



September 16, 2004

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

Attn: Alan Rathbun

RE: Black Diamond Gate Station Pressure Authorization

Dear Mr. Rathbun:

Pursuant to WAC 480-93-020, Puget Sound Energy (PSE) requests authorization to operate the Black Diamond Gate Station at a pressure exceeding 500 psig. The proposed station will connect to the Williams Northwest Pipeline.

The Black Diamond Gate Station will be constructed by PSE downstream of the Williams Northwest Pipeline metering facilities and on the same parcel of land. This gate station will replace an existing gate station at the same site. The new gate station will consist of an odorizer, heater, and two-stage high pressure to high pressure regulation (HP-HP), and two stage high pressure to intermediate pressure regulation (HP-IP), with downstream overpressure protection provided by monitor regulators on both pressure reductions. (Refer to Exhibit A).

The station is designed for a Maximum Allowable Operating Pressure (MAOP) of 960 psig through the outlet valve of the HP-HP regulators. The MAOP will be 500 psig from the outlet valve of the HP-HP regulators to the high pressure (HP) outlet valve of the station and downstream of the high pressure outlet valve. All station piping with an MAOP of 960 psig will be tested to a minimum of 1440 psig and the components will be ANSI 600 with a rating of 1480 psig. All station piping with an MAOP of 500 psig will be tested to a minimum of 750 psig and the components will be ANSI 300 with a rating of 740 psig. PSE proposes to operate the inlet of the station at a Maximum Operation Pressure (MOP) of 960 psig (the maximum delivery pressure from Williams) and the high pressure outlet of the station at a MOP of 250 psig. The station will operate at less than 20% SMYS at the MAOP and MOP.

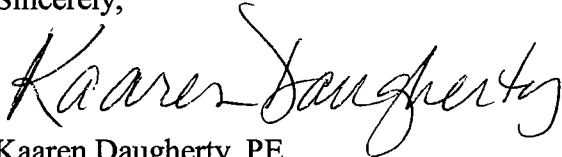
The proposed station exceeds the minimum federal safety regulations in the following design, operation and maintenance areas:

RECEIVED
RECORDS MANAGEMENT
04 SEP 17 AM 8:46
STATE OF WASH.
UTIL. AND TRANSP.
COMMISSION

- **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 or less location. (192.5)
- **Design Factor** – PSE’s design factor of 0.20 exceeds the 0.40 factor for a Class 4 location. (192.111)
- **Nondestructive Testing** – PSE’s radiographic inspection plan is identical to the Class 3 and Class 4 requirements for transmission lines. Thus PSE’s plan far exceeds the minimum federal safety regulations which do not require nondestructive testing of pipelines operating below 20% SMYS. (192.241 and 192.243)

Exhibit B provides additional information regarding the design, construction, operation and maintenance plans for the proposed gate station. Prefabrication of station piping is underway. If you require any additional information, please call me at (425) 462-3748.

Sincerely,



Kaaren Daugherty, PE
Consulting Engineer, Standards and Compliance

Attachments

cc: Kimberly Harris
Karl Karzmar
Sue McLain
Booga Gilbertson
Greg Zeller
Jim Hogan

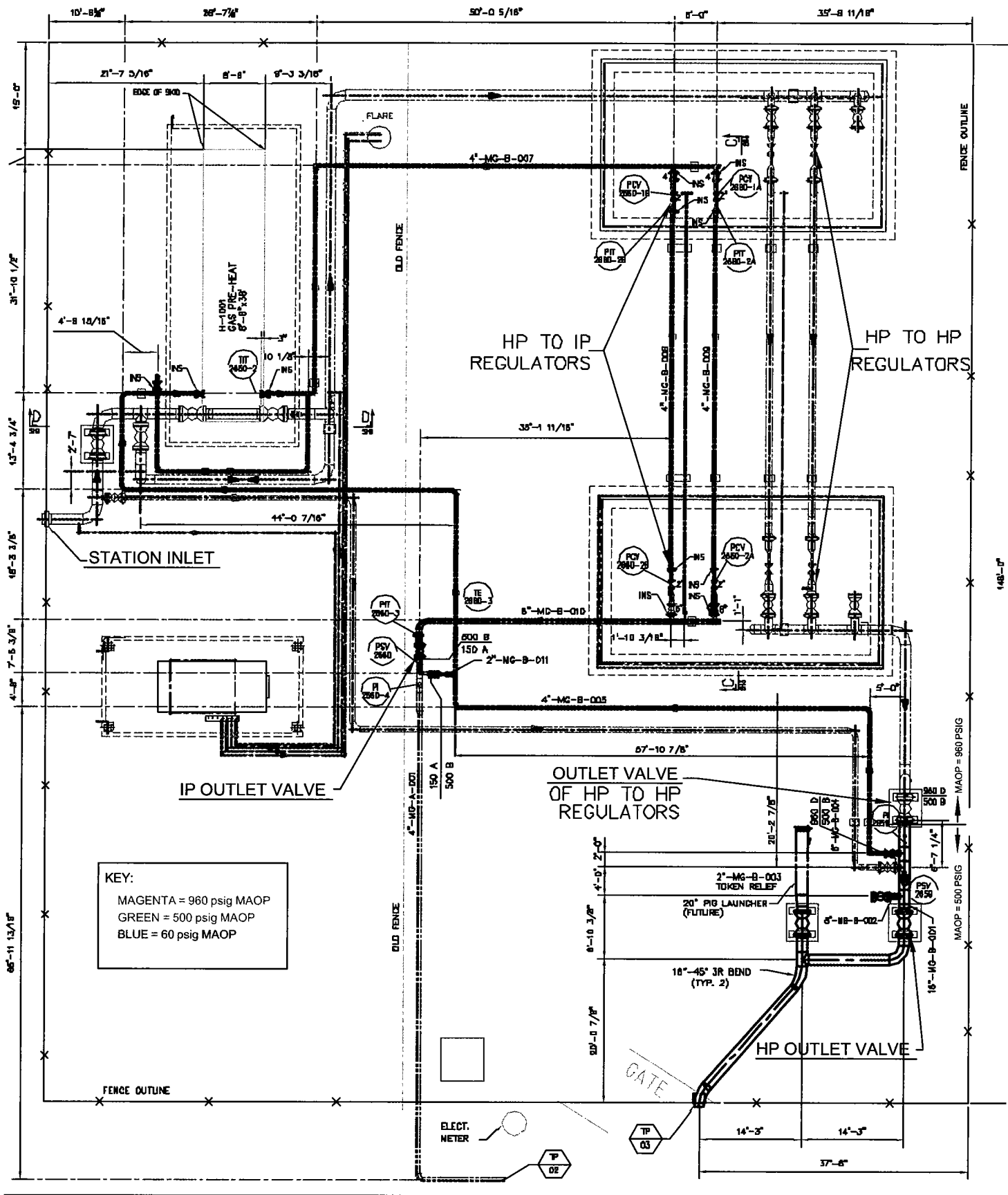


EXHIBIT "A"
BLACK DIAMOND GATE STATION

Exhibit B - GENERAL INFORMATION

Black Diamond Gate Station

Background:

The existing Black Diamond Gate Station is not capable of supplying high-pressure gas that is needed for current demand and future growth in the areas of Black Diamond and Kent, and in the surrounding communities south of Seattle and north of Tacoma. A new gate station will be built at the location of the existing gate station. Williams will build a new metering facility at the site to replace the existing metering facility. PSE's scope of work for 2004 consists of the installation of the gate station which includes heating, odorizing, HP-HP regulation, and HP-IP regulation.

Scope:

The piping included in the request consists of all station piping downstream of the FERC regulated meter station piping which will be operated and maintained by Williams Northwest Pipeline and extending to the outlets of the gate station.

Proximity Survey:

The Black Diamond Gate Station will be located in the Black Diamond area at approximately 31100 SE Kent Black Diamond Road. The zoning for the gate station property is RA-5 (Rural Area, One Dwelling per five acres) and the surrounding area within 500 feet is zoned RA-5 (Rural Area, One Dwelling per five acres). A survey of structures within 500 feet of the station property was conducted and is shown in Exhibit C. There are no well-defined outside areas that are occupied by twenty or more people, sixty days in any twelve month period. Information on structures intended for human occupancy within 500 feet of the gate station is presented in Exhibit C.

Design Specifications:

The gate station facilities will be designed, constructed and operated in accordance with the requirements for Class 4 locations. The piping layout and configuration is typical of gate station piping on property owned by PSE. All of the piping will be on PSE property and located within a secure fenced enclosure.

Operating Pressures:

The new Black Diamond Gate Station will receive unregulated and unodorized gas from the Williams Northwest Pipeline at pressures up to 960 psig. PSE's regulators will reduce the pressure to 250 psig (to serve the HP system) and 60 psig (to serve the IP system). The entire station from the station inlet to the outlet valve of the HP-HP regulators will be designed and tested for a Maximum Allowable Operating Pressure

(MAOP) of 960 psig and the MOP will be 960 psig. From the outlet valve of the HP-HP regulators to the HP outlet valve and to the IP outlet valve, the station will have a MAOP of 500 and an MOP of 250.

Pipe and Fitting Specifications:

The proposed pipe and fitting specifications with the corresponding percentage of specified minimum yield strength at MAOP and at MOP is shown in the table below. Any changes to the pipe size, grade or wall thickness will be verified by PSE engineering staff to meet the requirements to operate below 20% SMYS.

Material Specification to Outlet Valve of the HP to HP Regulators	% SMYS @ MAOP (960 psig)	% SMYS @ Normal Operating Pressure (960 psig)
Pipe 16" x .656", X-60	19.52	19.52
Weld Fittings 16" x .656, Y-60	19.52	19.52
Weld Fittings 10" x .500", Y-52	19.85	19.85
Pipe 8" x .500", X-42	19.72	19.72
Weld Fittings 8" x .500", Y-42	19.72	19.72
Pipe 10" x .500", X-52	19.85	19.85
Pipe 12" x .562", X-60	18.15	18.15
Weld Fittings 12" x .562", Y-60	18.15	18.15
Pipe 4" x .337", Gr. B	18.32	18.32
Weld Fittings 4" x .337", Gr. B	18.32	18.32
All Flanges ANSI 600	N/A	N/A

Material Specification Downstream of High Pressure Outlet Valve to High Pressure Outlet or Intermediate Pressure Regulators	% SMYS @ MAOP (500 psig)	% SMYS @ Normal Operating Pressure (250 psig)
Pipe 16" x .500", X-42	19.05	9.53
Weld Fitting 16" x .500", Y-42	19.05	9.53
Weld Fitting 8" x .322", Y-42	15.95	7.98
Pipe 8" x .322", Gr. B	19.14	9.57
Pipe 4" x .337", Gr. B	9.54	4.77
Weld Fittings 4" x .337", Gr. B	9.54	4.77
All Flanges ANSI 300	N/A	N/A

All welded branch connections (i.e. purges and blow downs) will have sufficient reinforcement not to increase the stress level of the pipe. All other pipeline components (valves, regulators, strainers, etc.) will have a working pressure rating of at least 960 psig where the MAOP is 960 psig, and 500 psig where the MAOP is 500 psig.

Construction Specifications:

All construction shall conform to Class 4 Standards.

Cover:

All buried piping will be installed with a minimum of 3 feet of cover.

Backfill:

All shading and bedding material will be free of sharp rocks with a maximum particle size of ½” unless an approved rock shield material is used.

Clearance:

At least 12 inches of separation will be maintained between the station piping and other underground facilities. If 12 inches separation is not possible, the pipeline will be protected from damage caused by proximity to the other structure, by using a bare steel casing, a split PVC or PE pipe or a fiberglass shield.

Cathodic Protection:

Cathodic protection will be designed and installed in accordance with the requirements of section 2600 of the PSE Gas Operating Standards. The following standards are applicable to the station:

- 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

Coating:

As outlined in Operating Standard 2600.1000 an external protective coating shall be applied to the pipeline. Any field joints and fittings not supplied with protective coatings will have field applied coating. All above-ground piping will be painted in accordance with written specifications. Field applied coatings will meet the requirements of Operating Standard 2600.1100, Field Coatings for Pipe and Fittings.

Pressure Testing:

All station piping will be tested to a minimum pressure of 1440 psig where the MAOP is 960 psig, 750 psig where the MAOP is 500, and 90 psig where the MAOP is 60 psig. All testing will be done in accordance with PSE Gas Operating Standard 2525.3300 and in accordance with an approved procedure.

Welding:

All welding and welding inspection will conform to the following PSE Gas Operating Standards:

- 2525.2700 Installation Requirements for Steel Pipe and Fittings
- 2700.1100 Welder Qualification Requirements
- 2700.1200 Weld Inspection and Repair
- 2700.1300 Weld Inspector Qualification Requirements
- 2700.1400 Welder Qualification Test Requirements and Procedure

In addition, PSE has a comprehensive set of welding procedures that are included in the Gas Field Procedures Manual. All welding to be done on this project will be governed by these procedures. If any new procedures are required for the welding on this project, they will be qualified in accordance with PSE Operating Standards and added to the Gas Field Procedures Manual. A number of different welds will be performed using Gas Field Procedures that may include 4900.1300, 4900.1310, 4900.1320, 4900.1400, 4900.1410, 4900.1430, and 4900.1910, and 4900.1920.

Operation and Maintenance:

Corrosion Control:

Corrosion control monitoring and remediation will be done in accordance with the following standards.

2600.1500	Monitoring Cathodic Protection
2600.1700	Examining Buried Pipelines and Monitoring for Corrosion
2600.1800	Monitoring Facilities for Atmospheric Corrosion
2600.1900	Remedial Measures for Corrosion Control Discrepancies

Damage Prevention:

Pipeline facility warning signs will be 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 gate stations. The gate station 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 PSE.

Leakage Surveys:

Leakage surveys will be conducted annually in accordance with PSE Operating Standard 2575.1000 and PSE Gas Field Procedure 4700.1600.

Pressure Monitoring:

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

