



Puget Sound Energy, Inc.  
P.O. Box 90868  
Bellevue, WA 98009-0868

April 16, 2007

Carole J. Washburn, Secretary  
Washington Utilities and Transportation Commission  
P.O. Box 47250  
Olympia, WA 98504-7250

Attn: Alan Rathbun

**RE: South Tacoma Gate Station Odorizer Uprate/PSE Work Order 109017034**

Dear Mr. Rathbun:

Pursuant to WAC 480-93-155, Puget Sound Energy (PSE) is submitting a written plan for uprating the South Tacoma Gate Station (#1352) Odorizer. The odorizer is being uprated from 566 psig to 960 psig.

If you require any additional information, please contact me at (425) 462-3748.

Sincerely,

A handwritten signature in cursive script that reads 'Kaaren Daugherty'.

Kaaren Daugherty, PE  
Consulting Engineer, Standards and Compliance

Enclosures

cc: Kimberly Harris  
Karl Karzmar  
Sue McLain  
Duane Henderson  
Jim Hogan

RECEIVED  
APR 17 2007  
WAC UTILITIES COMM



South Tacoma Odorizer Uprate, RS-1352  
Order: 109017034

List of Enclosures:

- 1 – Written Plan Procedure, dated 2-22-07
  - A –
    - 1. HP Main Review Form
    - 2. HP Main Component Review Form
    - 3. Regulator Station Review Form
    - 4. HP Service Review Form
    - 5. System Valve Review Form
    - 6. MAOP's of Connecting Systems and Facilities
    - 7. Material Specification Form
    - 8. Preliminary Field Work Form
  - B - Original Redline drawing, 3D-865, Five sheets
  - C -
    - 1. Test Procedure, dated 9/12/05
    - 2. Report of Pressure Test, dated 10/18/05
  - D - Operating Pressure History Form
  - E - System Records Review – Cathodic Protection Report, dated 1/16/07
  - F - Records of original welding standards and welders – N/A
  - G - Maintenance Records of affected Regulator Stations and Relief Valves – N/A
  - H - Relief Valve Capacities – N/A
  - I - Leak Records – See Section E



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Olympia, WA 98504-7250  
Attn: Alan Rathbun

RECEIVED  
RECORDS MANAGEMENT  
07 APR 17 AM 8:22  
STATE OF WASH.  
UTIL. AND TRANSP.  
COMMISSION

RE: South Tacoma Odorizer (RS-1352) Pressure Authorization

Dear Mr. Rathbun:

Pursuant to WAC 480-93-020, Puget Sound Energy (PSE) requests approval to operate the existing odorizer located at the South Tacoma Gate Station at a pressure exceeding 500 psig. The odorizer is located at the beginning of 8" South Tacoma Lateral that is owned and operated by Williams Northwest Pipeline (WNWP).


The odorizer was designed for an MAOP of 960 psig and all station components are rated to at least 960 psig. The station piping was originally tested to 850 psig and then retested to 1490 psig on October 18, 2005. PSE proposes to operate the activation gas side of the odorizer at a MAOP of 960 psig (MAOP of WNWP's mainline), and the injection side of the odorizer at a MOP of 562 psig (the MAOP of WNWP's lateral). The odorizer will operate at less than 20% SMYS at an MAOP of 960 psig.

This facility exceeds the minimum federal safety regulations in the following design, operation and maintenance areas:

- **Class Location** – the design and construction specifications meet or exceed the requirements for Class 4 location even though the land parcel is situated in a Class 3 location. (192.5)
- **Design Factor** – the design factor of the odorizer is 0.2, exceeding the 0.40 factor for a Class 4 location. (192.111)

Exhibit B provides additional information regarding the design, construction, operation and maintenance of this facility. If you require any additional information, please call me at (425) 462-3748.

Sincerely,

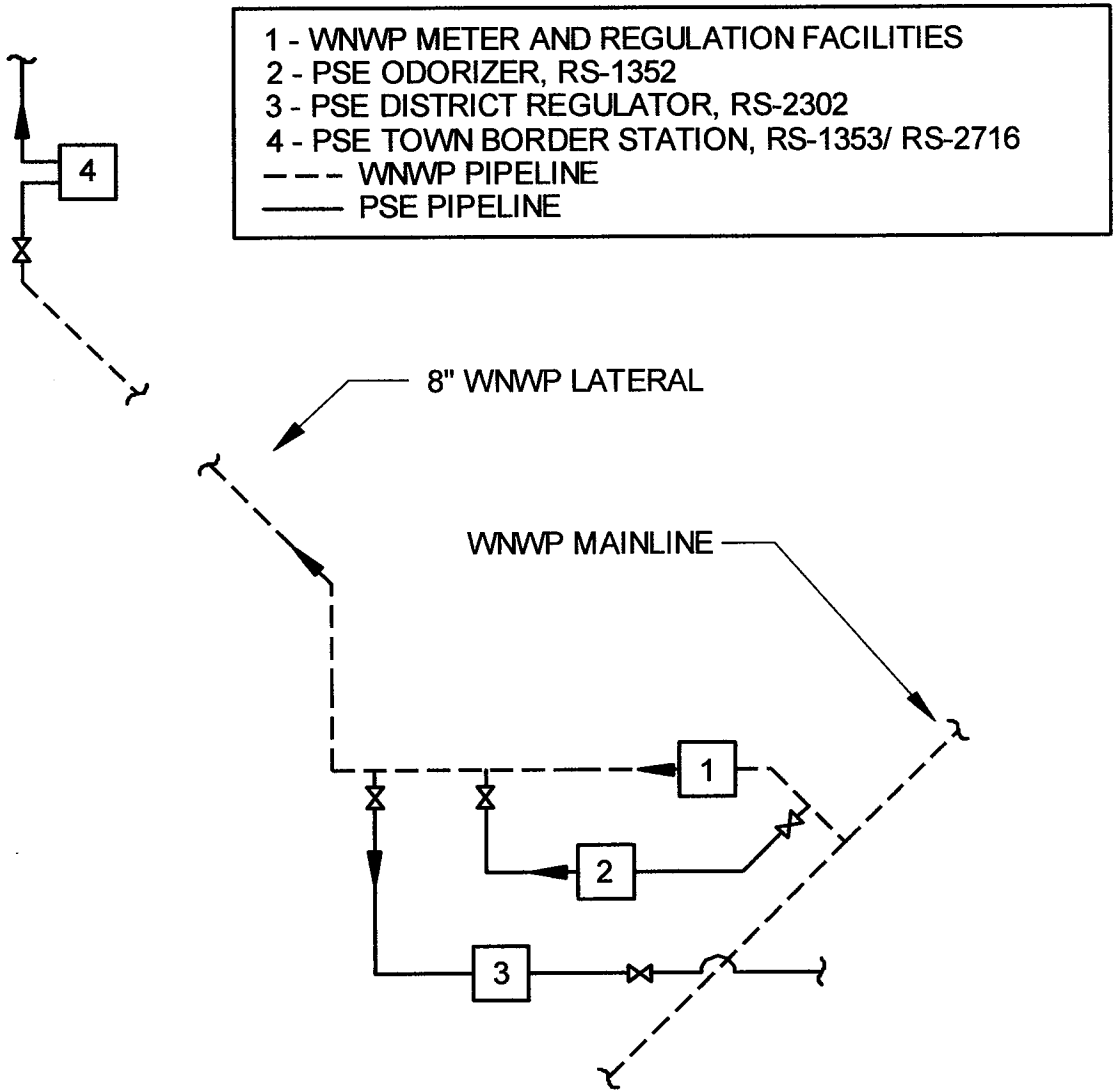
A handwritten signature in cursive script that reads "Kaaren Daugherty".

**Kaaren Daugherty, PE**  
Consulting Engineer – Standards and Compliance

**Attachment**

cc: Kimberly Harris  
Karl Karzmar  
Sue McLain  
Duane Henderson  
Jim Hogan

**Exhibit A**  
**South Tacoma Gate Station, Lateral and Town Border Station Schematic**



**SCHEMATIC A**  
**S TACOMA LATERAL AND FACILITIES**

## **Exhibit B - GENERAL INFORMATION**

### **South Tacoma Lateral**

#### **Background:**

For capacity reasons, PSE is requesting Williams NW Pipeline (WNWP) to increase their operating pressure on the 8" South Tacoma Lateral from 458 psig to 562 psig. PSE has three facilities on the 8" lateral. An odorizer (RS-1352) and District Regulator (RS-2302) co-located with the South Tacoma Gate Station operated by Williams NW Pipeline, at the 6100 block of 176<sup>th</sup> ST E, Puyallup, and the Town Border Station (TBS) at the terminus of the lateral, at 13311 Chesney Rd, Puyallup.

The activation gas side of the odorizer is tied into WNWP's facilities upstream of their regulation and therefore requires an MAOP of 960 psig. This is equivalent to the MAOP of WNWP's mainline. All odorizer equipment (activation and injection sides) was designed and tested for an MAOP of 960 psig and is below a 0.2 design factor at 960 psig.

#### **Scope:**

The piping included in this request includes all piping associated with the odorizer (RS-1352) located at the gate station. The pressure authorization request for the District Regulator (RS-2302) will be submitted separately. The pressure authorization for the TBS was received under Docket PG-061768.

#### **Proximity Survey:**

The odorizer is located in the Puyallup area at the 6100 block of 176<sup>th</sup> St. E in Puyallup, Washington. A tax parcel review of the area within 500 feet of the existing station fenceline was conducted. There are no well-defined areas where buildings with four or more stories aboveground are prevalent. The closest public right of way to PSE's facilities is approximately 275 feet. The zoning for this station is Employment Center. Information on tax parcels and buildings intended for human occupancy within 500 feet of the existing fence surrounding the station is presented in Exhibit C. This site is classified as a Class 3 Location.

#### **Design Specifications:**

The odorizer has been designed, constructed, and operated in accordance with the requirements for Class 4 locations. The piping layout and configuration is typical of an odorizer on property owned by PSE. All of the piping is on either PSE or WNWP property and located within a secure fence enclosure.

**Operating Pressures:**

The odorizer receives unregulated gas from WNWP at a pressure up to 960 psig. The odorizer then injects into the lateral at a pressure not to exceed 562 psig. The Maximum Operating Pressures, as determined by this application, are 960 psig and 562 psig for the inlet (activation) and outlet (injection) respectively.

**Pipe and Fitting Specifications:**

The pipe and fitting specifications with the corresponding percentage of specified minimum yield strength at MAOP and at MOP is shown in the table below.

Material Specification to the odorizer	% SMYS @ MAOP (960 psig)	% SMYS @ Normal Operating Pressure (960 psig)
Pipe: 3/4" x .113 Grade B	12.75	12.75
Weld Fittings 3/4" x .113" Grade B	12.75	12.75

Material Specification from the odorizer to the injection point	% SMYS @ MAOP (960 psig)	% SMYS @ Normal Operating Pressure (562 psig)
Pipe: 3/4" x .113 Grade B	12.75	7.47
Weld Fittings 3/4" x .113" Grade B	12.75	7.47

All welded branch connections (i.e. purges and blow downs) have sufficient reinforcement not to increase the stress level of the pipe. All other pipeline components (valves, regulators, strainers, etc.) have a working pressure rating of at least 960 psig for the odorizer.

**Cathodic Protection:**

The cathodic protection is provided by a galvanic system. The system is monitored and maintained in accordance with the requirements of section 2600 of the PSE Gas Operating Standards. The following standards are applicable to the odorizer:

- 2600.1000 Cathodic Protection Requirements
- 2600.1200 Test Station Requirements
- 2600.1300 Designing and Installing Cathodic Protection Systems
- 2600.1400 Electrical Isolation and Grounding Requirements
- 2600.1500 Monitoring Cathodic Protection
- 2600.1900 Remedial Measures for Corrosion Control

**Pressure Testing:**

The odorizer was tested to 1490 psig. All testing was done in accordance with PSE Gas Operating Standard 2525.3300 and in accordance with the approved procedure.

**Operation and Maintenance:**

**Damage Prevention:**

Pipeline facility warning signs are installed and monitored in accordance with PSE Gas Operating Standards 2525.2500 and 2575.1100. PSE is an active member in the local One-Call System and works closely with the local municipalities and permitting agencies prior to any construction starting in the vicinity of its facilities. In addition, it is PSE standard practice to monitor construction work taking place in the vicinity of its high pressure odorizers and regulating stations. These facilities are expected to be at low risk from third party damage since they will be enclosed within a fence and located on property owned by either WNWP or PSE.

**Leakage Surveys:**

Leakage surveys are conducted annually in accordance with PSE Operating Standard 2625.1100 and PSE Gas Field Procedure 4700.1600.

**Pressure Monitoring:**

Remote telemetry units (RTU) monitor the pressures in the system. The RTU polls system pressures every 3 seconds. The pressure will be monitored 24-hours a day in PSE's 24-Hour Operations Center.



Exhibit C – Addresses, Land Use, and Distance of Structures from South Tacoma Town Border Station

#	Distance (feet) of Structure from Station fencing	Address	City	State, Zip	Land Use	Zoning
1	382	6114 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER
2	409	6118 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER
3	427	5915 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	COMMERCIAL/RESIDENTIAL	EMPLOYMENT CENTER
4	472	6003 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER
5	338	5918 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER
6	209	6024 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER
7	144	6024 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER
8	103	6024 176TH ST E	PUYALLUP/SOUTH HILL	WA, 98375	RESIDENTIAL	EMPLOYMENT CENTER