

SECTION 2.5 WATER SUPPLY SYSTEM

(WAC 463-42-165)

The following discussion identifies sources of water required during construction and operation of the Cross Cascade Pipeline. Construction of the proposed pipeline will require hydrostatic testing of the pipe. Water used during this process will be discharged into an impoundment area. Information on the character of the discharge and treatment of water used during the hydrostatic testing process is provided in Section 2.7 Characteristics of Aquatic Discharge System.

2.5.1 WATER SUPPLY

Water will be provided at the Kittitas Terminal and at each pump station. It is anticipated that the pump stations will be visited only periodically (a maximum of once per day). Potable water at the Thrasher Station will be supplied by the Alderwood Water District via the connection adjacent to Maltby Road. The North Bend Station will be supplied by water from the City of North Bend. The remaining pump stations at Stampede, Beverly-Burke, and Othello will be constructed in the future; therefore, detailed plans for the supply of potable water will be developed when these additional stations are required.

The Kittitas Terminal site is located within Kittitas County at a location immediately adjacent to the boundaries of the City of Kittitas. The site is within the Urban Growth Area of the City. An existing 10-inch distribution pipeline is located in the vicinity of the proposed terminal site.

The Kittitas Terminal will provide facilities for four full-time employees. Water for potable uses at the terminal will be supplied by the City of Kittitas. The routine water needs at the Terminal are comparable to the needs of three single family homes. There is a requirement for 100,000 gallons of water to be available at the site for fire response. This could be supplied by either an on-site water storage tank or through a water supply line of sufficient size and pressure capacity to provide an adequate flowrate.

To meet the operational water needs of the Kittitas Terminal, a connection will be made to the City's water line along Badger Pocket Road and minor upgrades made to meet the needs of OPL or other portions of the City's water system.

The City has verbally indicated a willingness to provide water and sewer service to the Terminal, and a City study has shown that the City has adequate capacity to provide both services. OPL is currently in negotiations with the City and County with the goal of obtaining an interlocal agreement concerning provision of public services and cost reimbursements. The final approach adopted for both water and sewer, and the potential routing of new water or sewer lines, will depend upon the outcome of the negotiations with the City and County.

2.5.2 HYDROSTATIC TESTING

The entire pipeline will be hydrostatically tested as mandated in 49 CFR Chapter 1 Part 195, "Transportation of Hazardous Liquids by Pipeline". Those sections which can be visually inspected during the test will require a four-hour test. This test requires that a test pressure greater than or equal to 125 percent of the maximum operating pressure be maintained in the pipeline for at least four continuous hours.

For sections which cannot be visually inspected during the test, an eight-hour test will be performed. This test requires that a test pressure greater than or equal to 125 percent of the maximum operating pressure be maintained in the pipeline for at least four continuous hours, followed by at least four continuous hours at a test pressure greater than 110 percent of the maximum operating pressure. Drilled crossings will have a four-hour test prior to insertion into the bore and an eight-hour test after insertion.

Pipeline facilities have been grouped into cross-country segments, stations, and drilled crossings. The Columbia River (MP 144.5) is a drilled crossing. There are approximately ten cross-country segments. The location, length, source of water and testwater discharge location of those segments are detailed in Table 2.5-1. The segment lengths and locations are shown in Figure 2.5-1.

**TABLE 2.5-1
HYDROSTATIC TESTING CROSS-COUNTRY SEGMENTS**

Segment Number	Description	MilePost Start - End	Segment Length	Water Source	Total Quantity Needed for Segment Testing (Acre-Feet) (Gallons)	Quantity Added to Previous Segment Test Water (Acre-Feet) (Gallons)	Amount Available Testing Next Segment (Acre-Feet) (Gallon)
1	Thrasher to Snoqualmie River	0 - 8.3	8.3	Snoqualmie River	1.08 (351,895 g)	1.08 (351,895 g)	1.08 (351,895 g)
2	Snoqualmie River to North Bend Pump Station	8.3 - 37.3	29.0	Snoqualmie River (2.68) plus water used for Segment 1	3.76 (1.23 million g)	2.68 (847,155 g)	3.76 (1.23 million g)
3	North Bend Pump Station to Stampede Pump Station	37.3 - 67.1	29.8	City of North Bend (0.10) plus water used for Segment 2	3.86 (1.26 million g)	0.10 (32,583 g)	3.86 (1.26 million g)
4	Stampede Pump Station to Monahans Road	67.1 - 73.9	6.8	Supplied from Segment 3 Test Water	0.88 (286,729 g)	0.00 (0.00 g)	3.65 (1.23 million g)
5	Monahans Road to Thorpe Prairie Road	73.9 - 95.3	21.4	Supplied from Segment 3 Test Water	2.77 (902,546 g)	0.00 (0.00 g)	3.65 (1.23 million g)
6	Thorpe Prairie Road to Kittitas Terminal	95.3 - 123.4	28.1	Supplied from Segment 4 and 5 Test Water	3.64 (1.19 million g)	0.00 (0.00 g)	3.65 (1.23 million g)
7	Kittitas Terminal to Ginkgo State Park	123.4 - 141.8	18.4	Supplied from Segment 6 Test Water	1.98 (645,141 g)	0.00 (0.00 g)	3.26 (1.07 million g)
8	Ginkgo State Park to Beverly-Burke Pump Station	153.7 - 188.8	11.9	Supplied from Segment 6 Test Water	1.28 (417,061 g)	0.00 (0.00 g)	3.26 (1.07 million g)
9	Beverly-Burke Pump Station to Othello Pump station	153.7 - 188.8	35.1	Supplied from Segment 7 and 7 Test Water plus water (0.51) from the Cascade Irrigation Canal	3.77 (1.23 million g)	0.51 (166,173 g)	3.77 (1.23 million g)
10	Othello Pump Station to Pasco Delivery Facility	188.8 - 230.7	41.9	Supplied from Segment 9 plus water (0.73) from the Wahluke Branch Canal and 10	4.50 (1.47 million g)	0.73 (237,855 g)	0.00 (0.00 g)

FIGURE 2.5-1 - HYDROSTATIC TEST SEGMENTS

Water for hydrostatic testing of the pipeline will be supplied from four sources, the Snoqualmie River, the City of North Bend, the Cascade Irrigation Canal, and the Waluke Branch Canal, and transported through the pipeline or trucked to testing locations. Additional sources are available along the pipeline route as a secondary source. Water supply sources are distributed along the route to minimize transportation impacts. Approximately 1.5 million gallons of water will be used for hydrostatic testing of the pipeline, although the total volume from any one supplier will be limited to no more than 1.23 million gallons (3.76 acre-ft). During testing, water will be utilized from segment to segment, with augmentation where necessary. Discharge of the test water is planned for only three locations: at the Stampede Pump Station, at the Kittitas Terminal, and indirectly into the Snake River, to minimize impacts and to avoid impacts to aquatic resources.

A volume of 4.2 million gallons (12.89 acre-feet) will be required to perform hydrostatic testing on the tanks at the Kittitas Terminal. The water will be obtained from the Cascade Irrigation Canal (see discussion below).

The following discussion describes each supplier of water for hydrostatic testing; pipeline segments associated with that source; the distance of the supplier from the segment; and the source of water to the supplier. The detailed design, location, and connection information regarding the construction of the pipeline is presented in Section 2.3 - Construction on Site.

Upon completion of the hydrostatic testing, the test water will be analyzed and treated, if necessary, to make it suitable for discharge into the ground or a stream or river. Erosion and sedimentation control measures will be incorporated into the water discharge procedures.

Primary Sources of Water

Local Streams and Rivers

Only one natural water body is currently planned for water supply during pipeline construction. This is the Snoqualmie River, which will provide 1.23 million gallons of water for use during hydrostatic testing of the pipeline. A temporary water supply permit will be obtained specifying the exact quantity, rate, source location and timing. The preceding permit requirement items will be determined as a result of construction schedule and final route alignment considerations. The rate and source location can be flexible to meet instream flow needs when the pipeline is hydrostatically tested.

As an alternative to water usage from the Snoqualmie River, OPL will purchase water from the Alderwood Water District. OPL has made a request to the Alderwood Water District requesting whether 1.23 million gallons of water could be made available for purchase by OPL. While OPL has received a verbal indication that this amount could be purchased, a written confirmation had not been received as of the date of this revised Application.

Other streams and rivers may serve as small scale water sources for equipment operation and washing as the construction proceeds. Location and quantity of these source needs will depend on the progress and specific needs of construction, however the quantity is expected to be less than 5,000 gallons per day and will generally be trucked to the construction site. In some cases, logistics will require pumping from a local stream. In these cases, a temporary water use permit will be obtained specifying the location, rate, quantity and timing of the water need. If the permit cannot be obtained, water will be trucked in from an alternate source.

For non-EFSEC projects, permits for short-term water use for nonrecurring projects of no more than four months duration are issued by Washington Department of Ecology pursuant to chapters 90.03 and 90.44 RCW. Examples of short-term water uses are hydrostatic testing of pipelines, water use associated with construction activities, and dust control. No permits are issued when the source of water is closed to further appropriation, or if instream flows could be impaired as established by rule or administratively under chapter 75.20.050 RCW. The only surface water bodies crossed by the pipeline which are currently closed to further appropriation are Griffin Creek, Harris Creek, and Little Bear Creek.

Surface water bodies crossed by the pipeline with minimum instream flow requirements include the Snoqualmie River, Tolt River, Cherry Creek Tributary, and the Columbia River. Refer to Section 3.3 for a more complete description of proposed stream and river crossings.

The primary source of water for hydrostatic testing will be the Snoqualmie River at the bridged crossing. A volume of 1.23 million gallons (3.76 acre-ft) will be used to test Segments 1 and 2 from the Thrasher Station to the North Bend Pump Station (MP 0 to 37.3). This water will then be reused for additional segments, augmented with water from other suppliers along the route, where necessary.

City of North Bend

Municipal water supply for the City of North Bend is currently supplied by springs. The City is in the process of developing a well field between I-90 and the Middle Fork Snoqualmie River, in the southeast section of the city adjacent to the proposed pipeline route. Water flow volumes throughout the City are managed through computer modeling at the North Bend Water Department, and significant withdrawals in excess of an acre-foot will require advance planning to verify availability and feasibility. The City of North Bend has agreed to supply OPL with the required amounts of water for hydrostatic testing. City water would augment the water in Segment 2 by 32,745 gallons (0.10 acre-ft) for testing Segments 3 through 8. Access to the city's water supply is adjacent to the pump station located in the city. No trucking will be necessary from this supply source. Water for hydrostatic testing will be obtained from the City of North Bend from a hydrant located near the pump station site. The water will be transferred from the hydrant to the site via a hose or temporary piping. A letter has been obtained from the City of North Bend indicating its ability to provide the required volume of water for the hydrostatic testing process.

Cascade Irrigation Canal

OPL, as owner of the Kittitas Terminal site, has rights to irrigation water in the Cascade Irrigation Canal (CIC). There are existing irrigation ditches within 1,000 feet of the terminal site. OPL intends to obtain test water from the irrigation canal by way of laying temporary piping and installing temporary suction pumps. OPL will work with the CIC to ensure that their use of water from the irrigation canal does not adversely affect downstream irrigators.

Wahluke Branch Canal

OPL has rights to irrigation water in the Wahluke Branch Canal. There are existing irrigation ditches in the vicinity of the pipeline route. OPL intends to obtain test water from the irrigation canal by way of laying temporary piping and installing temporary suction pumps. OPL will work with the canal operators to ensure that their use of water from the irrigation canal does not adversely affect downstream irrigators.

Secondary Sources of Water

Woodinville Water District

The Woodinville Water District purchases water from the Seattle Water District. Woodinville could provide OPL with over 500,000 gallons (1.53 acre-ft) of water, provided water is available from Seattle. Water from the Woodinville Water District could be used in lieu of withdrawal from the Snoqualmie River. The distance from Woodinville's service area to the Thrasher Pump Station is 5 miles. If water for hydrostatic testing is obtained from the Woodinville Water District, it will be transported from the source to the Thrasher Station via tanker truck.

City of Carnation

The City of Carnation operates a water supply utility with two sources of water. Part of the supply comes from springs located 1.5 miles east of the city limits, and the remainder is from a well located within the city limits. The City is currently negotiating with Water District #119 to obtain surplus water. With advance notice, the City could provide water to OPL for hydrostatic testing. The pipeline is located approximately 1.5 miles east of the City service area. A letter has been obtained from the City of Carnation indicating their ability to provide 46,450 gallons (0.14 acre-ft) of water for the hydrostatic testing process.

City of Ellensburg

The City of Ellensburg operates five deep wells to supply municipal water. At least two wells are located near the Ellensburg Airport. In addition, the city purchases 6,000 acres/ft of water from the Kittitas Reclamation District and uses the canal system for conveyance. The take-out point for the canal is south of the BPA transmission lines on the Yakima River. The service area and access points are within a mile of the proposed pipeline. If water for hydrostatic testing is obtained from the City of Ellensburg, it will be transported from the source to the pipeline via tanker truck.

Port of Royal Slope

The Port of Royal Slope has an industrial well located less than one mile from the proposed pipeline, southeast of Royal City. Water from the Port would be used only as a secondary source. A letter has been obtained from the Port of Royal Slope indicating their ability to provide water for the hydrostatic testing process.

City of Othello

The municipal supply for the City of Othello is from four wells operated by the City. The wells are located within the service area and the city limits. Water from the City would be used only as a secondary source. Distance from the City service area to the pipeline is approximately 5 miles, which will require that water to be trucked to the site. A letter has been obtained from the City of Othello indicating their ability to provide 115,900 gallons of water for the hydrostatic testing process.

TABLE OF CONTENTS

	Page
SECTION 2.5 WATER SUPPLY SYSTEM	2.5-1
2.5.1 WATER SUPPLY	2.5-1
2.5.2 HYDROSTATIC TESTING	2.5-2
TABLE 2.5-1 - HYDROSTATIC TESTING CROSS-COUNTRY SEGMENTS	2.5-3
FIGURE 2.5-1 - HYDROSTATIC TEST SEGMENTS	2.5-4