), as appropriate:	
For "Other Types" of Anomalies	
Describe anomaly (e.g., dent with metal loss, crack, seam defect, SCC):	
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):		
Was Operating Pressure Reduced per 192.933(a) requirements?		
Was defect ground out to eliminate need for repair? (Yes / No):		
If grinding used, complete the following for affected area:		
Length (in):	Width (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):		
If Repair made, complete the following:		
Repair Type (e.g., Type B-sleeve, composite wrap)		
Was defect ground out prior to making repair? (Yes / No):		
Operating Pressure at the time of repair:		
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):		
General Observations and Comments		
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):		
If CP readings taken, Record: On Potential: _____ mV; Off Potential: _____ mV		
<i>[Note: Note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</i>		
Describe method used by Operator to locate anomaly (as appropriate):		
Comments regarding procedures followed during excavation, repair of anomaly, and backfill (as appropriate):		
General Observations and Comments <i>(Note: attach photographs, sketches, etc., as appropriate)</i> :		