Exhibit A – General Information

Section I- Background and Scope of this Request

Background:

With increased load growth in Tacoma and the surrounding Pierce County areas, along with increased load and demand for firm capacity at JBLM, the HP supply system downstream of Clover Creek Limit Station and the South Tacoma Town Border Station is becoming a system bottleneck. PSE will need to increase system capacity in the Tacoma/Pierce County supply system in order to better serve the needs of the firm customer base and improve HP system reliability. Rather than constructing new pipelines paralleling existing HP facilities downstream of the Clover Creek Limit Station, PSE proposes to increase the operating pressure of the existing 12" South Tacoma Supply #2 pipeline that continues north from the Clover Creek Limit Station from 250 psig to 490 psig.

The South Tacoma Supply #2 pipeline currently has an MAOP of 500 psig. Increasing the operating pressure of the South Tacoma Supply #2 pipeline from 250 to 490 psig is a cost-effective alternative to installing multiple miles of new HP main.

Scope of this Authorization Request:

The scope of this pressure authorization request includes operating the South Tacoma Supply #2 Pipeline at a pressure of 490 psig. The pipeline description is as follows:

- 5.2 miles of existing 12" South Tacoma Supply #2. This pipeline was designed, constructed, and tested in 1995 for an MAOP of 500 psig. The pipeline extends from the Clover Creek Limit Station (128th St. E and Waller Rd.) west along 128th St. E, northwest along Aqueduct Dr. and west along 112th St. S to the intersection of 112th St. S and I-5. The pipeline currently operates at 250 psig.

Requested Pressure:

The existing 12" South Tacoma Supply #2 was built and tested to have an MAOP of 500 psig. PSE is requesting authorization to operate the main at a maximum of **490 psig** because a small portion of the 12" South Tacoma Supply #2 was constructed using X-42 pipe (see the pipe specification table in Section I for material details). If the pipeline were to operate at the full MAOP of 500 psig, the stress in this portion of the pipeline would exceed 20% SMYS (20.25%), so PSE has chosen to request a 490 psig maximum pressure in order to maintain the current classification of the 12" South Tacoma Supply #2 as a distribution line.

Future Authorization Requests Related to this Project:

Integral to this project is the construction or modification of other facilities. Future pressure authorization requests will follow, and will address the following facilities:

- **EXISTING AND NEW** pipelines associated with regulator station RS-2619 at 112th St. E and Golden Givens Rd. The existing regulator station piping and equipment are designed to operate at the current inlet pressure of 250 psig: portions of the station

piping and equipment will be replaced prior to increasing the operating pressure. With upgrades, the station will be designed and tested for a new MAOP of 500 psig. This is currently in the design phase.

- **NEW** 12" and 16" pipelines associated with tying over the Clover Creek Limit Station at 128th St. E and Waller Rd to the 12" South Tacoma Supply #2. The existing 16" Frederickson Supply Main must be tied over to the downstream 12" HP main in order to connect the South Tacoma Supply #2 to the existing 500 psig system. This is currently in the design phase.
- **NEW** Limit Station ("I-5 Limit Station") near 112th St. S and I-5. The proposed 490 psig supply system will end with a new limit station, where the 490 psig 12" South Tacoma Supply #2 will feed the existing downstream 250 psig HP. This is currently in the design phase.

Please see exhibit B for a map of the pipeline route, along with the proposed station and tie over segment.

Section II- Construction Details of Existing Pipeline

Pipeline Description:

The 12" South Tacoma Supply #2, constructed in 1995, consists of approximately 30,000 ft of 12" HP pipe that was installed to provide HP supply from the South Tacoma Town Border Station (TBS RS-2716). The project was built in order to provide additional capacity and a parallel HP feed from the TBS to the I-5 freeway crossing at 112th St. S, because the 8" HP South Tacoma Supply #1 that connected these two critical points in the system had reached capacity under design conditions. The 12" South Tacoma Supply #2 has been operating at or below 250 psig as part of PSE's 250 psig supply system, though it was originally designed, constructed, and tested for much higher pressure. With the pressure increase, the 12" South Tacoma Supply #2 pipeline will feed 490 psig gas to from the Frederickson Gate Station to the proposed I-5 Limit Station near the I-5 crossing at 112th St. S. Refer to Exhibit B, this piping is indicated in green.

Pipeline Route:

The pipeline was constructed starting at the South Tacoma Town Border Station (RS-2716) at valve VA-02167 within the station fence and extending approximately 2500' north and east on Waller Rd. E to 128th St. E, to the Clover Creek Limit Station. *Note: This first 2500 feet of the 12" South Tacoma Supply line is not part of the proposed 490 psig authorization and will continue to operate at 250 psig, connecting the outlet of the Clover Creek LS and the outlet of the South Tacoma TBS. Refer to exhibit B for this piping indicated in Red.* The route of the pipeline that is proposed for 490 psig service begins at the intersection of Waller Rd. and 128th St. E and extends west along 128th St. E. The route turns northwest on Aqueduct Dr. S continues to the intersection of Aqueduct Dr. S and Golden Givens Rd., where it turns north. At 112th St. E, there is a short 8" branch main that extends approximately 130 ft north on Golden Givens Rd. The 12" supply main turns west on 112th St. E (which becomes 112th St. S and later 112th St. SW) and continues west for approximately 3.4 miles to the intersection of 112th St. SW and I-5, where the 12" South Tacoma Supply #2 ends with valve VA-02159. The 12" supply will be tied over to the 8" South Tacoma Supply #1, as described in Section II.

Proximity Survey:
A tax parcel review of the area within 100 feet of the proposed pipeline was conducted. The pipeline route begins in an area of large lot single family dwellings and continues through a more suburban area with a mix of small lot single family dwellings, small commercial buildings and multi-family structures. There are two churches and one school along the route. The pipeline route ends near the McChord airfield, where the use is commercial/light industrial.

Information on buildings intended for human occupancy within 100 feet of the pipeline route is presented in Exhibit C. The route is classified as a Class 3 Location, though the design and construction specifications for the line met or exceeded requirements for a Class 4 Location.

MAOP:
The 12" South Tacoma Supply #2 line was designed and tested for an MAOP of 500 psig.

Pipe and Fitting Specifications:
The majority of the pipeline was constructed from 12" diameter 0.312" wall thickness API 5L-X52 steel pipe. A short segment of 12" diameter 0.375" wall thickness API 5L-X42 steel pipe was installed at the Pacific Avenue (SR-7) crossing on 112th Street South. A short 8" branch at Golden Givens Road was constructed from 8" diameter 0.322" wall thickness API 5L X42 steel pipe. The pipe and fitting specifications with the corresponding percentage of specified minimum yield strength at the proposed authorized pressure and typical operating pressure for the supply main are shown in the table below.

OD	Thickness	Grade	Type	% SMYS at 490 psig (Proposed Authorized Pressure)	% SMYS at 460 psig (Proposed Typical Operating Pressure)
12"	0.312"	X52	Pipe	19.26	18.08
12"	0.375"	X42	Pipe	19.84	18.62
8"	0.322"	X42	Pipe	15.63	14.67
12"	0.375"	Y52	Fittings	16.02	15.04
8"	0.322"	Y52	Fittings	12.63	11.85

All other pipeline components will have a working pressure rating of at least 500 psig.

Testing:
Before being placed in service in 1995, the 12" South Tacoma Supply #2 main was tested using water to a test pressure of 820 psig. Small sections of tie in piping were tested separately from the mainline using nitrogen to a minimum test pressure of 807 psig. All testing was performed in accordance with WNG Operating Standard 6.14 and in accordance with an approved written procedure.

Construction Details:
This section lists the general construction standards and practices which were applicable in 1995 when the 12" South Tacoma Supply #2 was installed, as well as job-specific construction specifications applicable only to 12" South Tacoma Supply #2. Although the 12" South Tacoma Supply #2 route is classified as a Class 3 location, all construction was performed in accordance with Class 4 construction standards.

Cover – The 12" South Tacoma Supply #2 was installed with a minimum of 36" of cover, wherever possible. If a minimum of 36" of cover was not achieved, the main was protected using markers and CDF backfill.

Backfill – Pipe was shaded and bedded with soft earth or sand such that the bedding material was free of sharp rocks.

Clearance – Wherever possible, a minimum of 12" clearance was maintained between the pipeline and any other buried utilities or underground structures. A minimum of 12" of clearance was not possible the pipeline was protected from damage caused by proximity to the other facility, by a fiberglass shield or other method approved by Corrosion Control.

Coating – As outlined in WNG standard 6.11, Field Coatings for Pipe and Fittings, an external protective coating was applied to the pipeline. All field joints and fittings not supplied with protective coatings were treated with field applied coatings.

Welding – All welding and welding inspection on the 12" South Tacoma Supply #2 conformed to the following WNG Operating Standards, applicable in 1995 when the pipeline was constructed.

WNG Standard	Subject
6.9	Steel Pipe and Fittings - Installation Requirements
6.9.1	Welder Qualification Requirements
6.9.2	Weld Inspection and Repair of Welds
6.9.3	Qualification of Weld Inspectors

All welding performed on the 12" South Tacoma Supply #2 was governed by the established welding procedures contained in the WNG Fitter Training Manual. A minimum of 10% percent of the welds were x-rayed at the time of construction, in accordance with the company standards in 1995. 100% of tie-in welds were x-rayed.

Section III- Future Phases of this Project

As mentioned in Section I, several upgrades and new facilities will be installed in conjunction with this pressure increase. These will be submitted under separate cover for authorization as they are designed, closer to their construction date. The table below summarizes these future projects.

Project	Summary	Current Operating Pressure	Future Operating Pressure
RS-2619 Modifications *Located at 112th Street East and Golden Givens Road*	Replace portions of station piping and equipment; pressure test and establish new MAOP of 500 psig.	250 psig	490 psig

Clover Creek Limit Station *Located at 128th Street East and Waller Road*	Install new 12" and 16" piping in order to tie the limit station over to the 12" South Tacoma Supply #2 pipeline.	380	490 psig
New Limit Station *Currently targeting location near 112th Street South and I-5.*	Construct a new limit station near I-5 to reduce pressure downstream of the South Tacoma Supply #2 Pipeline from 490 psig to 250 psig.	n/a	490 psig