# POST INSPECTION MEMORANDUM

**Inspector:** Al Jones/WUTC
**Reviewed:** Joe Subsits /WUTC
**Follow-Up Enforcement:** No Violation
PCP* PCO* NOA WL LOC
**Director Approval*** _____

**Date:** 6/7/2011

**Operator Inspected:** **OPID:** 31522 **Region:** Western
Kelso-Beaver Pipeline Company
Portland General Electric
121 SW Salmon Street
Portland, Oregon 97204

**Unit Address:**
Portland General Electric
Beaver Generating Plant
80997 Kallunki Road
Clatskanie, Oregon 97016

**Unit Inspected:** Washington portion of pipeline **Unit ID:** 9775
**Unit Type:** Interstate Gas
**Inspection Type:** 107-UTC IMP Verification Inspection
**Record Location: Beaver, OR.**
**Inspection Dates:** May 25, 2011
**AFOD:** 1
**SMART Activity Number:**

**Operator Contact:** Bob Cosentino, Principal Consultant
**Phone:** (360) 200-4959 **Fax:** (530) 527-7176 **Emergency:** (800) 433-0252

**Unit Description:**
The Kelso-Beaver (KB) Pipeline is located in Cowlitz County, Washington. KB Pipeline takes delivery of natural gas from the Williams Northwest Pipeline meter station located east of Kelso, Washington and extends west approximately 18 miles to Columbia County, Oregon. The pipeline crosses under the Columbia River north of the City of Longview, Washington. The pipeline is a 20-inch diameter, API 5L grade X52 material, with a nominal wall thickness of 0.281, 0.344, and 0.375-inches. The pipeline is jointly owned by Portland General Electric (PGE), U.S. Gypsum Company, and Northwest Natural Gas (NWN). The KB Pipeline has two customers located in Oregon at the PGE's Beaver generating station and U.S. Gypsum near Rainier, Oregon.

**Facilities Inspected:**
Reviewed summary reports for inline inspection for the KB Pipeline in Washington and documentation for pipe anomaly repairs at PGE facility in Beaver, Oregon.

**Persons Interviewed:**
Bob Cosentino,Compliance (360)-200-4959

**Probable Violations/Concerns:** No Probable violations identified.

**Follow up on the history of prior offenses that are still open:**

| Prior Offenses (for the past 5 years) | | |
|---|---|---|
| **CPF #** | **What type of open enforcement action(s)?** | **Status of the regulations(s) violated (Reoccurrence Offenses, Implement a NOA Revision, Completion of PCO or CO, and etc...)** |
| | | |
| | | |

**Recommendations:**

Maintain normal inspection cycle. Staff recommends preventive and mitigative measures identified in the consultant's report for anomaly evaluation in Exhibits "A" and "B." As of this date, a schedule for field evaluate has not been determined.

Two anomalies of particular interest are:

1. A possible partial through-wall hole identified as "S8." The ILI singles are similar to the through-wall anomaly that was evaluated in November 2010. Anomaly "S8" is located at the 1:00 o'clock position, near the long seam, 0.281" wall thickness, with about 28% metal loss.
2. A second anomaly identified "S6" as a plain unrestrained dent (<6% of outside diameter or 1.08") with no metal loss has one residence located within the PIR. The dent is at 6:00 o'clock position, 0.344" wall thickness, and identified with metal in close proximity to the pipe. The pipe is located in a rock trench wrapped with two layers of rock shield.

**Comments:**
None

**Attachments:**
PHMSA Form 16 - Gas IMP Field Verification Inspection
Form I – UTC IMP Verification Form
Exhibit A - Cosentino Consulting Recommendations
Exhibit B - Cosentino Consulting Recommendation Summary

Version Date: 5/5/08

**Exhibit "A"**

## RECOMMENDATIONS

See the following page for a matrix summarizing the recommendations.

1. Perform a direct assessment of anomaly S8 to determine its nature and confirm the collected data.

2. Perform direct assessments of anomaly S11 to determine its nature and confirm its geometry against the collected data.

3. Perform direct assessments of anomaly S21 to determine its nature and confirm its geometry against the collected data.

4. Perform direct assessments of S5, S10, and S9 to determine the nature of the anomaly. Based on the very similar signatures of these anomalies, the possibility exists that their cause may be the same. After direct examination of the initial anomaly, it may be discovered these indications represent an artifact remaining form manufacturing or pipe handling. If this is the case, no further examination of this family of anomalies may be necessary.

5. Due to the high probability that dent S6 is restrained with no associated metal loss, and low strain level, the following two recommendations are made. Cosentino Consulting believes both recommendations comply with PHMSA codes for facilities not under integrity management requirements. The ultimate selection will depend on the KB owners comparing the relative risk of performing a direct assessment versus regular monitoring.

    a. Perform a direct assessment of S6. This option carries with it significant excavation difficulty due to a high likelihood of narrow rock wall trenches. This type of excavation poses a risk of further damage to the carrier pipe could occur since due to the large amount of rock removal necessary. Should repairs be necessary, an even greater amount of rock removal will be necessary to provide the needed access and workspace to reach the bottom of the carrier pipe.

    b. Perform a bi-yearly voltage gradient survey (DCVG) of the area to monitor the anomaly for changes in cathodic protection requirements. In addition, perform a bi-yearly Flame Ionization Detector (FID) survey of the area to monitor for incipient leaks.

**Exhibit "B"**

Recommendation summary;

| Anomaly | Type | Metal loss present ? | Sharp due to L/D ratio ? | Foreign metal in close proximity ? | In upper 2/3 of carrier pipe ? | Effects a long seam or girth weld? | Exceeds mill tolerance for dents ? | Rank, 1=soonest | Direct Assess ? |
|---|---|---|---|---|---|---|---|---|---|
| S1 | dent | no | no | no | yes | no | no | | |
| S2 | dent | no | no | no | yes | no | no | | |
| S3 | dent | no | no | no | no | no | no | | |
| S4 | dent | no | no | no | no | no | no | | |
| S5 | metal loss | yes | no | no | no | yes | no | 3 | yes*** |
| S6 | dent | no | yes | yes | no | no | no | 2 | possibly** |
| S7 | metal loss | yes | no | no | no | no | no | | |
| S8 | metal loss | yes | no | no | no | yes | no | 1 | yes |
| S9 | metal loss | yes | no | no | no | yes | no | 3 | yes*** |
| S10 | metal loss | yes | no | no | no | yes | no | 3 | yes*** |
| S11 | dent | no | yes | no | yes | no | yes | 4 | yes |
| S12 | dent | no | no | no | no | no | no | | |
| S13 | dent | no | no | no | yes | no | no | | |
| S14 | dent | no | no | no | yes | no | no | | |
| S15 | dent | no | no | no | no | no | no | | |
| S16 | dent | no | no | no | yes | no | no | | |
| S17 | dent | no | no | no | no | no | no | | |
| S18 | dent | no | no | no | no | no | no | | |
| S19 | dent | no | no | no | yes | no | no | | |
| S20 | dent | no | no | no | no | no | no | | |
| S21 | dent | no | yes* | no | yes | no | yes | 5 | yes |
| S22 | metal loss | yes | no | no | no | no | no | | |
| S23 | dent | no | no | no | yes | no | no | | |

*S21 L/D ratio is 20.88 Limit to be considered sharp is 20 or less.

**See discussion in recommendations section for alternatives.

***See discussion in recommendations section regarding proceeding after initial direct examination.