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BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

IN RE APPLICATION NO. 96-1)
)
OLYMPIC PIPELINE COMPANY)
)
CROSS CASCADE PIPELINE PROJECT)
)
)

PREFILED TESTIMONY
JON R. STACK, P.E., PRESIDENT OF ST ENGINEERING, INC.,
ENGINEER FOR CROSS VALLEY WATER DISTRICT

ISSUE: Potential Pipeline Impacts to the Cross Valley Aquifer and Water System.

The Olympic Pipeline Company (OPL) proposes to construct the Cross Cascade Pipe Line through the Cross Valley Water District (CVWD) Sole Source Aquifer recharge area.

Construction and operation of the pipeline will pose a threat to the aquifer and to the District's existing water distribution system. This prefiled testimony is written to explain the project's potential impacts to the aquifer and the District's water distribution system.

SPONSOR: Cross Valley Water District

1 **EXHIBIT REFERENCE:**

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3 JRS-1: Cross Valley Water District Distribution System near Proposed Pipeline

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5 JRS-2: Aquifer Supply Replacement – Alternative I – Clearview Project Water Supply

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7 JRS-3: Aquifer Supply Replacement – Alternative II – Connection to City of Everett Line No. 5

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9 JRS-4: Spill Response and Contingency Requirements for the Cross Cascade Pipeline

10 prepared by Golder Associates

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13 **CREDENTIALS:**

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15 Jon R. Stack, P.E., is the President of ST Engineering, Inc., and has been responsible for all
16 operations of ST Engineering, Inc. since its inception in 1980. A longtime member of the ASCE,
17 APWA, AWWA, and CECW, he currently serves as Chairman of the Water Subsection
18 Committee of the APWA/WSDOT Standard Specifications. He has 37 years of engineering
19 experience, concentrating on water and sewer system improvements, and has served as the
20 Engineer for Cross Valley Water District since 1971.
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DISCUSSION:

- A. In addition to being constructed through the CVWD Sole Source Aquifer, the alignment of the proposed fuel pipeline crosses the existing District water mains in at least eight locations, is in close proximity parallel to the existing water distribution system in several other locations, and will impact existing water service connections (See Exhibit JRS-1). The District's existing infrastructure includes high density polyethylene (HDPE) pipe and vulcanized Styrene-butadiene rubber gasket material. Engineering analysis of HDPE pipe and Styrene-butadiene rubber gaskets by Golder Associates indicates severe degradation should they become exposed to gasoline (See the testimony of

Robert A. Clark of Golder Associates, RAC-T).

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Potential damage to the existing water distribution system during construction and operation and maintenance of the fuel pipeline must be considered both at crossings of existing water mains and service lines and when the lines are in proximity. CVWD requests that OPL coordinate the routing of the fuel pipeline with CVWD to replace the District's water mains susceptible to damage during construction or susceptible to damage to pipe or gaskets from a fuel leak. CWVD requests that OPL also replace the water district's mains with ductile iron pipe in casing at all crossings where the District's pipe is exposed.

B. The attached Exhibit JRS-4, a letter from Golder Associates, contains three goals that must be attained as part of a District approved spill response and contingency plan. These goals are preventing contamination, mitigating a spill, and monitoring of the groundwater supply. The attached Exhibit JRS-4 provides broad detail of the expected effort that is necessary to meet these goals.

C. In the event of aquifer contamination or even a temporary loss of supply, thousands of people would be left without drinking water. Washington State Department of Ecology records indicate that many petroleum spills require 5 to 10 years to remove contaminants from an aquifer, especially the carcinogenics benzene and MTBE. An alternative source of supply must be available immediately to provide for the continued health, convenience, and welfare of the District's customers. Development of an alternative supply may take as long as five years to complete. In addition to obtaining an available water source, environmental complications, permitting, right-of-way acquisition, design, and construction make supply development an arduous, time consuming, and

expensive task.

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A guarantee by OPL to protect the aquifer supply in lieu of providing an alternative water supply is not acceptable. In addition, a performance bond from OPL promising provisions for water supply in the event of aquifer contamination is not acceptable. An alternative water supply must be in place and online prior to initiation of flows through the proposed fuel pipeline.

D. One alternative source of supply currently exists from the Clearview Project (See Exhibit JRS-2, Aquifer Supply Replacement – Alternative I). Cross Valley Water District is a vested partner in this project. The Clearview Project, presently in the design phase, anticipates bringing water from City of Everett sources to the Clearview area of the District by late 2000 or early 2001. The project is intended to meet the District’s future water needs when the aquifer is developed to maximum levels. Cross Valley Water District’s estimated cost in the project is \$6.5M, which includes a pipeline, pump station and reservoir. The project will provide approximately 6 million additional gallons per day water supply to supplement Cross Valley’s present aquifer.

Participation in this Clearview Project by OPL would represent cost-effective insurance against the catastrophic loss of aquifer supply. Estimated capital costs for replacing the aquifer supply with Clearview Project water are as follows:

Clearview Project Regional Facilities	\$ 4,995,163
Local Facilities, Pipelines, Pumps	\$ 3,067,017

Total Capital Costs, 1998 Dollars	\$8,062,180

E. Since shares in the Clearview Project are allocated, the opportunity to increase the amount of supply from the Clearview Project may not be possible, and a

1 second scenario for an alternative source of supply has been developed (See
2 Exhibit JRS-3, Aquifer Supply Replacement – Alternative II). This project would
3 involve a connection to the City of Everett Pipeline No. 5 and construction of a
4 separate transmission line southerly to a reservoir/pump station site near the
5 Kenwanda Golf Course.
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11 Since this is not a regional project, as the Clearview Project is, this alternative source of
12 supply would be substantially more costly. Preliminary design estimates indicate the
13 necessity of the installation of approximately 82,300 lineal feet of 12” to 18” water main,
14 a 10.2 MG reservoir, three PRV stations, a pump station, and related appurtenances.
15 Estimated capital costs for replacing the aquifer supply with a connection to the City of
16 Everett Pipeline No. 5 are as follows:
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22 Total Capital Costs, 1998 Dollars	23 \$21,065,000
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F. Coupled with the technical mitigating requirements proposed by Cross Valley
Water District, participation by OPL in a replacement source of supply should
provide the District Board with reasonable justification to withdraw protests
against construction of the proposed pipeline.