

SECTION 2.12 CONSTRUCTION AND OPERATION ACTIVITIES (WAC 463-42-235)

2.12.1 PIPELINE CONSTRUCTION SCHEDULE AND WORKFORCE

This section provides a detailed construction schedule for the Cross Cascade Pipeline and associated facilities. The overall project schedule is presented in Figure 2.12-1, the engineering design schedule is shown in Figure 2.12-2, and the construction schedule is shown in Figure 2.12-3. This schedule is based on construction bid notification occurring in February of 1999 and all construction phases being completed by February of 2000, for a construction duration of 10 months. Actual pipeline construction, which begins with logging and clearing, would start in April 1999 and end by January 2000.

FIGURE 2.12-1 - OVERALL PROJECT SCHEDULE

FIGURE 2.12-2 - ENGINEERING DESIGN SCHEDULE

FIGURE 2.12-3 - CONSTRUCTION SCHEDULE

Worker loading will vary between as few as 10 persons during the preliminary design phase of the project to as many as 950 peak employment during construction. The anticipated worker loading by month during construction is shown below in Table 2.12-1.

The pipeline construction workforce will be split into three construction spreads. Spread 1 will construct the western portion of the alignment, Spread 2 will construct the central mountainous portion, and Spread 3 will construct the eastern portion. The construction workforce peak for each spread will be as follows: 375 workers for Spread 1, 159 workers for Spread 2, and 375 workers for Spread 3, for a total of 909 workers. Based on available state labor pools, approximately 70 percent of the total pipeline construction workforce is expected to come from outside of Washington State. Table 2.12-2 illustrates the breakdown of the construction workforce by craft and non-craft labor and by construction spread.

**TABLE 2.12-1
CROSS CASCADE PIPELINE PROJECT WORKER LOADING BY MONTH**

Month	Worker Loading
1	10
2	40
3	60
4	200
5	950
6	950
7	950
8	350
9	200
10	200
11	50
12	10

Assuming favorable weather, the construction spreads will progress as follows: 1.5 to 2.3 miles/day for Spread 1 (western Washington wide corridor); 0.3 to 0.5 mile/day for Spread 2 (Snoqualmie Pass narrow corridor); and 1.9 to 2.7 miles/day for Spread 3 (eastern Washington wide corridors). The expected duration of pipeline construction at any one location along the route is no more than 10 days. Construction progress will be slower at road and waterway crossings, where several days may be required to complete the crossing by either boring or trenching. It is estimated that most streams can be crossed within 24 hours. Inclement weather can also slow construction progress by affecting moisture sensitive soils on the right-of-way, filling the pipe trench with water, or preventing the compaction of the trench backfill.

TABLE 2.12-2

PIPELINE CONSTRUCTION WORKFORCE CHARACTERISTICS

Craft/Non-Craft	Occupation	Spread 1	Spread 2	Spread 3
Non-Craft	Superintendent	3	1	3
	Assistant Superintendent	0	2	0
	Office Manager	2	2	2
	Safety Coordinator	1	1	1
	Payroll Clerk	2	2	2
	Material Manager	2	1	2
Craft	Foreman	20	10	20
	Mechanic	12	10	12
	Operator (All Groups)	112	36	112
	Welder	30	12	30
	Journeyman	6	6	6
	Welder Helper	60	24	60
	Truck Driver	30	12	30
	Laborers, Skilled	20	10	20
	Laborers, Unskilled	75	30	75
TOTAL		375	159	375

2.12.2 PUMP STATION AND DELIVERY FACILITY CONSTRUCTION

Pump stations will be constructed in conjunction with the pipeline construction. It is anticipated that the pump stations at Thrasher, North Bend, and Kittitas would be constructed concurrently, with approximately 20 construction workers at each pump station. The pump station construction at the Kittitas Terminal would coincide with the storage tank construction (see Subsection 2.12.3 below).

Construction of the pump stations will occur between April 1999 and October 1999. Additional mechanical, electrical, and automation construction tasks will, depending on contractual arrangements, continue up to November 1999.

Construction of a metering station outside the gate of the Northwest Terminalling Facility in Pasco would require an additional 8 to 10 workers. Construction would occur in conjunction with pipeline construction and would take approximately 30 days.

2.12.3 KITTITAS TERMINAL CONSTRUCTION

Construction of the Kittitas Terminal would begin in April 1999 with clearing and grading. The perimeter would be fenced and construction would begin on the storage tanks as shown on Figure 2.12-3 as Nos. 8 through 10. Approximately 15 persons in two crews would work on tank fabrication. Tank fabrication will be completed by the end of September 1999.

Construction of other terminal facilities, such as piping, buildings and mechanical and electronic components would be accomplished between May 1999 and October 1999. These tasks are shown on Figure 2.12-3 as Nos. 9 through 16. Peak construction employment on other terminal facilities is estimated to be 30 personnel.

2.12.4 PIPELINE AND PUMP STATION OPERATION

Pump stations will be controlled remotely from the OPL Renton facility and also controlled locally. During operation, 10 workers will be required for local control and monitoring of product movements through the pipeline system. Four (4) of these workers will be located at the Kittitas Terminal as described in Section 2.12.5 below, two (2) will be located at Pasco, and four (4) full-time equivalent positions will be added to OPL's workforce for a variety of duties..

Six to ten OPL employees will also be responsible for maintenance of the pipeline and the right-of-way. Routine maintenance activities along the right-of-way will include visual inspection, periodic clearing of vegetation, repairs to right-of-way markers, and inspection and maintenance of the cathodic protection system. Visual inspection of the pipeline will include regular ground patrols to ensure that there is no unauthorized encroachment onto the right-of-way. During these patrols, ground slope and river channel profiles will be monitored for stability.

OPL will also contract with individuals or hire employees who live along the pipeline in order to be able to respond to a spill within one hour of notification in accordance with State policy. It is OPL policy to maintain a 60-minute response time. It is not known at this time where these employees will be located or how many contract employees will be hired.

2.12.5 KITTITAS TERMINAL OPERATION

The completed project would employ 4 workers at the Kittitas Terminal.

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