

1 **Q. Please state your name and employment position.**

2 A. My name is Frank Hopf. I am the vice president and manager of Olympic Pipe Line
3 Company (“Olympic”). My business address is 2319 Lind Avenue S.W., Renton,
4 Washington 98055.

5
6 **Q. What is your educational and employment background?**

7 A. I received a Bachelor of Science degree in Civil Engineering from Lafayette University in
8 1969, and a Masters of Business Administration degree from Boston University in 1977.
9 I came to Olympic in 1989 as its Vice President and manager. I have over twenty-nine
10 (29) years of experience in the engineering, design, construction, operation, and
11 management of pipelines for a number of companies including Texaco Pipe Line
12 Company, Shell Oil Company, and Olympic Pipe Line Company.

13
14 **Q. What topics will your direct testimony cover?**

15 A. My direct testimony is intended to address the following topics:

16
17 First, I will give a brief summary of Olympic’s business.

18
19 Second, I will describe the early efforts to investigate the development of a pipeline that
20 services Central and Eastern Washington.

21
22 Third, I will describe the process by which this project was conceived and the steps taken
23 to determine whether and how to proceed, including the reasons which support this
24 project.

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1 Finally, I will describe what Olympic did in order to get to the point of authorizing the
2 preparation of an application before the Energy Facilities Site Evaluation Council
3 (“EFSEC”).
4

5 **Q. Who is Olympic Pipe Line Company?**

6 A. Olympic is a common carrier of refined petroleum products which provides transportation
7 services to petroleum shippers. Olympic was formed in 1961 as a Delaware stock
8 corporation. The company is owned by Texaco Trading and Transportation (“TTTT”)
9 (37.5%), Atlantic Richfield Company (“ARCO”) (37.5%), and GATX (25%). Olympic’s
10 offices and related pipeline facilities are located in Renton, Washington. Olympic has a
11 total of 67 employees. There are sixty-two (62) full-time Olympic employees and five (5)
12 management employees provided by Texaco Pipe Line Inc. Annually, Olympic
13 contributes approximately \$1.45 million in tax revenues and fees to Washington State and
14 its municipalities and locales, including license fees, excise taxes, property taxes,
15 franchise fees, and state and local taxes.
16

17 **Q. How does Olympic provide transportation services to shippers?**

18 A. Since 1965, Olympic has operated a Western Washington pipeline system, which
19 currently includes four hundred (400) miles of underground petroleum product pipelines.
20 Olympic constructed the existing pipeline system prior to the creation of EFSEC. The
21 existing pipeline system originates at the four oil refineries in Skagit and Whatcom
22 Counties, transports refined petroleum products south to the Seattle-Tacoma area and
23 Olympia, then continues south to serve the Vancouver, Washington and Portland, Oregon
24 areas. The system consists of two (2) parallel lines, a 16-inch and a 20-inch line, starting
25 near Mount Vernon and running south to Renton. At Renton, the 16-inch line feeds

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1 Seattle (Harbor Island), Renton, and Sea-Tac Airport terminals through 12-inch lines. At
2 Renton, the 20-inch pipeline is reduced to a 14-inch pipeline which flows south to
3 Tacoma, Olympia, Vancouver, and Portland.
4

5 **Q. What is the quantity of petroleum products transported by Olympic annually?**

6 A. Nearly all of the gasoline, diesel, and jet fuel consumed in Western Washington is
7 transported by Olympic. Olympic transports approximately four and a half billion gallons
8 of refined fuels through its Western Washington pipeline system each year. In order to
9 put this into perspective, Olympic moves more freight tonnage via the existing pipeline
10 system than is moved on the inland Columbia-Snake River system.
11

12 **Q. When did you first learn of the concept of potentially extending a petroleum
13 products pipeline from Western Washington to Eastern Washington?**

14 A. In 1989, I was employed by Shell Pipe Line Corporation and I served as a member of the
15 Board of Directors of Olympic Pipe Line Company. At that time, Shell was the largest
16 part owner of Olympic and Shell was bidding to take over management responsibilities at
17 Olympic. At an Olympic Board of Directors meeting in April 1989, Mr. Charles Dallum
18 (a Texaco employee and Olympic Board of Directors member at that time) made a
19 presentation to the Board regarding the desire of shippers to have in place a petroleum
20 products pipeline extending from Western Washington to Eastern Washington as a more
21 efficient, reliable, cost-effective and environmentally sound means to transport their
22 products. The Board took no action on Mr. Dallum's recommendations. Later that year, I
23 accepted the position of vice president of Olympic, and relocated to Western Washington.
24

25 **Q. When was this concept raised again?**

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1 A. In 1991, Texaco Pipe Line studied this concept of a petroleum products pipeline
2 extending from Western Washington to Eastern Washington. I understand Chevron
3 participated in the study. This study was independent of Olympic and, as I understand it,
4 would not have involved Olympic had it gone forward. After a preliminary review, the
5 project was abandoned.

6
7 **Q. When did you become involved in the concept of a pipeline connecting Western and**
8 **Central/Eastern Washington?**

9 A. Later in 1991, after learning more from shippers of their desire to have access to a
10 pipeline from Western Washington to Central/Eastern Washington to transport their
11 product, I inquired of Olympic's Board of Directors whether there would be any objection
12 if I pursued the investigation and analysis of such a project. I was encouraged to do so.

13
14 **Q. Why were the shippers looking for a pipeline connecting Western and**
15 **Central/Eastern Washington?**

16 A. Currently, petroleum products are shipped from the Western Washington refineries to
17 Central/Eastern Washington by three methods.

18
19 In the first route, product is shipped from the refineries to Portland on Olympic's north-
20 south pipeline, where it is piped into tankage and then loaded onto barges. The barges
21 transport the product up the Columbia River where it is off-loaded in Pasco. This
22 constitutes a 300-mile pipeline movement and a river barge trip of approximately 225
23 miles.

24 In the second route, product is shipped from the refineries by ocean-going tankers and
25 barges through Puget Sound and the Strait of Juan de Fuca, and along the Washington

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1 coastline, arriving in Portland for off-loading into tankage. The product is then on-loaded
2 to barges and transported up the Columbia River to its off-loading point at Pasco. This
3 constitutes a 400-mile tanker or ocean barge trip and a 225-mile river barge trip.
4

5 In the third route, product is shipped from the refineries in Olympic's north-south
6 pipeline and piped to the Seattle-Tacoma area, where it is then on-loaded onto tanker
7 trucks which carry the product across Snoqualmie Pass into Central and Eastern
8 Washington.

9
10 The shippers wanted a more cost effective, efficient, reliable, safe and environmentally
11 sound means of transporting their product: cost effective in that the shippers wanted a
12 mode of transportation that is less expensive than water and truck delivery; efficient in
13 that the shippers wanted to be able to carry a minimum of inventory, to be able to carry a
14 minimum of product in storage to accommodate the logistics; and reliable in that supply
15 is not subject to weather or equipment delays. And they wanted, of course, a safe and
16 environmentally sound mode of transport. The proposed pipeline reduces the current
17 525-mile trip to a 231-mile pipeline trip; it reduces the number of product transfers en
18 route to two; it eliminates the need for over-the-water product transfers; it substantially
19 reduces the need for 60-70 tanker truck trips per day over the Cascades; and it reduces the
20 need for ocean-going tankers and barges departing from Washington's refineries to travel
21 south to Portland. Moreover, the product transfers are seamless under the proposed
22 project. In other words, the transfers occur within hard pipe without "connect-
23 disconnect" product transfers.

24 **Q. Did you begin to investigate whether a pipeline to Eastern Washington would be**
25 **feasible?**

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1 A. Yes. Initially, I believed that a viable project could be created if a pipeline started from
2 our existing system north of Renton where we had excess capacity. I also felt a new
3 Central Washington distribution center had to be considered. Olympic has excess
4 capacity where the 16-inch and 20-inch pipelines run from the refineries to Renton.
5 South of Renton, the 14-inch pipeline running to Portland is out of capacity and
6 expansion opportunities. I believed a new distribution center with a truck rack in Central
7 Washington would allow Olympic to pick up the Central Washington business currently
8 being served by truck delivery from Seattle and Tacoma terminals (primarily over
9 Snoqualmie and Stevens Passes).

10
11 **Q. How did you determine whether such a concept would be feasible?**

12 A. At that time, I had begun to develop a computerized model of the supply, distribution and
13 cost of petroleum products in the Pacific Northwest. Since 1985, I had been toying with
14 the concept of such a model, but we did not have the appropriate computer capacity nor
15 was there an immediate need for its development. However, with the advent of the
16 personal computer, the advances in technology, and now the growing interest of shippers
17 in having access to a pipeline to Central and Eastern Washington, I devoted a substantial
18 amount of time and effort to the development of a computerized model. In a nutshell, the
19 model allows Olympic to test and analyze the efficiency and cost of the different modes
20 of transporting petroleum products and investment options in Washington and Oregon.
21 By changing the different investments in transportation facilities, and the amounts of
22 product transported, we were able to determine how much it would cost to transport each
23 barrel, what the necessary tariff would be, how it would impact the existing pipeline
24 system and modes of transport, and whether it would be necessary to construct additional
25 facilities or pump stations. For instance, by placing in the model a pipeline to Eastern

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1 Washington, with construction costs, product quantities, transportation costs and tariff
2 rates, we are able to determine the impact on the remaining pipeline system and,
3 ultimately, whether such a project would be viable and efficient.
4

5 **Q. How did you obtain the market data necessary for entry into your model?**

6 A. The model was created with market data from Energy Analysts International, Inc. in
7 Denver, Colorado (“EAI”). EAI is a leading supplier of market data and projections
8 regarding petroleum and energy in the United States. We also loaded into the model data
9 we possessed, including actual product shipments, transportation costs, storage costs,
10 operating costs, existing throughput, and flow rates.
11

12 **Q. What did you learn from this model?**

13 A. We tested the model and analyzed numerous options over a significant period of time.
14 For instance, at one point we felt that a pipeline to Ellensburg would be the most
15 preferred option for Olympic. However, after analyzing this option with the market data
16 and the model, it made no sense to extend the pipeline just to Ellensburg. The capital
17 cost of constructing a pipeline over the Cascades would require revenue from movements
18 both to Central Washington as well as those continuing on to Eastern Washington. The
19 model demonstrated that a pipeline to Eastern Washington would provide a substantially
20 more cost-effective means for shippers to transport their products, and that a substantial
21 amount of product would be shipped via the pipeline. In other words, the pipeline would
22 be used by shippers.
23

24 **Q. Did you then investigate other options for a pipeline to Central and Eastern**
25 **Washington?**

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1 A. Yes, as I said, we analyzed many options. In the end, the option that truly made sense, for
2 a number of reasons, was extending a new pipeline from the refineries in Western
3 Washington to Pasco, with a new distribution facility at Kittitas.

4
5 **Q. Why did that option make sense?**

6 A. First and foremost, it filled the expressed need of the shippers. Our shippers had been
7 asking for a more reliable, cost effective and efficient mode of transporting their product
8 to Central and Eastern Washington. A pipeline from the refineries to Pasco is exactly
9 what they were looking for. Our calculations indicated that the transportation of
10 petroleum products by pipeline to Pasco would be almost 41% less expensive than
11 transporting product by the existing modes of transport. Thus, it is less expensive for our
12 shippers to transport their product.

13
14 In addition to meeting the needs of our shippers, the proposed pipeline offers other related
15 benefits:

16
17 First, the proposed pipeline would free up capacity on our existing lines to Portland. A
18 significant amount of petroleum product which is transported on our existing line to
19 Portland is ultimately shipped by barge to Pasco. The proposed pipeline to Pasco will
20 take that product which was headed to Portland via the north-south pipeline and
21 ultimately to Pasco via barge. Thus, the north-south line would be able to transport
22 additional product to serve Portland.

23
24 Second, the proposed pipeline would free up capacity in the Seattle and Sea-Tac market.
25 Currently, a significant quantity of product is off-loaded in Seattle and transported to

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1 Central and Eastern Washington by truck over Snoqualmie Pass. The proposed pipeline
2 allows for that product to remain in the Seattle market. Thus, the need for additional
3 pipeline capacity to the Seattle market would be postponed significantly.
4

5 **Q. Now, let me ask some follow-up questions regarding your testimony so far. Have**
6 **you received indications from shippers that they would utilize the proposed**
7 **pipeline?**

8 A. Yes. Some shippers have actually executed written Through-Put and Deficiency
9 Agreements, which in essence provide that those shippers commit to transport product or
10 pay for transportation of product based upon certain factors. A listing of the shippers
11 who would potentially use the proposed pipeline is set forth in the revised application at
12 § 1.1.6.
13

14 **Q. Has the quantity of product shipped from Western Washington to Central and**
15 **Eastern Washington by the existing modes of transportation remained relatively**
16 **constant over the past several years?**

17 A. No. The shipments of product by Columbia River barge have nearly doubled since 1991.
18 We believe that the amount trucked over the passes to Central Washington has also
19 doubled during this period. An estimated 29,898 barrels per day were transported from
20 the Western Washington refineries to Central and Eastern Washington by truck and barge
21 in 1991. This included 20,605 barrels per day barged up the Columbia River, and 9,213
22 barrels per day trucked over the Cascades. By 1996, the average volume of shipments
23 had increased to nearly 52,205 barrels per day. This included 38,405 barrels per day
24 barged up the Columbia River, and 13,800 barrels per day trucked over the Cascades. It
25 is currently estimated that approximately 60 to 70 fuel-carrying tanker trucks are crossing

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1 the Cascade Mountains every day. Attached hereto as Exhibit A is a table that indicates
2 the volume of product transported into Central and Eastern Washington from 1987 to
3 1996 based on data from EAI.

4
5 **Q. What is the capacity of the four refineries in Northwestern Washington?**

6 A. The four refineries in Northwestern Washington are ARCO at Cherry Point, Tosco at
7 Ferndale, and Texaco and Tesoro at Anacortes. (The Shell refinery at Anacortes was
8 recently purchased by Tesoro.) The combined light product (gasoline, diesel, and
9 kerosene-based jet fuel) output capacity of the four refineries is approximately 440,000
10 barrels per day. Approximately 75% of that product, or 320,000 barrels per day, is
11 currently transported by pipeline from the refineries. The remaining 120,000 barrels per
12 day are transported by sea-going barges, tanker ships or tanker trucks. Attached hereto as
13 Exhibit B is a graph which shows how product is transported in and from Washington
14 according to EAI market data.

15
16 **Q. You testified that there is a bottleneck south of Renton regarding product being
17 shipped on the existing pipeline from the refineries. Could you explain that?**

18 A. Yes. The capacity of the existing pipeline from the refineries to Renton is approximately
19 400,000 barrels per day. The capacity of the existing pipeline from Renton to
20 Tacoma/Olympia is approximately 180,000 barrels per day. The capacity of the existing
21 pipeline from Tacoma/Olympia to Portland is only 158,000 barrels per day. The demand
22 by shippers to transport product on the Renton to Portland segment of the system exceeds
23 the capacity of the existing pipeline. Because Olympic is a common carrier, each
24 qualified shipper is only able to transport a portion of their product, and available
25 capacity is therefore prorated among the shippers.

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Q. What would be the initial capacity of the proposed pipeline?

A. The proposed pipeline would initially have three pump stations and could transport approximately 60,000 barrels per day of product. The estimated cost of construction for the project is \$105 million.

Q. You testified that the construction cost for the proposed Cross-Cascade pipeline is \$105 million. How does that compare with the cost of expanding or modifying the existing pipeline system -- which has been suggested by opponents of this project?

A. We looked at the types of modifications and expansions of the existing system which are now being suggested by opponents of the project. Those concepts included (1) abandoning the existing 14-inch pipeline south of Renton, removing it and constructing a larger pipeline in its place; (2) constructing a larger pipeline next to the existing pipeline, and then abandoning the existing pipeline; (3) constructing additional parallel sections of the existing pipeline, to supplement the system (i.e., looping); and (4) constructing an independent parallel pipeline to handle all expansion volumes destined for Eastern Washington. The proposed Cross-Cascade pipeline is the least expensive alternative and generates the most value for Olympic's shippers. Attached as Exhibit C is a table that shows the comparative cost of each of these four concepts as compared to the proposed pipeline.

1 **Q. You testified that the proposed Cross-Cascade pipeline will result in a more cost**
2 **effective mode of transportation for shippers. Would you explain your analysis?**

3 A. Pipeline tariffs to shippers have a large capital cost element. The cost to shippers for
4 transportation utilizing the existing supply system (existing pipeline, Portland and Pasco
5 terminals, barge) is approximately \$2.14 per barrel. The cost to ship product on the
6 proposed pipeline would be \$1.52 per barrel, an estimated savings to shippers of 41% per
7 barrel. None of the other existing modes of transportation nor any of the alternatives
8 which we analyzed could achieve these savings, let alone a 41% savings. Indeed, all of
9 the options as well as the other existing modes of transportation were more expensive.
10 Attached as Exhibit D is a table which compares the shipping costs of the various modes
11 of transportation.

12
13 **Q. Did you form an opinion regarding what impact might occur to the existing modes**
14 **of transporting petroleum products if the proposed pipeline is not constructed?**

15 A. Yes. Based upon the data provided by EAI, the demand and consumption of refined
16 petroleum products in Central and Eastern Washington will grow at an annual rate of
17 approximately 1.5 percent. Olympic's spill analysis dated February 28, 1997 utilized this
18 rate of growth and projected the impact on existing modes of transporting product if the
19 pipeline were not constructed. The analysis was projected for a 20-year period, from
20 1999 to 2019. The analysis indicated that, as of 1999, tanker truck traffic from Western
21 Washington to Central and Eastern Washington would amount to 13,590 barrels per day.
22 This amount would increase to 21,370 barrels per day by the year 2019. Daily tanker
23 truck trips from Western Washington to Central and Eastern Washington would increase
24 from approximately 71 trips per day in 1999 to 112 trips per day in the year 2019.
25

1 The analysis indicated a similar rate of growth for barge traffic on the Columbia River. In
2 1999, barge shipments on the Columbia River are projected to be 39,915 barrels per day,
3 which will increase to 62,764 barrels per day in the year 2019. In short, without the
4 proposed pipeline, reliance on the existing modes of transportation will increase
5 approximately 1.5 percent annually.
6

7 **Q. What was the next step in your investigation of a pipeline from the refineries to**
8 **Eastern Washington?**

9 A. Knowing that we had an economically viable project, I began to investigate whether
10 potential routes existed for a pipeline extending from the refineries in Western
11 Washington to Pasco. The literature which I studied indicated that existing rail-trails and
12 energy right-of-ways were being utilized as utility corridors for such things as pipelines
13 and fiber optic cable. I researched the existence of rail-trails and existing right-of-ways
14 from Western Washington to Eastern Washington and discovered that, indeed, there was
15 a significant opportunity to utilize existing corridors for the proposed pipeline.
16

17 **Q. When did you seek approval from the Board of Directors to proceed further?**

18 A. That came in stages. All of my investigation and research, including the development and
19 analysis of the model, occurred over two years, from 1992 to mid-1994. By that time, I
20 felt sufficiently confident with the project that I advised the Olympic Board of Directors
21 that the concept of a cross-cascade pipeline would be viable. I advised the Board of my
22 best cost estimates at that time and that the shippers with whom I had discussed the
23 project had all indicated their support. I requested "seed" money from the Board in order
24 to further develop this proposal.
25

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1 **Q. What was the Board's response?**

2 A. The Board was concerned that it may be uniquely difficult to obtain permits in a timely
3 manner for a new pipeline in the state of Washington in light of past experiences with
4 pipeline proposals, such as Northern Tier. The Board instructed me to meet with
5 environmental leaders and explain the project, assess their reaction, and report back to the
6 Board. We then conducted meetings with two environmental leaders, Darlene
7 Madenwald, who was just completing her term as president of the Washington
8 Environmental Council, and Mary Riveland, director of the Department of Ecology at that
9 time.

10
11 **Q. What was their reaction?**

12 A. Both Ms. Madenwald and Ms. Riveland, as well as others from the environmental
13 community who came later, were interested in a proposal which would reduce barge
14 traffic on Puget Sound, reduce barge traffic on the Columbia River, and reduce tanker
15 truck traffic over Snoqualmie Pass. Everyone showed interest, and wanted to look at the
16 proposal further.

17
18 **Q. What happened next?**

19 A. I went back to the Board of Directors in December of 1994 and reported my progress.
20 The Board determined to provide preliminary funding in order to take the proposal to the
21 next level. We hired right-of-way agents to go into the field, analyze and determine a
22 proposed route, and begin to seek options on rights-of-way. We began speaking with
23 community, civic, and business leaders in order to explain the project and gain their
24 support. We met with State legislators in whose districts the pipeline might be located.
25

1 We also conducted interviews for an environmental consultant and ultimately selected
2 Dames & Moore, with Katy Chaney as the lead consultant.

3
4 **Q. Did you ultimately seek approval of Olympic's Board to proceed with the project?**

5 A. Yes. I went back to the Board of Directors and presented a progress report and reported
6 the positive developments that had occurred. Our right-of-way agents had indicated that a
7 route was both feasible and could be procured. Community, civic, and business leaders
8 had indicated favorable support. Members of the legislature were interested in the project
9 and we had confidence that Dames & Moore would do an excellent job in the preparation
10 of an appropriate application for EFSEC. In 1995, the Board authorized the preparation
11 and filing of an application for the Cross-Cascade Pipeline Project.

12
13 **END OF DIRECT TESTIMONY**

14
15
16 I declare under penalty of perjury that the above testimony is true and correct to the best of my
17 knowledge. Executed this _____ day of September, 1998.

18
19
20 _____
21 Frank Hopf

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