ANALYSIS
OF
PROPOSED CROSS CASCADE PIPELINE
TIDEWATER BARGE LINES
AND
EASTERN WASHINGTON PETROLEUM
SUPPLY AND DEMAND

SEPTEMBER 10, 1996
I. Tidewater Barge Lines

History

Tidewater Barge Lines (Tidewater) was established in 1933 by Lew S. Russell, Sr. In 1942 Tidewater merged with Shaver to form Tidewater-Shaver Transportation Company. In 1960 Tidewater again became an independent company. Their corporate headquarters are in Vancouver, Washington. The current president and owner, Ray Hickey, began with Tidewater in 1951 as a deckhand and worked his way up to President and General Manager in 1977, and in 1983, purchased the company from the founders son. In 1987, Tidewater purchased Columbia Marine Lines from Crowley Maritime.

Tidewater currently operates 16 tugs and 110 barges and they carry about 80 percent of the commerce up and down the Columbia River system. Their petroleum shipments account for about one-third of Tidewater's revenues. Tidewater also has a subsidiary, Tidewater Environmental Services (TES) which was developed to clean-up oil spills on the Columbia River. Tidewater also owns their own shipyard and does all of their own maintenance on their vessels.

Tidewater currently has three double hull barges for transporting petroleum products on the river. They have one more under construction which will be delivered in March of 1997. With the delivery of the fourth barge, all petroleum products will be transported on double hull barges -- 18 years before double hulls are required by the Federal government.

Tidewater is the only barge company currently shipping petroleum products up the Columbia River from Portland. These products include gasoline, diesel fuel, home heating oil, and aviation fuel. Since 1986 the amount of petroleum products shipped by Tidewater has more than doubled from 7.8 million barrels per year in 1986 to 16.5 million barrels per year in 1995. (Please see chart #1)
Spill Rates

Tidewater has an excellent safety record. The National Transportation Safety Board (NTSB) recently completed a study of Colonial Pipeline Company (Colonial) and thirteen other unidentified refined product petroleum pipeline companies -- the companies are only identified as companies A through M (this report did not study barges, tankers, trucks, or rail transportation). In the NTSB report, rates are calculated in million of barrels spilled per million barrels transported in the years 1992, 1993, and 1994. In these three years, Tidewater's and Olympic Pipeline Company (Olympic) spill rates were substantially lower than the average spill rate for the 14 pipeline companies studied by the NTSB. In these three years, Tidewater's spill rates were substantially below the rates of the 14 pipeline companies (Please see chart #2).

Another measure of spill rate, is the number of major spills per million ton miles transported. A study conducted by the International Maritime Organization (IMO) with the cooperation of the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE), and the National Oceanic and Atmospheric Administration (NOAA) showed that railroads had the highest rate of spills, followed by pipelines, trucks, and vessels.

The IMO study indicated that while the incident rates for major spills (spills greater than 10,000 gallons) for vessels decreased by 60% between 1988 and 1993 while the rates for pipelines and railroads increased significantly. During the six year period from 1988-1993 were data is available from Tidewater that corresponds to years contained in the IMO study, Tidewater's rate is zero (Please see Chart #3).
Chart 3 - Major Spills Per Billion Ton Miles Transported
Table A -- Major Spill Rates Per Billion Ton Miles Transported

<table>
<thead>
<tr>
<th>Year</th>
<th>Pipelines</th>
<th>Vessels</th>
<th>Tidewater</th>
<th>Railroads</th>
<th>Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>0.01</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>1989</td>
<td>0.03</td>
<td>0.06</td>
<td>0.00</td>
<td>0.00</td>
<td>0.03</td>
</tr>
<tr>
<td>1990</td>
<td>0.03</td>
<td>0.08</td>
<td>0.00</td>
<td>0.14</td>
<td>0.00</td>
</tr>
<tr>
<td>1991</td>
<td>0.10</td>
<td>0.04</td>
<td>0.00</td>
<td>0.28</td>
<td>0.00</td>
</tr>
<tr>
<td>1992</td>
<td>0.13</td>
<td>0.02</td>
<td>0.00</td>
<td>0.20</td>
<td>0.14</td>
</tr>
<tr>
<td>1993</td>
<td>0.13</td>
<td>0.02</td>
<td>0.00</td>
<td>0.49</td>
<td>0.03</td>
</tr>
<tr>
<td>6 Year Average</td>
<td>0.07</td>
<td>0.05</td>
<td>0.00</td>
<td>0.19</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Over the five year period where data is available from Tidewater, the incidents of major spills per billion ton miles was 40% higher for pipelines than for vessels. During this same period the most frequent spill incidents were for railroads. It is important to note that the IMO study was for all types of petroleum products including highly corrosive crude oil not only refined products as in the NTSB study.

Over the past ten-and-a-half years where comparable data is available from both Tidewater and Olympic, Tidewater's average spill rate in barrels spilled per million barrels transported of 0.9 barrels per million transported is one-eight or 12.5% of Olympic's 7.2 barrels spilled per million barrels transported.

During this period, Olympic's largest spills were in 1986 when there were spills of 820 barrels and 2,000 barrels and another in 1988 when there was 4,000 barrels spilled. Combined these three spills account for approximately 92% of the petroleum products spilled by Olympic. Tidewater's largest spill was in 1993 when 78.5 barrels were spilled. This one spill accounts for approximately 70% of the petroleum products spilled by Tidewater.
Since 1990, the barrels of petroleum products spilled per million transported by both Tidewater and Olympic have been very low by industry standards (Please see chart #4).

**Spill Prevention**

As noted above Tidewater plans to ship all their petroleum products by double hull barge by March of 1997 -- eighteen years before mandated by the Federal government. The new Tidewater double hull barges are the largest inland double hull tank barges in the United States. They are 274 feet in length, 84 feet wide, and 18.5 feet deep. Each have the ability to carry 65,000 barrels of petroleum products in 12 tanks. The hull and tanks are one-half inch steel plate and the void (space between the tanks and the hull) is thirty-six inches which is 50% greater than the twenty four inches required by the USCG. Each barge has a 20-foot container on board with booms and other oil spill recovery equipment. Each barge also has spill alarms, tank viewing ports, and other safety and spill monitoring equipment.

Tidewater also requires all of their personnel involved in the transportation of petroleum products to have a Grade "A" USCG Tankerman license which is tougher than the USCG manning requirements. Tidewater employees also required to receive OSHA training and participate in annual and random drills. Tidewater through (TES) has additional clean up equipment pre-positioned, and at their terminals, along the Snake & Columbia Rivers. Their response plan is designed to contain any spill within 12 hours. All of Tidewater's vessels have detailed reference manuals and check lists for loading and unloading products. Tidewater operational procedures also limit each tank to be only filled to 75% of capacity to reduce spills. In addition, Washington State Office of Marine Safety (OMS) require owners of vessels transporting petroleum products on Washington State Waters to have $500 million dollars in liability insurance.
The USCG and the OMS consider Tidewater an excellent company to work with and they have observed a higher level of safety and awareness with Tidewater than exhibited with other companies.
II. OLYMPIC PIPELINE COMPANY

History

Olympic is a Renton, Washington based company that is incorporated in Delaware that has operated a 400 mile petroleum product pipelines from Bellingham to Portland. They currently operate a 16-inch pipeline from refineries near Bellingham to a site near Burlington and another 16-inch line from refineries in Anacortes to Burlington. From Olympic's Allen Station in Burlington they operate a 16-inch line and a parallel 20-inch line to their terminal in Renton. From Renton they operate a 14-inch line to Portland. They also operate lines from their Renton terminal to terminals at Harbor Island and Sea-Tac Airport. With the exception of the 20-inch line between Allen Station and Renton which was built in the 1970's, the 16 and 14-inch lines were built in 1965.

The pipeline was originally owned by Texaco, Mobil, and Shell. Mobil sold their interest to British Petroleum who then sold to GATX. Shell sold their interest to ARCO. Currently Texaco and ARCO both own 37 1/2% and GATX owns 25%. During the entire period of operation, Texaco has been the operating company.

Spills

Since 1965, Olympic has had nine major spills (spills greater than 10,000 gallons). Olympic spill rate is better than the industry average. Olympic was not able to provide data indicating the number of spills per billion ton miles for any years corresponding to the years of the IMO study, however, Olympic was able to provide complete spill and volume data since 1965.

When compared to the 14 companies in the NTSB report Olympic had a very low spill rate for the years 1992-1994. Olympic had the 4th lowest rate in 1992, the second lowest rate in 1993, and 5th lowest rate in 1994. In 1992, Olympic's spill rate was 8.9% of the
"industry" average, 0.5% of the "industry" average in 1993, and 2.7% of the "industry" average in 1994 (Please see chart #5). On average for the three years of the NTSB study, Olympic had the lowest average spill rate of 0.64 barrels spilled per million barrels transported or 4.23% of the industry average (Please see chart #6).

Table B -- Barrels Spilled Per Million Barrels Transported

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
<th>1994</th>
<th>3-Year Average</th>
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<tr>
<td>Colonial</td>
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<tr>
<td>A</td>
<td>14.5</td>
<td>2.5</td>
<td>0.3</td>
<td>5.8</td>
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<tr>
<td>B</td>
<td>21.5</td>
<td>32.4</td>
<td>130.3</td>
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<tr>
<td>C</td>
<td>3.9</td>
<td>3.4</td>
<td>1.0</td>
<td>2.8</td>
</tr>
<tr>
<td>D</td>
<td>1.6</td>
<td>0.0</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>E</td>
<td>39.8</td>
<td>2.6</td>
<td>5.1</td>
<td>15.8</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>0.8</td>
<td>2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>G</td>
<td>0.7</td>
<td>6.2</td>
<td>0.0</td>
<td>2.3</td>
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<tr>
<td>H</td>
<td>0.0</td>
<td>2.7</td>
<td>0.0</td>
<td>0.9</td>
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<tr>
<td>I</td>
<td>8.6</td>
<td>5.5</td>
<td>2.9</td>
<td>5.6</td>
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<tr>
<td>J</td>
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<td>12.6</td>
<td>11.5</td>
<td>23.9</td>
<td>16.0</td>
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<td>L</td>
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<td>50.2</td>
<td>50.8</td>
<td>40.8</td>
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<tr>
<td>M</td>
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<tr>
<td>Olympic</td>
<td>1.3</td>
<td>0.1</td>
<td>0.5</td>
<td>0.6</td>
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<tr>
<td>14 Company Average</td>
<td>15.1</td>
<td>10.8</td>
<td>19.5</td>
<td>15.13</td>
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Over the past 21 years, Olympic has spilled an average of 5.66 barrels for every million transported. This is about 37.4% of the "industry" average 15.13 barrels spilled per million barrels transported for the 14 pipeline companies in the NTSB study. For
Chart 5 - Barrels Spilled Per Million Barrels Transported
most years in the 1965-1996 period, Olympic's spill rate has been significantly lower than the 15.13 "industry" average determined from the 1992-1994 NTSB study, however, there have been several years when the spill rate has be higher than the "industry" average (please see chart #7).

Volume
According to Olympic, the current pipeline is running at capacity south of Renton where the current 20-inch line terminates. The amount of product transported by Olympic has grown steadily from about 24.7 million barrels in 1966 to about 111.8 million barrels in 1995 (please see chart #8).

Spill Detection and Prevention
According to Olympic, their spill detection system can detect a spill in excess of 600 barrels per day in 15 minutes. Therefore, their system could detect a spill after only 263 gallons or 6.25 barrels had leaked from the pipeline. Should the leak be smaller than the level for monitoring, their inventory management system would detect a loss of 60 barrels from the system.

One of the major causes of spills from pipelines is third party damage -- an unauthorized individual digging around a pipeline. According to Olympic officials, they over-fly their line at least once a week looking for signs of leaks and possible 3rd party intervention. Olympic's operating procedures require, that a written report be made of any potential third party problems and what actions were taken.

The right-of-way used by Olympic is well marked and residents and businesses living along the right-of-way are informed on a regular basis to avoid digging near the pipeline and how to report leaks via a 24-hour emergency phone number that does accept collect calls.
Olympic also uses a so-called "Smart PIG" to search for leaks and flaws in the pipeline wall. These smart pig's are electronic devices that are run the length of the pipeline to search for corrosion and pipeline wall weaknesses. Olympic uses a smart pig every four to five years which is consistent with industry standards for refined product pipelines.

**Spill Clean-up**

According to statistics provided to the Washington State Energy Facility Site Evaluation Council (EFSEC) since 1965, Olympic has spilled 12,625 barrels and has recovered 7,853 barrels or 62% of the barrels spilled. Olympic has pre-positioned clean up supplies should any incident occur.

**Olympic's Major Failure**

In September of 1986 Olympic had a major spill where their pipeline crosses the Maple Valley Highway and the Cedar River several miles east of downtown Renton. According to information provided to EFSEC the spill was at-least 2,000 barrels and an unknown quality was recovered. Olympic officials admit that the spill went undetected for several months. According to residents of the neighborhood, they sensed there was a leak from the pipeline and Olympic failed to act after repeated calls to their emergency spill line. According to Olympic officials, while the spill did occur, they cleaned up the spill, compensated the residents for their inconvenience, built a park, and Olympic is considered good neighbors by the residents.

In personal interviews with the residents, I found a somewhat different story. While the new residents -- those who moved in after the spill -- generally believe that Olympic is a good neighbor, several of them did not know there was a petroleum pipeline there, signs of leaks, or how to report a leak.
In general, the residents who were there when the spill occurred, do not consider Olympic a good neighbor. I was informed that Olympic did not take their calls notifying them of a leak seriously and were only compensated after protracted and contentious legal battles. In general, the long time residents do not consider Olympic a good neighbor. However, most believe they were finally compensated fairly for their inconvenience due to the spill.

**Insurance**

Unlike vessels pipelines there are no liability requirements. Olympic carries $25 million dollars of liability insurance with a $1 million dollar deductible. Should, the damage exceed $25 million, the damages the companies owning the pipeline have a contract to pay damages. In their previous spills, they have never exceeded their deductible, however, in today's dollars they may have exceeded their deductible for the Renton spill.

Over the past 21 years, Olympic has spilled an average of 5.66 barrels for every million transported. This is about 37.4% of the "industry" average 15.13 barrels spilled per million barrels transported for the 14 pipeline companies in the NTSB study. For most years in the 1965-1996 period, Olympic's spill rate has been significantly lower than the 15.13 "industry" average determined from the 1992-1994 NTSB study, however, there have been several years when the spill rate has be higher than the "industry" average (please see chart #7).
III. EASTERN & CENTRAL WASHINGTON SUPPLY & DEMAND

Sources of Refined Petroleum Products

Currently Eastern and Central Washington receive petroleum products from four sources, barges from Portland, the Yellowstone pipeline from Billings, Montana to Spokane, the Chevron Pipeline from Salt Lake City, and trucks from Western Washington. The barges from Portland get their product from refineries in Puget Sound and California.

The largest source for Eastern and Central Washington is barges which ship approximately 45,000 barrels per day. The second largest source is the Yellowstone pipeline which ships about 27,000 barrels per day. The third largest source is the Chevron pipeline which ships about 15,000 barrels per day. The fourth source, trucks, ship about 9,000 barrels per day with the majority going over Interstate 90. Combined the supply in Eastern and Central Washington is about 96,000 barrels per day (please see chart #9).

The refineries in Salt Lake City and Billings have seen their supply of crude oil drop over the past several years as the fields in Utah, Colorado, Wyoming, and Montana have declined. Currently, the Billings refineries receive 65% of their crude oil from Canada, 10% from Montana, and 25% from Wyoming. However, the amounts of crude from Canada will increase when the new "Express Pipeline" from Canada is completed in one and half to two years. The Express pipeline will initially provide 172,000 barrels of crude and will increase to 285,000 barrels of crude per day in two to three years. Refineries in both Billings and Salt Lake City will have access to the additional Canadian crude supply and will have no shortage. When the express pipeline is completed, and the reroute of the Yellowstone pipeline is completed, Conoco will be able to ship 160,000 barrels per day to Spokane.
Chart 9 - E. & C. Washington Petroleum Source

- 47% Barges
- 28% Yellowstone Pipeline
- 9% Chevron Pipeline
- 16% Trucks
The Tidewater barges on the Columbia River receive their product primarily from the Olympic pipeline, barges or tankers from Puget Sound refineries, or tankers from California refineries. Occasionally, they receive refined products from foreign countries on foreign flag tankers.

**Yellowstone Pipeline Interruption**

Service on the Yellowstone pipeline was recently interrupted when an Indian tribe refused to allow the pipeline to continue operating 16.5 miles of the pipeline through the Flathead reservation. Yellowstone offered the tribe a rental of $1.3 million dollars per year for 20 years to continue operating the pipeline through the reservation. When the tribe rejected the offer, Yellowstone built terminals on both sides of the reservation and began trucking product around the reservation. They now ship between the two terminals via rail cars. In addition, CONOCO has recently opened an office in Missoula, Montana, to begin negotiations with landowners adjacent to the reservation to reroute the pipeline around the reservation.

**Excess Capacity & Supply to Eastern and Central Washington**

Currently the supply exceeds the demand to Eastern and Central Washington. The Yellowstone pipeline could immediately increase the amount of product delivered to Spokane without any difficulty if the demand existed. In addition, Tidewater could also increase their deliveries to their terminal in Pasco by 50% almost immediately if the demand existed. With the completion of the initial phase of the Express Pipeline by 1998, the Yellowstone could increase its supply to Spokane to 100,000 barrels per day and to 160,000 barrels per day in the year 2000 if their reroute is completed and the Express Pipeline is completed on schedule. Moreover, the Chevron Pipeline could increase supplies to Pasco by 100% by the year 2000. Finally, Tidewater could increase their deliveries to 80,000 barrels per day without ordering any new
barges. If they demand was there, they could add a barge and increase deliveries by 20,000 barrels per day. The lock system on the Columbia River is currently only operating at 25% capacity. With the completion of the Cross Cascade Pipeline, the available supply to Central and Eastern Washington will increase three-fold by the year 2000.

<table>
<thead>
<tr>
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<tr>
<td>Barges</td>
<td>45,000</td>
<td>80,000</td>
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<td>Yellowstone Pipeline</td>
<td>27,000</td>
<td>100,000</td>
<td>160,000</td>
</tr>
<tr>
<td>Chevron Pipeline</td>
<td>15,000</td>
<td>20,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Cross Cascade Pipeline</td>
<td>0</td>
<td>60,000</td>
<td>110,000</td>
</tr>
<tr>
<td>Trucks</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>96,000</td>
<td>269,000</td>
<td>389,000</td>
</tr>
</tbody>
</table>

*Assumes completion of 1st phase (three pump stations) of the Cross Cascade Pipeline, completion of the first phase of the Express Pipeline from Canada providing crude to Billings and Salt Lake City refineries, and reroute of Yellowstone Pipeline around the Indian reservation.

*Assumes completion of 2nd phase of Cross Cascade pipeline (3 additional pump stations and completion of second phase of Express Pipeline.
IV. ENVIRONMENTAL GROUPS

The Cross Cascade Pipeline is opposed by the Washington Environmental Council, the Friends of the Earth, and by environmental consultant Fred Fellman. Their objections are primarily based on their belief that the pipeline is being designed to tie in with existing pipelines from Spokane to Billings and from Pasco to Salt Lake City to enable Puget Sound refineries to be able to supply refined products to Rocky Mountain and Mid-West states.

While these environmentalists are opposed to construction and operation of the Cross Cascades Pipeline, they are not supportive barging the product up the Columbia River either. For example, in the resolution opposing the Cross Cascades Pipeline the Washington Environmental Council (WEC) states:

"[the WEC] Supports the strongest possible environmental safeguards for any petroleum transportation and distribution system, and does not in any way endorse or support barging or trucking of petroleum as superior in safety or environmental protection." (emphasis added)

Environmentalists are also concerned that with the lifting of the ban on the export of Alaskan North Slope (ANS) crude and the construction of the pipeline, the chances of a spill on Puget Sound will increase. Until the ban was lifted all ANS crude was shipped on U.S. flag tankers to ports in Puget Sound, California, and to East and Gulf Coast ports via either the Panama Canal or the Trans- Panama Pipeline. The result of the ban was a glut of crude oil on the West Coast and higher shipping costs to Gulf and East Coast ports. However, now that the ban is lifted ANS crude can now be exported, on U.S. flag vessels, to Japan and other foreign countries. Environmentalists believe that removal of the ban on the export of ANS crude will create a shortage of crude for West Coast refineries and the result will be a huge increase in foreign flag tankers to replace the lost ANS crude. The Environmentalists
also believe the Cross Cascades Pipeline will increase the demand for foreign crude brought by foreign flag tankers.

However, these concerns are not justified. According to the Washington State OMS only a few foreign flag tankers currently call on Puget Sound refineries. While many foreign flag ships have a poor safety reputation, the OMS requirement of $500 million in liability eliminates all but the safest tankers from entering Puget Sound. Unsafe tankers will be unable to obtain insurance because no insurance company would be willing to expose themselves to a potential spill by an unsafe tanker. According to OMS the few foreign flag tankers that currently call on Puget Sound or Columbia River ports are "first class" operations.

While there has been a glut of ANS crude on the West Coast, USCG, DOE, and OMS officials believe the ANS crude most likely to be exported is oil that was transported to the East and Gulf coasts via the Panama Canal and the Puget Sound, and other West Coast, refineries will continue to receive the same amount of ANS as they have in the past. This is likely to occur because ANS crude exported has a competitive advantage over ANS crude destined for East and Gulf Coast ports. However, the same advantage that some foreign ports have over Gulf and East Coast ports does not apply to Puget Sound ports. In addition, Puget Sound refineries have access, via an existing pipeline, to Canadian crude that can replace any reduction in ANS oil. Moreover, because Puget Sound refineries currently export about 150,000 barrels of refined products daily to Oregon, California, Alaska, and other ports, 110,000 barrels could be shipped daily through the Cross Cascade Pipeline without and requirement for additional crude oil to Puget Sound refineries.19

The opposition to the Cross Cascade Pipeline by environmentalists is quite interesting when you take a close look at how petroleum is
now transported to Eastern Washington. Over a quarter of Eastern Washington's petroleum products are transported by the Yellowstone Pipeline (See Chart 9) and the Yellowstone Pipeline is the best source to provide additional products to Eastern Washington (See table C) in the future if the Cross Cascade Pipeline is not built. Because the Yellowstone Pipeline has a significantly worse spill record than Olympic, it would be logical the environmentalists would support an alternative to the Yellowstone Pipeline. According to the Missoulian (Montana):

"since 1954, Yellowstone has spilled more than 3.5 million gallons of gasoline onto the ground, into the ground water, and into Montana streams".

According to the figures reported by the Missoulian and spill and shipment amounts provided by Olympic, the Yellowstone Pipeline, on average spills almost five times more per year than Olympic while they ship substantially less product.

Table D -- Barrels Spilled Per Year

<table>
<thead>
<tr>
<th></th>
<th>Years of Operation</th>
<th>Total Number of Barrels Spilled</th>
<th>Average Number of Barrels Spilled Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olympic Pipeline</td>
<td>31</td>
<td>12,625</td>
<td>407</td>
</tr>
<tr>
<td>Yellowstone Pipeline</td>
<td>42</td>
<td>83,333</td>
<td>1,984</td>
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The other issue of Puget Sound refineries being the supplier of petroleum products to points east is not justified either for several reasons. First, to enable a pipeline to be reversed, all of the customers would need to approve the request and AMOCO would reject any proposal to reverse the Chevron pipeline from Salt Lake City. AMOCO would be opposed to any reversals because they, unlike Chevron, do not have West Coast refineries or crude reserves and would therefore have no way to ship products to their current customers in Washington and Idaho. Second, once the Express Pipeline is completed, there will be an oil glut in the Mountain
and Plains States, therefore, it is unlikely that Puget Sound refineries could compete with Salt Lake City, Billings, and Denver refineries. And, third, the Cross Cascade Pipeline only has a maximum capacity of 110,000 barrels per day which is not enough to supply Eastern and Central Washington and many points east -- if it was their goal to supply Mountain and Mid-West States, the pipeline would be larger.

I believe that if the Cross Cascade Pipeline is built, Puget Sound refineries will supply products to Washington, parts of Eastern Oregon, Norther Idaho, Eastern Idaho, and small portions of Eastern Montana -- which is not significantly larger than the current service area by barge or truck.
V. MARKETING

This is the real issue -- not who is safer Tidewater or Olympic. Essentially this is a market share grab to determine who will supply petroleum products to Eastern and Central Washington.

The Cross Cascade Pipeline is opposed by several oil companies currently supplying Eastern and Central Washington including AMOCO, CONOCO, and Chevron. Of these three companies, only Chevron has refineries on the West Coast. These companies are afraid that ARCO, which is a major owner of the pipeline, is trying to displace other companies in Eastern Washington with a fully integrated operation. The independent service station operators are also concerned that ARCO will come in, lower the price, and put the competition out of business.

Affect on Price

Currently, gas is cheaper in Pasco than in Bellingham which shouldn't make sense because the majority of the gas sold in Pasco is refined in Puget Sound refineries shipped to Portland via tanker, barge, or pipeline and then shipped by barge to Pasco. The price is cheaper in Pasco because there are multiple sources of gasoline.

Supporters of the Cross Cascade Pipeline argue prices will drop in Pasco with the completion of the pipeline because it will be cheaper to ship the product to Pasco entirely by pipeline than the current multiple-mode transportation systems. Opponents of the pipeline believe the price will increase in Pasco because if the pipeline is built other competitors will likely go out of business and the pipeline will have a monopoly. The independent operators believe the price will initially drop until the company stations put the independents out of business and then the price will rise.
The independent operators believe the pipeline is simply a way for ARCO in particular, to take over the selling of gasoline in Eastern Washington with company stations and putting independent operators out of business. According to their trade association Automotive United Trades Organization (AUTO) in Pierce, King, and Snohomish Counties 15% of the gasoline stations are owned and operated by companies, 60% are owned by companies and leased to individuals to operate, and only 25% are privately owned and operated. In Eastern Washington 95% of the stations are privately owned and operated. Their concern is that ARCO will come in and lower the prices, put the competition out of business, and then raise prices. In documentation provided by AUTO provided from a 1990 report by the U.S. Energy Information Administration, ARCO was one of a group of seven companies that were charging less for gasoline in their company owned and operated stations for retail purchases than the prices they were charging independent wholesale dealers.

On the other hand ARCO argues that there are several reasons why the majority of the stations in the Puget Sound area are company owned. First, the land is more expensive and secondly, underground storage tanks are required by cities are more expensive to install and maintain. ARCO representatives say that independents tend to go where the operating costs are lower. According to ARCO officials they keep their profits stable year-around while independents do better when supply is good and bad when markets are tight.

The question as to whether lower prices by ARCO will put independents out of business is not supported by station pricing in King County. According to a random survey done over the course of the past several months, gasoline prices in King County are not as volatile as they once were. For example, several years ago, you would find four service stations at an intersection and all would charge the same price. However, today, the prices can vary
significantly. For example, on August 6, 1996 the price for unleaded regular at a Texaco station at 4th and Lander was $1.45.9 per gallon and the price at an ARCO station about 4 blocks north on 4th Avenue South was eleven cents cheaper. Moreover, the ARCO station did not have a long line of customers. During the past several months I consistently observed stations across the street or within a few blocks of each other with prices differing by three to ten cents with ARCO stations being, on average, consistently five to six cents lower. While the market may not be price sensitive in King County, consumers in Pasco may be more sensitive to price.

ARCO essentially has a strategy to fully integrate their company and provide other options for the gasoline purchasers such as their AM-PM Mini-Marts. Many believe ARCO's strategy is to break even on the gasoline and make money on the convenience store products.

The representatives of AMOCO, CONOCO, Chevron, and AUTO all indicated that if the Cross Cascade pipeline is built prices will increase in King County. According to AUTO, gasoline companies usually sell their excess products in their smaller markets to keep the price higher in their major markets. For example, the majority of the gasoline sold in Phoenix and Las Vegas is refined in Los Angeles. However, the price is lower in Las Vegas and Phoenix because they want to keep the price high in their major market -- Los Angeles.

According to AUTO, the Puget Sound refineries currently have essentially no place to dump their product. However, with the completion of the Cross Cascade Pipeline, the Puget Sound refineries will have a market to cheaply dump excess product and they will then be able to increase prices in King County.
As an insight into the marketing goal of the Cross Cascade pipeline to possibly dominate the markets in Eastern and Central Washington, a request to the Washington State Utilities and Transportation Commission by the operator of the pipeline requests that:

"in order to obtain guaranteed throughput commitments, Olympic is willing to establish and maintain in effect during the term of the agreement an incentive rate structure which will provide for a discount of the base rate that would otherwise be charged."

The question is, does a volume discount by the operators of the pipeline to their refining companies who own the refineries connected to the pipeline provide a better opportunity to control a new market?
VI. CROSS CASCADE PIPELINE

The Cross Cascade Pipeline will be owned and operated by the same owners and management team that own and operate the Olympic Pipeline. The new pipeline will be a 220-mile underground pipeline to deliver gasoline, diesel fuel and jet fuel from Puget Sound refineries to Central and Eastern Washington. The new pipeline will have terminals in Ellensburg and Pasco.

The new line would connect to the existing Olympic Pipeline just north of the King-Snohomish County border and would cross Snoqualmie Pass, follow the I-90 corridor across Kittitas County, cross the Columbia River and terminate in Pasco.42

The Cross Cascade Pipeline will use a 14-inch line from the Olympic Pipeline to a terminal in Kittitas County and then will continue as a 12-inch line to Pasco. The line will have an initial capacity of 60,000 barrels per day using three pump stations (one at the beginning, one at North Bend, and one at Stampede Pass). The capacity of the line could be increased to a maximum of 110,000 barrels per day with the addition of three additional pump stations (One it Kittitas County, one at the Columbia River, and one in Othello).43

Olympic has submitted an application for the Cross Cascade Pipeline to EFSEC and a decision will be made sometime in mid to late-1997.

The rates charged for shippers on the Cross Cascades Pipeline will be determined by the Washington State Utilities and Transportation Commission (UTC) because this is an intrastate pipeline. Normally, it is unlikely that there would be a UTC filing until sometime after the permit was approved and before completion. However, through the proposed pipeline's operating company -- Texaco -- a request for a tariff has been submitted to the UTC. According to
the UTC, the costs for the new pipeline cannot be paid by revenue from the existing pipeline. However, some overhead costs can be shared."
VII. ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC)

The final decision on approval of a pipeline is the governor. However, before the governor approves the pipeline, it must be approved by EFSEC.

Members of EFSEC

The members of EFSEC are the directors, administrators, or their designees of the following departments, agencies, or commissions:

- The Department of Ecology
- The Department of Fish and Wildlife
- The Parks and Recreation Commission
- The Department of Health
- The State Energy Office
- The Department of Trade and Economic Development
- The Utilities and Transportation Commission
- The Office of Financial Management
- The Department of Natural Resources
- The Department of Agriculture
- The Department of Transportation
- Other appropriate local governments

The other appropriate local governments is defined as any local government jurisdiction through which the pipeline is routed. While the state officials have the authority to vote on the entire project, local government representatives are only allowed to vote on issues pertaining to their jurisdiction. However, they can participate in all discussions. To participate in the EFSEC process, a local government must petition for intervention. EFSEC granted King County's, as well as other local government's, petition for intervention. However, there some technical problems with the approval which the county is confident will be worked out before the next EFSEC meeting. The one group that EFSEC limited their participation under their petition for intervention was Cascade Columbia Alliance which is the group opposed to the pipeline headed by Tim Zenk and Dave Bricklin. The Cascade Columbia Alliance has appealed the decision of the EFSEC board.
According to Allen Ficksdall with EFSEC, the EFSEC process will consider safety and design issues. There is some question if a risk analysis will be part of the EFSEC Environmental Impact Statement (EIS), but a risk analysis will required as part of the permit required by the U.S. Army Corps of Engineers under the Federal Clean Water Act. He does not believe there will be an analysis of the affect on prices.

During the EFSEC hearing, as a participant, King County's representative can bring expert witnesses and can question other expert witnesses. Essentially the EFSEC process has been described as a trial with many participants. While local governments can participate in the EFSEC process, the law specifically allows EFSEC to preempt local government laws and regulations.

Originally the schedule was to have the Draft EIS (DEIS) completed sometime this winter, hearings in early 1997, and a decision in the summer of 1997. However, the time line has slipped and the DEIS is now expected sometime in early 1997 and hearings mid-1997, with a decision in late 1997.

If EFSEC disapproves the petition, Olympic can ask for reconsideration. If EFSEC approves the petition, the permit is sent to the governor for signature. If the governor refuses to sign the permit, Olympic's can modify the project to meet the governor's objections and resubmit the application to EFSEC or can file a lawsuit in Thurston County.
VIII. KING COUNTY'S ROLE

The point person for King County is Randy Sandin with King County's Department of Development and Environmental Services (DDES). King County has no ordinances or regulations specifically for petroleum pipelines and King County is cannot impose regulations for a proposed pipeline once an application has been made to EFSEC.

Currently, King County is working with other affected counties to coordinate information and work together on common issues. The smaller counties are being represented by Dennis Reynolds with the firm Williams, Kastner, & Gibbs.

King County is currently trying to determine if the pipeline is consistent with King County's comprehensive plans and zoning requirements. The review of the EIS is ongoing and concurrent with land use consistency evaluations. The consistency evaluations are currently on hold pending resolution of reimbursements for costs by Olympic.

The next step would be adjudication hearings and conflict resolution where the county and Olympic would try to reach agreements. The final step is at the EFSEC level where the county can bring experts to testify and can question other witnesses.
IX. OTHER ISSUES

Double Wall Pipes

Opponents of the pipeline have argued that the new pipeline should be required to be double-wall pipes to prevent any spills. Supporters of double-wall pipes point to a double-wall pipe now in use to carry wastes at the Hanford Nuclear Reservation.

Olympic argues double-walls are not necessary and that a double-wall would inhibit the cathodic protection proposed to prevent corrosion. Olympic is also opposed to double-wall construction because it would substantially increase the costs.

Olympic’s arguments against double-wall construction and the difficulty in managing a cathodic protection system is supported by the EPA and that Olympic’s proposed monitoring is consistent with EPA requirements. Olympic’s arguments against double-wall’s is also supported by Santa Barbara County. Santa Barbara County has a number of pipelines crossing the county. Santa Barbara does not require double-wall pipelines for pipelines through the county. They believe the added protection is not worth the added cost. This is significant because the pipelines in Santa Barbara primarily transport high sulphur crude that is mixed with water from off-shore oil platforms. The resulting mixture is highly corrosive unlike refined products to be transported by the Cross Cascade Pipeline.

Hydro-Carbon Sensing Cables

Opponents of the pipeline argue that the hydrocarbon sensing cables should be buried along with the pipeline. These cables are designed to detect hydro-carbon liquids or vapors from a pipeline leak.
Santa Barbara County requires a leak detection system along an 8-mile portion of one of the pipelines that carries crude oil from Santa Barbara to Texas. The real reason for this requirement is that there are very expensive homes near this portion of the pipeline. The monitoring system has had numerous false alarms and when the section of the pipeline was unearthed, no leaks were found. The system also requires extensive maintenance which can lead to damage to the pipeline. Olympic also is concerned about false alarms and potential damage to the pipeline when it is unearthed.

Remote Leak Detection

The Cross Cascade Pipeline will use a Supervisory Control and Data Acquisition (SCADA) system to monitor pipeline leaks. Opponents argue that the SCADA system is primarily designed to allow operators to control movement of products through the pipeline efficiently and are not designed to detect leaks.

According to Olympic, their spill detection system can detect a spill in excess of 600 barrels per day in 15 minutes. Therefore, their system could detect a spill after only 263 gallons or 6.25 barrels had leaked from the pipeline. Should the leak be smaller than the level for monitoring, their inventory management system would detect a loss of 60 barrels from the system. Olympic also states that they are currently developing new software for their system to better manage inventory and thus identify small leaks.

Block Valve Operation

Opponents of the pipeline argue that block valves in sensitive or remote areas should be automatic valves that are designed to shut down without operator intervention when a pre-defined leaking condition is detected. Santa Barbara County has a similar requirement on pipelines in the county that require valves to "fail shut". Fail shut means that a valve needs continuous contact with
the operation center to stay open. Should the valve lose contact, it closes automatically.\textsuperscript{55}

Olympic responds that all of the block valves on the system will be remotely controlled from their operations center with a redundant communication system. Olympic argues against the "fail shut" approach because the pipeline could be operating perfectly for some reason not associated with the pipeline, the control center loses contact with a fail shut block valve and the valve shuts. The shutting of a valve while the pumps continue to operate could cause a rupture and a major spill. Olympic's policy when shutting down the system is to first shut down the pumps and then close the valves.\textsuperscript{55}

\textit{Block Valve Spacing}

There are no requirements regulating the distance between block valves. Opponents of the pipeline argue that block valves should be closely spaced, so should a leak occur, small segments of the pipeline would be isolated thus reducing the spill. According to opponents, a number of unnamed experts support block valves every four miles in populated areas and that valves be required on both sides of rivers or streams greater than 100 feet wide. Olympic argues that many block valves are not necessary and that the more valves you have in the system the greater the chance of a leak.

\textit{Check Valves}

Check valves are valves that only allow fluids to flow one way. Santa Barbara requires check valves on both sides of all rivers and stream crossings and at other site specific locations.\textsuperscript{57} Olympic has very few check valves in the new pipeline and those they have are located at pump stations. Olympic argues that a check valve will close automatically when pressure is reduced and thus may close during a drop in pressure due to operational actions -- not a leak. Should such a closure take place without a shutdown of the
pumps, a major rupture could occur.

**Stream Crossings**

The pipeline will cross several streams. Opponents of the pipeline argue that they should be required to drill under streams to avoid disruptions. Moreover, King County requires drilling for other types of development. Olympic is not planning to drill under streams.

**Wall Thickness**

Opponents of the pipeline argue that the pipeline should exceed the U.S. Department of Transportation (DOT) regulations for pipe thickness. The DOT regulations require 0.25 inches for 12-inch pipe up to 0.75 inches for 36-inch pipe. According to Olympic, the pipe thickness for the new pipeline will range from 0.281 to 0.312 inches.  

**Security**

The current Olympic Pipeline as well as the Cross Cascade pipeline has above ground facilities. Many of these facilities, such as block valves, are un-manned facilities. They have 9-foot fences with barbed wire to keep out unauthorized individuals. However, according to neighbors near the block valves adjacent to the Cedar River, children frequently climb the fence. Opponents argue there should be remote camera's or sensors.
X. CONCLUSION

Safety
Both Tidewater and Olympic are well run safe companies. Both have spill rates that are lower than other petroleum transporting companies. While Tidewater has never had a major spill (their largest spill was nowhere near being considered a major spill) Olympic has had nine major spills -- however their last major spill was six years ago. For the past ten years, where data is available for both companies, Olympic has spilled eight times more barrels than Tidewater per million barrels transported. Over the past five years 1990-1995, Tidewater has had a slightly higher spill rate, spilling three barrels for every two spilled by Olympic.

Table E -- Olympic's Major Spills
(Spills Greater Than 10,000 Gallons)

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Gallons Spilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-07-90</td>
<td>Woodinville Station</td>
<td>12,600</td>
</tr>
<tr>
<td>08-23-88</td>
<td>Allen Station</td>
<td>168,000</td>
</tr>
<tr>
<td>09-30-86</td>
<td>Renton (Cedar River Crossing)</td>
<td>84,000</td>
</tr>
<tr>
<td>07-17-86</td>
<td>Mile Post 114 (Kent Valey)</td>
<td>34,400</td>
</tr>
<tr>
<td>11-24-85</td>
<td>Sea-Tac Airport</td>
<td>21,000</td>
</tr>
<tr>
<td>08-23-85</td>
<td>Mile Post 46 (20-inch line)</td>
<td>31,080</td>
</tr>
<tr>
<td>08-14-83</td>
<td>Allen Station</td>
<td>42,798</td>
</tr>
<tr>
<td>03-13-79</td>
<td>?</td>
<td>71,400</td>
</tr>
<tr>
<td>08-08-75</td>
<td>Allen Station</td>
<td>23,940</td>
</tr>
</tbody>
</table>

Future Spills
If the Cross Cascade Pipeline is built it will likely have spills and Tidewater will likely have spills in the future too. However, under current management and operating procedures, I believe both companies will continue to have very low spill rates and it is
impossible to predict when, where, and how much either will spill.

**Supplying Eastern & Central Washington**

The real issue here is who will provide Eastern and Central Washington with petroleum. When Olympic began considering a cross-cascade pipeline the supply situation was much different than it is today. Olympic first began considering the new pipeline in early 1993. At the time Tidewater had not ordered their four double-hulled barges and their capacity was much lower, the amount shipped on the Chevron Pipeline from Salt Lake City was declining because reserves supplying Salt Lake City refineries was declining, and the Indian tribes in Montana would not going to renew their lease with the Yellowstone Pipeline so there would be an interruption of service and the possibility service to Spokane would be discontinued. However, today, the problem with the Yellowstone Pipeline has been worked out, Salt Lake City will have adequate supplies of crude, and Tidewater has expanded their barge fleet with double-hull barges. Combined, by the year 2000, the three present sources to Eastern and Central Washington can supply more than three times the present demand in Central and Eastern Washington. Moreover, demand in Eastern and Central Washington is projected to increase only slightly over the next 10-15 years.

If the pipeline is built, and Central and Eastern Washington become completely dependent on the pipeline for all it's supplies, a severe shortage could happen in the future if other shippers discontinue service to the area.

The Yellowstone Pipeline is a problem. Historically the spill rate has been nearly five times the spill rate of the Olympic Pipeline. In addition, because they are now shipping around the reservation by rail, the number of spills may likely increase due to additional handling of the product.
From a regional perspective, it may be more environmentally sound to build the Cross Cascade Pipeline to replace the Yellowstone Pipeline. However, the economics would not work, if the Cross Cascade Pipeline simply replaced the 25-30,000 barrels shipped daily on the Yellowstone. Many believe the Cascade Pipeline needs to ship at least 100,000 barrels per day to break even -- which is more than the present demand in Eastern and Central Washington.

**Business Aspects**

In an business perspective, the Cross Cascade Pipeline and Tidewater probably cannot both exist, because they both need to be operating at peak capacity to survive. If the pipeline is built, and Tidewater finds it is economically unfeasible to continue to ship petroleum it will cause significant economic problems for the company because one-third of their revenue is from petroleum shipments. Should Tidewater stop shipping petroleum there is likely no market for their double-hull petroleum barges because they cannot be used off-shore and they are too big for the Mississippi River system. If the pipeline is not built, Tidewater will likely see their revenues increase as demand for petroleum increase in Central and Eastern Washington.
XI. Recommendation

It is too early to make a decision on this project. Additional information and studies are needed. Specifically with regard to the EFSEC process I believe King County, in conjunction with other counties in Eastern and Central Washington should:

1. Make sure the EFSEC process includes a cost benefit analysis and risk analysis of various modes transporting petroleum products;

2. Make sure the EFSEC process includes an analysis of petroleum supply and demand and price implications throughout the State of Washington with and without the pipeline;

3. Hire Ed Wenk from the University of Washington to evaluate the EIS and other documents in respect to pipeline design, construction, quality control and other routine inspection and maintenance procedures, spill detection, and proposed operation procedures;

4. Hire Jim Crutchfield of the University of Washington and Natural Resource Consultants to evaluate the EIS in respect to the effect on fishery and wildlife habitat, the economic effect of spills by either Tidewater or the pipeline, the cost benefit analysis, and the risk analysis; and

5. Hire a petroleum marketing and supply/demand consultant to evaluate the EIS in respect to long range petroleum supply and demand as well as the affect on prices in the State of Washington with and without the pipeline.
In addition, on a regional basis, King County should be encouraging the State of Washington to work with the states of Idaho, Montana, and Oregon to develop a regional approach to petroleum transportation in the Northwest. On a regional basis the state and King County should be working to develop the safest, most cost effective, and the most efficient method of supplying petroleum to the region.
NOTES:
1. Tidewater Publication -- "Emergency Action Plan".
2. Conversation with Martin K. Pepper, Tidewater Barge Lines.
3. Tidewater data provided by Martin Pepper and Olympic data provide by Olympic.
5. Tidewater data provided by Martin Pepper. Date for rail, vessels, pipelines, and trucks from IMO.
8. Personal inspection of Tidewater by Stephen Finley.
9. Martin Pepper.
10. Frank Hopf, Vice President and General Manager, Olympic Pipeline Company.
11. Table 2.9-1 Petroleum Release History, Cross Cascade Pipeline, EFSEC Application 96-1.
15. Jerry Lynch.
16. EFSEC application, Page 2.9-4.
17. Jerry Lynch.
18. Interviews of residents by Stephen Finley.
20. Martin Pepper.
22. A. Horsfield, AMOCO, Salt Lake City, UT.
23. Frank Hopf.
25. Martin Pepper.
27. Martin Pepper.
32. Comments by AMOCO, CONOCO, and Chevron
33. Tim Hamilton, Executive Director, Automotive United Trades Organization.
34. Tim Zenk, the Rockey Company.
35. Tom Markin, Manager, Northwest External Affairs, ARCO.
36. Martin Pepper.
37. Tim Hamilton.
38. Tim Hamilton.
40. Tom Markin.
42. Olympic Pipeline Company publication, "Cross-Cascade Pipeline: An Overview."
43. Jerry Lynch.
44. Bob Colbo, UTC.
45. Mike Sinsky, Civil Division, King County Prosecutor's Office.

46. Randy Sandin, King county DDES.

47. Jerry Lynch.

48. Jeff Keeler, EPA.

49. Bill Douras, Santa Barbara County.

50. Bill Douras.

51. Jerry Lynch.

52. Jerry Lynch, Olympic Pipeline Company.

53. Jerry Lynch.

54. Bill Douras.

55. Jerry Lynch.

56. Jerry Lynch.

57. Bill Douras.

58. Joann Hamick, Consultant, Olympic Pipeline.
September 16, 1996

Frederick S. Adair, Chairman
Energy Facility Site Evaluation Council
P.O. Box 43172
Olympia, WA 98504-3172

Dear Mr. Adair:

RE: Cross Cascades Pipeline (EFSEC application 96-1)

I am writing concerning issues and studies that will be considered and required by the Washington State Energy Facility Site Evaluation Council (EFSEC) concerning the proposed Cross Cascades Pipeline (the pipeline) which is currently being considered by EFSEC.

My major concern is that EFSEC may be considering the application for the pipeline as an isolated project and EFSEC is not looking into the project from a state wide or regional perspective. I believe the decision whether to build the pipeline affects not only the counties through which the pipeline is built, but the entire state and region.

Therefore, I am requesting as part of the permitting process EFSEC include the following:

1. A cost benefit analysis of building the proposed pipeline as well as other methods of supplying refined petroleum products to Central and Eastern Washington;

2. A risk analysis of various modes transporting petroleum products to Central and Eastern Washington;

3. An analysis of future petroleum supply and demand and price implications throughout the State of Washington with or without the proposed pipeline;

4. Analysis of any anti-competitive or monopolistic situations that could arise with or without the proposed pipeline;

5. The affect the proposed pipeline may or may not have on independent petroleum wholesalers and dealers in Central and Eastern Washington; and
6. Coordination with the states of Idaho, Montana, and Oregon to develop a regional approach to petroleum transportation in the Northwest to determine which is the safest, most cost effective, most efficient, and reliable sources of refined petroleum products to the State of Washington and the region.

I am enclosing a copy of my preliminary staff report which discusses why these issues are important.

Thank you for considering this request. I am looking forward to working with you and other members of the EFSEC Board and staff on these issues.

Sincerely,

Cynthia Sullivan
Councilwoman, District Two
Metropolitan King County Council

CS'hz
Enclosure
EXECUTIVE SUMMARY OF THE CROSS CASCADE PIPELINE ANALYSIS

prepared by
KING COUNTY COUNCIL STAFF

ON TIDEWATER:

- Tidewater has an excellent safety record. Tidewater's and Olympic's spill rates are substantially lower than the average pipeline spill rate.

- The U.S. Coast Guard and Office of Marine Safety consider Tidewater an excellent company to work with and they have observed a higher level of safety and awareness than exhibited with other companies.

- Over the past 10½ years Tidewater's average spill rate was 0.9 barrels per million transported - one eighth of Olympic's 7.2 barrels per million.

ON OLYMPIC:

- Olympic's spill rate is better than the industry average.

- Since 1965, Olympic has had nine spills greater than 10,000 gallons.

- Olympic's existing pipeline to Portland is operating at maximum capacity.

ON SOURCES OF OIL FOR EASTERN WASHINGTON:

- The supply capacity into Eastern and Central Washington is about 96,000 barrels per day from refining centers in Montana, Utah, Puget Sound, and California.

- Currently, the supply exceeds demand.

- Projected supply capacity could go as high as 389,000 barrels per day without the Cross Cascades Pipeline.
ON ENVIRONMENTAL GROUPS:

- Environmentalists believe the Cross Cascades Pipeline will increase demand for foreign crude brought by foreign flag tankers. These concerns are not justified.

- The issue of Puget Sound refineries being the suppliers of petroleum products to points east of Pasco is not justified.

- The Cross Cascades Pipeline will supply products to a market not significantly larger than the current service area.

ON MARKETING:

- Essentially this is a "market share grab" to determine who will supply petroleum to Eastern and Central Washington.

- Refiners in Utah, California and Montana are concerned that ARCO - a major owner of the pipeline, will capture their markets in Eastern Washington.

- Independent service station operators in Eastern Washington are concerned that ARCO will put them out of business.

- The price of gas is relatively cheap in Pasco because there are multiple sources of supply. Prices could go up if the region became dependent on the Cross Cascades Pipeline.

- With the completion of the pipeline, the Puget Sound refineries (Arco, Texaco, Tosco, Shell) will have a market to dump excess product into and therefore be able to maintain higher prices in King County.

CONCLUSIONS:

- Both Olympic and Tidewater will continue to have very low spill rates.

- Demand in Eastern Washington is increasing only slightly.

- By the year 2000 the present sources of supply into Eastern Washington could meet three times the present demand.

- The Cross Cascades Pipeline will be uneconomical unless it succeeds in capturing all of the Eastern Washington market.

- The Eastern Washington market is not big enough to support both Tidewater and the Cross Cascades Pipeline.
ANALYSIS
OF
PROPOSED CROSS CASCADE PIPELINE
TIDEWATER BARGE LINES
AND
EASTERN WASHINGTON PETROLEUM
SUPPLY AND DEMAND

SEPTEMBER 10, 1996
I. Tidewater Barge Lines

History

Tidewater Barge Lines (Tidewater) was established in 1933 by Lew S. Russell, Sr. In 1942 Tidewater merged with Shaver to form Tidewater-Shaver Transportation Company. In 1960 Tidewater again became an independent company. Their corporate headquarters are in Vancouver, Washington. The current president and owner, Ray Mickey, began with Tidewater in 1951 as a deckhand and worked his way up to President and General Manager in 1977, and in 1983, purchased the company from the founders son. In 1987, Tidewater purchased Columbia Marine Lines from Crowley Maritime.

Tidewater currently operates 16 tugs and 110 barges and they carry about 80 percent of the commerce up and down the Columbia River system. Their petroleum shipments account for about one-third of Tidewater's revenues. Tidewater also has a subsidiary, Tidewater Environmental Services (TES) which was developed to clean-up oil spills on the Columbia River. Tidewater also owns their own shipyard and does all of their own maintenance on their vessels.

Tidewater currently has three double hull barges for transporting petroleum products on the river. They have one more under construction which will be delivered in March of 1997. With the delivery of the fourth barge, all petroleum products will be transported on double hull barges -- 18 years before double hulls are required by the Federal government.

Tidewater is the only barge company currently shipping petroleum products up the Columbia River from Portland. These products include gasoline, diesel fuel, home heating oil, and aviation fuel. Since 1986 the amount of petroleum products shipped by Tidewater has more than doubled from 7.8 million barrels per year in 1986 to 16.5 million barrels per year in 1995. (Please see chart #1)
Spill Rates

Tidewater has an excellent safety record. The National Transportation Safety Board (NTSB) recently completed a study of Colonial Pipeline Company (Colonial) and thirteen other unidentified refined product petroleum pipeline companies -- the companies are only identified as companies A through M (this report did not study barges, tankers, trucks, or rail transportation). In the NTSB report, rates are calculated in million of barrels spilled per million barrels transported in the years 1992, 1993, and 1994. In these three years, Tidewater's and Olympic Pipeline Company (Olympic) spill rates were substantially lower than the average spill rate for the 14 pipeline companies studied by the NTSB. In these three years, Tidewater's spill rates were substantially below the rates of the 14 pipeline companies (Please see chart #2).

Another measure of spill rate, is the number of major spills per million ton miles transported. A study conducted by the International Maritime Organization (IMO) with the cooperation of the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE), and the National Oceanic and Atmospheric Administration (NOAA) showed that railroads had the highest rate of spills, followed by pipelines, trucks, and vessels.  

The IMO study indicated that while the incident rates for major spills (spills greater than 10,000 gallons) for vessels decreased by 60% between 1988 and 1993 while the rates for pipelines and railroads increased significantly. During the six year period from 1988-1993 were data is available from Tidewater that corresponds to years contained in the IMO study, Tidewater's rate is zero (Please see Chart #3).
Chart 2 - Barrels Spilled Per Million Barrels Transported

- [ ] Tidewater
- [ ] Olympic
- [ ] NTGB Pipeline Average
Table A -- Major Spill Rates Per Billion Ton Miles Transported

<table>
<thead>
<tr>
<th>Year</th>
<th>Pipelines</th>
<th>Vessels</th>
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<th>Railroads</th>
<th>Trucks</th>
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</thead>
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<td>0.14</td>
<td>0.00</td>
</tr>
<tr>
<td>1991</td>
<td>0.10</td>
<td>0.04</td>
<td>0.00</td>
<td>0.20</td>
<td>0.00</td>
</tr>
<tr>
<td>1992</td>
<td>0.13</td>
<td>0.02</td>
<td>0.00</td>
<td>0.20</td>
<td>0.14</td>
</tr>
<tr>
<td>1993</td>
<td>0.13</td>
<td>0.02</td>
<td>0.00</td>
<td>0.49</td>
<td>0.03</td>
</tr>
<tr>
<td>6 Year Average</td>
<td>0.07</td>
<td>0.05</td>
<td>0.00</td>
<td>0.19</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Over the five year period where data is available from Tidewater, the incidents of major spills per billion ton miles was 40% higher for pipelines than for vessels. During this same period the most frequent spill incidents were for railroads. It is important to note that the IMO study was for all types of petroleum products including highly corrosive crude oil not only refined products as in the NTSB study.

Over the past ten-and-a-half years where comparable data is available from both Tidewater and Olympic, Tidewater's average spill rate in barrels spilled per million barrels transported of 0.9 barrels per million transported is one-eighth or 12.5% of Olympic's 7.2 barrels spilled per million barrels transported.

During this period, Olympic's largest spills were in 1986 when there were spills of 820 barrels and 2,000 barrels and another in 1988 when there was 4,000 barrels spilled. Combined these three spills account for approximately 92% of the petroleum products spilled by Olympic. Tidewater's largest spill was in 1993 when 78.5 barrels were spilled. This one spill accounts for approximately 70% of the petroleum products spilled by Tidewater.
Since 1990, the barrels of petroleum products spilled per million transported by both Tidewater and Olympic have been very low by industry standards (Please see chart #4).

Spill Prevention
As noted above Tidewater plans to ship all their petroleum products by double hull barge by March of 1997 -- eighteen years before mandated by the Federal government. The new Tidewater double hull barges are the largest inland double hull tank barges in the United States. They are 274 feet in length, 84 feet wide, and 18.5 feet deep. Each have the ability to carry 65,000 barrels of petroleum products in 12 tanks. The hull and tanks are one-half inch steel plate and the void (space between the tanks and the hull) is thirty-six inches which is 50% greater than the twenty-four inches required by the USCG. Each barge has a 20-foot container on board with booms and other oil spill recovery equipment. Each barge also has spill alarms, tank viewing ports, and other safety and spill monitoring equipment.

Tidewater also requires all of their personnel involved in the transportation of petroleum products to have a Grade "A" USCG Tankerman license which is tougher than the USCG manning requirements. Tidewater employees also required to receive OSHA training and participate in annual and random drills. Tidewater through (TES) has additional clean up equipment pre-positioned, and at their terminals, along the Snake & Columbia Rivers. Their response plan is designed to contain any spill within 12 hours. All of Tidewater's vessels have detailed reference manuals and check lists for loading and unloading products. Tidewater operational procedures also limit each tank to be only filled to 75% of capacity to reduce spills. In addition, Washington State Office of Marine Safety (OMS) require owners of vessels transporting petroleum products on Washington State Waters to have $500 million dollars in liability insurance.
Chart 4 - Barrels Spilled Per Million Transported
The USCG and the CMS consider Tidewater an excellent company to work with and they have observed a higher level of safety and awareness with Tidewater than exhibited with other companies.
II. OLYMPIC PIPELINE COMPANY

History
Olympic is a Renton, Washington based company that is incorporated in Delaware that has operated a 400 mile petroleum product pipelines from Bellingham to Portland. They currently operate a 16-inch pipeline from refineries near Bellingham to a site near Burlington and another 16-inch line from refineries in Anacortes to Burlington. From Olympic's Allen Station in Burlington they operate a 16-inch line and a parallel 20-inch line to their terminal in Renton. From Renton they operate a 14-inch line to Portland. They also operate lines from their Renton terminal to terminals at Harbor Island and Sea-Tac Airport. With the exception of the 20-inch line between Allen Station and Renton which was built in the 1970's, the 16 and 14-inch lines were built in 1965.

The pipeline was originally owned by Texaco, Mobil, and Shell. Mobil sold their interest to British Petroleum who then sold to GATX. Shell sold their interest to ARCO. Currently Texaco and ARCO both own 37 1/2% and GATX owns 25%. During the entire period of operation, Texaco has been the operating company."

Spills
Since 1965, Olympic has had nine major spills (spills greater than 10,000 gallons). Olympic spill rate is better than the industry average. Olympic was not able to provide data indicating the number of spills per billion ton miles for any years corresponding to the years of the IMO study, however, Olympic was able to provide complete spill: and volume data since 1965.

When compared to the 14 companies in the NTSB report Olympic had a very low spill rate for the years 1992-1994. Olympic had the 4th lowest rate in 1992, the second lowest rate in 1993, and 6th lowest rate in 1994. In 1992, Olympic's spill rate was 8.9% of the
"industry" average, 0.5% of the "industry" average in 1993, and 2.7% of the "industry" average in 1994 (Please see chart #5). On average for the three years of the NTSB study, Olympic had the lowest average spill rate of 0.64 barrels spilled per million barrels transported or 4.23% of the industry average (Please see chart #6).

Table B -- Barrels Spilled Per Million Barrels Transported

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
<th>1994</th>
<th>3-Year Average</th>
</tr>
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<tbody>
<tr>
<td>Colonial</td>
<td>19.6</td>
<td>14.3</td>
<td>44.1</td>
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<tr>
<td>A</td>
<td>14.5</td>
<td>2.5</td>
<td>0.3</td>
<td>5.8</td>
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<tr>
<td>B</td>
<td>21.5</td>
<td>32.4</td>
<td>130.3</td>
<td>61.4</td>
</tr>
<tr>
<td>C</td>
<td>3.9</td>
<td>3.4</td>
<td>1.0</td>
<td>2.8</td>
</tr>
<tr>
<td>D</td>
<td>1.6</td>
<td>0.0</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>E</td>
<td>39.8</td>
<td>2.6</td>
<td>5.1</td>
<td>15.8</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>0.8</td>
<td>2.2</td>
<td>1.0</td>
</tr>
<tr>
<td>G</td>
<td>0.7</td>
<td>6.2</td>
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</tr>
<tr>
<td>H</td>
<td>0.0</td>
<td>2.7</td>
<td>0.0</td>
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</tr>
<tr>
<td>I</td>
<td>8.6</td>
<td>5.5</td>
<td>2.9</td>
<td>5.6</td>
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<tr>
<td>J</td>
<td>3.9</td>
<td>8.8</td>
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<tr>
<td>K</td>
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<td>M</td>
<td>63.8</td>
<td>10.6</td>
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<td>26.0</td>
</tr>
<tr>
<td>Olympic</td>
<td>1.3</td>
<td>0.1</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>14 Company Average</td>
<td>15.1</td>
<td>10.8</td>
<td>19.5</td>
<td>15.13</td>
</tr>
</tbody>
</table>

Over the past 21 years, Olympic has spilled an average of 5.66 barrels for every million transported. This is about 37.4% of the "industry" average 15.13 barrels spilled per million barrels transported for the 14 pipeline companies in the NTSB study.
Chart 5 - Barrels Spilled Per Million Barrels Transported
Chart 6 - 1992-1994 Average Barrels Spilled Per Million Barrels Transported

Companies

- Colonial
- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- Olympic
most years in the 1965-1986 period, Olympic's spill rate has been significantly lower than the 15.13 "industry" average determined from the 1992-1994 NTSB study, however, there have been several years when the spill rate has been higher than the "industry" average (please see chart #7).

**Volume**

According to Olympic, the current pipeline is running at capacity south of Renton where the current 20-inch line terminates. The amount of product transported by Olympic has grown steadily from about 24.7 million barrels in 1966 to about 111.8 million barrels in 1995 (please see chart #6).

**Spill Detection and Prevention**

According to Olympic, their spill detection system can detect a spill in excess of 600 barrels per day in 15 minutes. Therefore, their system could detect a spill after only 263 gallons or 6.25 barrels had leaked from the pipeline. Should the leak be smaller than the level for monitoring, their inventory management system would detect a loss of 60 barrels from the system.

One of the major causes of spills from pipelines is third party damage -- an unauthorized individual digging around a pipeline. According to Olympic officials, they over-fly their line at least once a week looking for signs of leaks and possible 3rd party intervention. Olympic's operating procedures require, that a written report be made of any potential third party problems and what actions were taken.

The right-of-way used by Olympic is well marked and residents and businesses living along the right-of-way are informed on a regular basis to avoid digging near the pipeline and how to report leaks via a 24-hour emergency phone number that does accept collect calls.
Olympic also uses a so-called "Smart PIG" to search for leaks and flaws in the pipeline wall. These smart pig's are electronic devices that are run the length of the pipeline to search for corrosion and pipeline wall weaknesses. Olympic uses a smart pig every four to five years which is consistent with industry standards for refined product pipelines.

Spill Clean-up
According to statistics provided to the Washington State Energy Facility Site Evaluation Council (EFSEC) since 1965, Olympic has spilled 12,625 barrels and has recovered 7,853 barrels or 62% of the barrels spilled. Olympic has pre-positioned clean up supplies should any incident occur.

Olympic's Major Failure
In September of 1986 Olympic had a major spill where their pipeline crosses the Maple Valley Highway and the Cedar River several miles east of downtown Renton. According to information provided to EFSEC the spill was at-least 2,000 barrels and an unknown quality was recovered. Olympic officials admit that the spill went undetected for several months. According to residents of the neighborhood, they sensed there was a leak from the pipeline and Olympic failed to act after repeated calls to their emergency spill line. According to Olympic officials, while the spill did occur, they cleaned up the spill, compensated the residents for their inconvenience, built a park, and Olympic is considered good neighbors by the residents.

In personal interviews with the residents, I found a somewhat different story. While the new residents -- those who moved in after the spill -- generally believe that Olympic is a good neighbor, several of them did not know there was a petroleum pipeline there, signs of leaks, or how to report a leak.
In general, the residents who were there when the spill occurred, do not consider Olympic a good neighbor. I was informed that Olympic did not take their calls notifying them of a leak seriously and were only compensated after protracted and contentious legal battles. In general, the long time residents do not consider Olympic a good neighbor. However, most believe they were finally compensated fairly for their inconvenience due to the spill.

**Insurance**

Unlike vessels pipelines there are no liability requirements. Olympic carries $25 million dollars of liability insurance with a $1 million dollar deductible. Should, the damage exceed $25 million, the damages the companies owning the pipeline have a contract to pay damages. In their previous spills, they have never exceeded their deductible, however, in today's dollars they may have exceeded their deductible for the Renton spill.

Over the past 21 years, Olympic has spilled an average of 5.66 barrels for every million transported. This is about 37.4% of the "industry" average 15.13 barrels spilled per million barrels transported for the 14 pipeline companies in the NTSB study. For most years in the 1965-1996 period, Olympic's spill rate has been significantly lower than the 15.13 "industry" average determined from the 1992-1994 NTSB study, however, there have been several years when the spill rate has been higher than the "industry" average (please see chart #7).
III. EASTERN & CENTRAL WASHINGTON SUPPLY & DEMAND

Sources of Refined Petroleum Products

Currently Eastern and Central Washington receive petroleum products from four sources, barges from Portland, the Yellowstone pipeline from Billings, Montana to Spokane, the Chevron pipeline from Salt Lake City, and trucks from Western Washington. The barges from Portland get their product from refineries in Puget Sound and California.

The largest source for Eastern and Central Washington is barges which ship approximately 45,000 barrels per day.\textsuperscript{11} The second largest source is the Yellowstone pipeline which ships about 27,000 barrels per day.\textsuperscript{12} The third largest source is the Chevron pipeline which ships about 15,000 barrels per day.\textsuperscript{13} The fourth source, trucks, ship about 9,000 barrels per day with the majority going over Interstate 90.\textsuperscript{14} Combined the supply in Eastern and Central Washington is about 96,000 barrels per day. (please see chart #9).

The refineries in Salt Lake City and Billings have seen their supply of crude oil drop over the past several years as the fields in Utah, Colorado, Wyoming, and Montana have declined. Currently, the Billings refineries receive 65% of their crude oil from Canada, 10% from Montana, and 25% from Wyoming. However, the amounts of crude from Canada will increase when the new "Express Pipeline" from Canada is completed in one and half to two years. The Express pipeline will initially provide 172,000 barrels of crude and will increase to 285,000 barrels of crude per day in two to three years. Refineries in both Billings and Salt Lake City will have access to the additional Canadian crude supply and will have no shortage. When the express pipeline is completed, and the reroute of the Yellowstone pipeline is completed, Conoco will be able to ship 160,000 barrels per day to Spokane.
Chart 9 - E. & C. Washington Petroleum Source

- 47% Barges
- 28% Yellowstone Pipeline
- 10% Chevron Pipeline
- 9% Trucks
The Tidewater barges on the Columbia River receive their product primarily from the Olympic pipeline, barges or tankers from Puget Sound refineries, or tankers from California refineries. Occasionally, they receive refined products from foreign countries on foreign flag tankers.

**Yellowstone Pipeline Interruption**

Service on the Yellowstone pipeline was recently interrupted when an Indian tribe refused to allow the pipeline to continue operating 16.5 miles of the pipeline through the Flathead reservation. Yellowstone offered the tribe a rental of $1.3 million dollars per year for 20 years to continue operating the pipeline through the reservation. When the tribe rejected the offer, Yellowstone built terminals on both sides of the reservation and began trucking product around the reservation. They now ship between the two terminals via rail cars. In addition, CONOCO has recently opened an office in Missoula, Montana, to begin negotiations with landowners adjacent to the reservation to reroute the pipeline around the reservation.

**Excess Capacity & Supply to Eastern and Central Washington**

Currently the supply exceeds the demand to Eastern and Central Washington. The Yellowstone pipeline could immediately increase the amount of product delivered to Spokane without any difficulty if the demand existed.¹ In addition, Tidewater could also increase their deliveries to their terminal in Pasco by 50% almost immediately if the demand existed.² With the completion of the initial phase of the Express Pipeline by 1998, the Yellowstone could increase its supply to Spokane to 100,000 barrels per day and to 160,000 barrels per day in the year 2000 if their reroute is completed and the Express Pipeline is completed on schedule.³ Moreover, the Chevron Pipeline could increase supplies to Pasco by 100% by the year 2000. Finally, Tidewater could increase their deliveries to 80,000 barrels per day without ordering any new
barges. If they demand was there, they could add a barge and increase deliveries by 20,000 barrels per day. The lock system on the Columbia River is currently only operating at 25% capacity. With the completion of the Cross Cascade Pipeline, the available supply to Central and Eastern Washington will increase three-fold by the year 2000.

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>1998(^1)</th>
<th>2000(^1)</th>
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<tr>
<td>Barges</td>
<td>45,000</td>
<td>80,000</td>
<td>80,000</td>
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<tr>
<td>Yellowstone Pipeline</td>
<td>27,000</td>
<td>100,000</td>
<td>160,000</td>
</tr>
<tr>
<td>Chevron Pipeline</td>
<td>15,000</td>
<td>20,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Cross Cascade Pipeline</td>
<td>0</td>
<td>60,000</td>
<td>110,000</td>
</tr>
<tr>
<td>Trucks</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>96,000</td>
<td>269,000</td>
<td>389,000</td>
</tr>
</tbody>
</table>

\(^1\)Assumes completion of 1st phase (three pump stations) of the Cross Cascade Pipeline, completion of the first phase of the Express Pipeline from Canada providing crude to Billings and Salt Lake City refineries, and reroute of Yellowstone Pipeline around the Indian reservation.

\(^2\)Assumes completion of 2nd phase of Cross Cascade pipeline (3 additional pump stations and completion of second phase of Express Pipeline.)
IV. ENVIRONMENTAL GROUPS

The Cross Cascade Pipeline is opposed by the Washington Environmental Council, the Friends of the Earth, and by environmental consultant Fred Fellman. Their objections are primarily based on their belief that the pipeline is being designed to tie in with existing pipelines from Spokane to Billings and from Pasco to Salt Lake City to enable Puget Sound refineries to be able to supply refined products to Rocky-Mountain and Mid-West states.

While these environmentalists are opposed to construction and operation of the Cross Cascades Pipeline, they are not supportive barging the product up the Columbia River either. For example, in the resolution opposing the Cross Cascades Pipeline the Washington Environmental Council (WEC) states:

"[the WEC] Supports the strongest possible environmental safeguards for any petroleum transportation and distribution system, and does not in any way endorse or support barging or trucking of petroleum as superior in safety or environmental protection." (emphasis added)

Environmentalists are also concerned that with the lifting of the ban on the export of Alaskan North Slope (ANS) crude and the construction of the pipeline, the chances of a spill on Puget Sound will increase. Until the ban was lifted all ANS crude was shipped on U.S. flag tankers to ports in Puget Sound, California, and to East and Gulf Coast ports via either the Panama Canal or the Trans-Panama Pipeline. The result of the ban was a glut of crude oil on the West Coast and higher shipping costs to Gulf and East Coast ports. However, now that the ban is lifted ANS crude can now be exported, on U.S. flag vessels, to Japan and other foreign countries. Environmentalists believe that removal of the ban on the export of ANS crude will create a shortage of crude for West Coast refineries and the result will be a huge increase in foreign flag tankers to replace the lost ANS crude. The Environmentalists
also believe the Cross Cascades Pipeline will increase the demand for foreign crude brought by foreign flag tankers.

However, these concerns are not justified. According to the Washington State OMS only a few foreign flag tankers currently call on Puget Sound refineries. While many foreign flag ships have a poor safety reputation, the OMS requirement of $500 million in liability eliminates all but the safest tankers from entering Puget Sound. Unsafe tankers will be unable to obtain insurance because no insurance company would be willing to expose themselves to a potential spill by an unsafe tanker. According to OMS the few foreign flag tankers that currently call on Puget Sound or Columbia River ports are "first class" operations.

While there has been a glut of ANS crude on the West Coast, USCG, DOB, and OMS officials believe the ANS crude most likely to be exported is oil that was transported to the East and Gulf coasts via the Panama Canal and the Puget Sound, and other West Coast, refineries will continue to receive the same amount of ANS as they have in the past. This is likely to occur because ANS crude exported has a competitive advantage over ANS crude destined for East and Gulf Coast ports. However, the same advantage that some foreign ports have over Gulf and East Coast ports does not apply to Puget Sound ports. In addition, Puget Sound refineries have access, via an existing pipeline, to Canadian crude that can replace any reduction in ANS oil. Moreover, because Puget Sound refineries currently export about 150,000 barrels of refined products daily to Oregon, California, Alaska, and other ports, 110,000 barrels could be shipped daily through the Cross Cascade Pipeline without and requirement for additional crude oil to Puget Sound refineries.5

The opposition to the Cross Cascade Pipeline by environmentalists is quite interesting when you take a close look at how petroleum is
now transported to Eastern Washington. Over a quarter of Eastern Washington's petroleum products are transported by the Yellowstone Pipeline (See Chart 9) and the Yellowstone Pipeline is the best source to provide additional products to Eastern Washington (See table C) in the future if the Cross Cascade Pipeline is not built. Because the Yellowstone Pipeline has a significantly worse spill record than Olympic, it would be logical the environmentalists would support an alternative to the Yellowstone Pipeline. According to the Missoulian (Montana):

"since 1954, Yellowstone has spilled more than 3.5 million gallons of gasoline onto the ground, into the ground water, and into Montana streams."

According to the figures reported by the Missoulian and spill and shipment amounts provided by Olympic, the Yellowstone Pipeline, on average spills almost five times more per year than Olympic while they ship substantially less product.

<table>
<thead>
<tr>
<th></th>
<th>Years of Operation</th>
<th>Total Number of Barrels Spilled</th>
<th>Average Number of Barrels Spilled Per Year</th>
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<tbody>
<tr>
<td>Olympic Pipeline</td>
<td>31</td>
<td>12,625</td>
<td>407</td>
</tr>
<tr>
<td>Yellowstone Pipeline</td>
<td>42</td>
<td>83,333</td>
<td>1,984</td>
</tr>
</tbody>
</table>

The other issue of Puget Sound refineries being the supplier of petroleum products to points east is not justified either for several reasons. First, to enable a pipeline to be reversed, all of the customers would need to approve the request and AMOCO would reject any proposal to reverse the Chevron pipeline from Salt Lake City. AMOCO would be opposed to any reversals because they, unlike Chevron, do not have West Coast refineries or crude reserves and would therefore have no way to ship products to their current customers in Washington and Idaho. Second, once the Express Pipeline is completed, there will be an oil glut in the Mountain
and Plains States, therefore, it is unlikely that Puget Sound refineries could compete with Salt Lake City, Billings, and Denver refineries. And, third, the Cross Cascade Pipeline only has a maximum capacity of 110,000 barrels per day which is not enough to supply Eastern and Central Washington and many points east -- if it was their goal to supply Mountain and Mid-West States, the pipeline would be larger.

I believe that if the Cross Cascade Pipeline is built, Puget Sound refineries will supply products to Washington, parts of Eastern Oregon, Northern Idaho, Eastern Idaho, and small portions of Eastern Montana -- which is not significantly larger than the current service area by barge or truck.
V. MARKETING

This is the real issue -- not who is safer Tidewater or Olympic. Essentially this is a market share grab to determine who will supply petroleum products to Eastern and Central Washington.

The Cross Cascade Pipeline is opposed by several oil companies currently supplying Eastern and Central Washington including AMOCO, CONOCO, and Chevron. Of these three companies, only Chevron has refineries on the West Coast. These companies are afraid that ARCO, which is a major owner of the pipeline, is trying to displace other companies in Eastern Washington with a fully integrated operation. The independent service station operators are also concerned that ARCO will come in, lower the price, and put the competition out of business.

Affect on Price

Currently, gas is cheaper in Pasco than in Bellingham which shouldn't make sense because the a majority of the gas sold in Pasco is refined in Puget Sound refineries shipped to Portland via tanker, barge, or pipeline and then shipped by barge to Pasco. The price is cheaper in Pasco because there are multiple sources of gasoline.

Supporters of the Cross Cascade Pipeline argue prices will drop in Pasco with the completion of the pipeline because it will be cheaper to ship the product to Pasco entirely by pipeline than the current multiple-mode transportation systems. Opponents of the pipeline believe the price will increase in Pasco because if the pipeline is built other competitors will likely go out of business and the pipeline will have a monopoly. The independent operators believe the price will initially drop until the company stations put the independents out of business and then the price will rise.
The independent operators believe the pipeline is simply a way for ARCO in particular, to take over the selling of gasoline in Eastern Washington with company stations and putting independent operators out of business. According to their trade association Automotive United Trades Organization (AUTO) in Pierce, King, and Snohomish Counties 15% of the gasoline stations are owned and operated by companies, 60% are owned by companies and leased to individuals to operate, and only 25% are privately owned and operated. In Eastern Washington 95% of the stations are privately owned and operated. Their concern is that ARCO will come in and lower the prices, put the competition out of business, and then raise prices. In documentation provided by AUTO provided from a 1990 report by the U.S. Energy Information Administration, ARCO was one of a group of seven companies that were charging less for gasoline in their company owned and operated stations for retail purchases than the prices they were charging independent wholesale dealers.

On the other hand ARCO argues that there are several reasons why the majority of the stations in the Puget Sound area are company owned. First, the land is more expensive and secondly, underground storage tanks are required by cities are more expensive to install and maintain. ARCO representatives say that independents tend to go where the operating costs are lower. According to ARCO officials they keep their profits stable year-around while independents do better when supply is good and bad when markets are tight.

The question as to whether lower prices by ARCO will put independents out of business is not supported by station pricing in King County. According to a random survey done over the course of the past several months, gasoline prices in King County are not as volatile as they once were. For example, several years ago, you would find four service stations at an intersection and all would charge the same price. However, today, the prices can vary
significantly. For example, on August 6, 1996 the price for unleaded regular at a Texaco station at 4th and Lander was $1.45 per gallon and the price at an ARCO station about 4 blocks north on 4th Avenue South was eleven cents cheaper. Moreover, the ARCO station did not have a long line of customers. During the past several months I consistently observed stations across the street or within a few blocks of each other with prices differing by three to ten cents with ARCO stations being, on average, consistently five to six cents lower. While the market may not be price sensitive in King County, consumers in Pasco may be more sensitive to price.

ARCO essentially has a strategy to fully integrate their company and provide other options for the gasoline purchasers such as their AM-PM Mini-Marts. Many believe ARCO's strategy is to break even on the gasoline and make money on the convenience store products.

The representatives of AMOCO, CONOCO, Chevron, and AUTO all indicated that if the Cross Cascade pipeline is built prices will increase in King County. According to AUTO, gasoline companies usually sell their excess products in their smaller markets to keep the price higher in their major markets. For example, the majority of the gasoline sold in Phoenix and Las Vegas is refined in Los Angeles. However, the price is lower in Las Vegas and Phoenix because they want to keep the price high in their major market -- Los Angeles.

According to AUTO, the Puget Sound refineries currently have essentially no place to dump their product. However, with the completion of the Cross Cascade Pipeline, the Puget Sound refineries will have a market to cheaply dump excess product and they will then be able to increase prices in King County.
As an insight into the marketing goal of the Cross Cascade pipeline to possibly dominate the markets in Eastern and Central Washington a request to the Washington State Utilities and Transportation Commission by the operator of the pipeline requests that:

"in order to obtain guaranteed throughput commitments, Olympic is willing to establish and maintain in effect during the term of the agreement an incentive rate structure which will provide for a discount of the base rate that would otherwise be charged."

The question is, does a volume discount by the operators of the pipeline to their refining companies who own the refineries connected to the pipeline provide a better opportunity to control a new market?
VI. CROSS CASCADE PIPELINE

The Cross Cascade Pipeline will be owned and operated by the same owners and management team that own and operate the Olympic Pipeline. The new pipeline will be a 220-mile underground pipeline to deliver gasoline, diesel fuel and jet fuel from Puget Sound refineries to Central and Eastern Washington. The new pipeline will have terminals in Ellensburg and Pasco.

The new line would connect to the existing Olympic Pipeline just north of the King–Snohomish County border and would cross Snoqualmie Pass, follow the I-90 corridor across Kittitas County, cross the Columbia River and terminate in Pasco. 1

The Cross Cascade Pipeline will use a 14-inch line from the Olympic Pipeline to a terminal in Kittitas County and then will continue as a 12-inch line to Pasco. The line will have an initial capacity of 60,000 barrels per day using three pump stations (one at the beginning, one at North Bend, and one at Stampede Pass). The capacity of the line could be increased to a maximum of 110,000 barrels per day with the addition of three additional pump stations (one in Kittitas County, one at the Columbia River, and one in Othello). 1

Olympic has submitted an application for the Cross Cascade Pipeline to EFSEC and a decision will be made sometime in mid to late-1997.

The rates charged for shippers on the Cross Cascade Pipeline will be determined by the Washington State Utilities and Transportation Commission (UTC) because this is an intrastate pipeline. Normally, it is unlikely that there would be a UTC filing until sometime after the permit was approved and before completion. However, through the proposed pipeline's operating company -- Texaco -- a request for a tariff has been submitted to the UTC. According to
the UTC, the costs for the new pipeline cannot be paid by revenue from the existing pipeline. However, some overhead costs can be shared."
VII. ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC)

The final decision on approval of a pipeline is the governor. However, before the governor approves the pipeline, it must be approved by EFSEC.

Members of EFSEC

The members of EFSEC are the directors, administrators, or their designees of the following departments, agencies, or commissions:

- The Department of Ecology
- The Department of Fish and Wildlife
- The Parks and Recreation Commission
- The Department of Health
- The State Energy Office
- The Department of Trade and Economic Development
- The Utilities and Transportation Commission
- The Office of Financial Management
- The Department of Natural Resources
- The Department of Agriculture
- The Department of Transportation
- Other appropriate local governments

The other appropriate local governments is defined as any local government jurisdiction through which the pipeline is routed. While the state officials have the authority to vote on the entire project, local government representatives are only allowed to vote on issues pertaining to their jurisdiction. However, they can participate in all discussions. To participate in the EFSEC process, a local government must petition for intervention. EFSEC granted King County's, as well as other local government's, petition for intervention. However, there some technical problems with the approval which the county is confident will be worked out before the next EFSEC meeting. The one group that EFSEC limited their participation under their petition for intervention was Cascade Columbia Alliance which is the group opposed to the pipeline headed by Tim Znek and Dave Bricklin. The Cascade Columbia Alliance has appealed the decision of the EFSEC board.
According to Allen Ficksdall with EFSEC, the EFSEC process will consider safety and design issues. There is some question if a risk analysis will be part of the EFSEC Environmental Impact Statement (EIS), but a risk analysis will required as part of the permit required by the U.S. Army Corps of Engineers under the Federal Clean Water Act. He does not believe there will be an analysis of the effect on prices.

During the EFSEC hearing, as a participant, King County's representative can bring expert witnesses and can question other expert witnesses. Essentially the EFSEC process has been described as a trial with many participants. While local governments can participate in the EFSEC process, the law specifically allows EFSEC to preempt local government laws and regulations.

Originally the schedule was to have the Draft EIS (DEIS) completed sometime this winter, hearings in early 1997, and a decision in the summer of 1997. However, the time line has slipped and the DEIS is now expected sometime in early 1997 and hearings mid-1997, with a decision in late 1997.

If EFSEC disapproves the petition, Olympic can ask for reconsideration. If EFSEC approves the petition, the permit is sent to the governor for signature. If the governor refuses to sign the permit, Olympic's can modify the project to meet the governor's objections, and resubmit the application to EFSEC or can file a lawsuit in Thurston County.
VIII. KING COUNTY'S ROLE

The point person for King County is Randy Sandin with King County's Department of Development and Environmental Services (DDES). King County has no ordinances or regulations specifically for petroleum pipelines and King County is cannot impose regulations for a proposed pipeline once an application has been made to EFSEC.

Currently, King County is working with other affected counties to coordinate information and work together on common issues. The smaller counties are being represented by Dennis Reynolds with the firm Williams, Kastner, & Gibbs.

King County is currently trying to determine if the pipeline is consistent with King County's comprehensive plans and zoning requirements. The review of the EIS is ongoing and concurrent with land use consistency evaluations. The consistency evaluations are currently on hold pending resolution of reimbursements for costs by Olympic.

The next step would be adjudication hearings and conflict resolution where the county and Olympic would try to reach agreements. The final step is at the EFSEC level where the county can bring experts to testify and can question other witnesses.
IX. OTHER ISSUES

Double Wall Pipes

Opponents of the pipeline have argued that the new pipeline should be required to be double-wall pipes to prevent any spills. Supporters of double-wall pipes point to a double-wall pipe now in use to carry wastes at the Hanford Nuclear Reservation.

Olympic argues double-walls are not necessary and that a double-wall would inhibit the cathodic protection proposed to prevent corrosion. Olympic is also opposed to double-wall construction because it would substantially increase the costs.17

Olympic's arguments against double-wall construction and the difficulty in managing a cathodic protection system is supported by the EPA and that Olympic's proposed monitoring is consistent with EPA requirements.18 Olympic's arguments against double-walls is also supported by Santa Barbara County. Santa Barbara County has a number of pipelines crossing the county. Santa Barbara does not require double-wall pipelines for pipelines through the county. They believe the added protection is not worth the added cost. This is significant because the pipelines in Santa Barbara primarily transport high sulphur crude that is mixed with water from off-shore oil platforms. The resulting mixture is highly corrosive unlike refined products to be transported by the Cross Cascade Pipeline.19

Hydro-Carbon Sensing Cables

Opponents of the pipeline argue that the hydrocarbon sensing cables should be buried along with the pipeline. These cables are designed to detect hydro-carbon liquids or vapors from a pipeline leak.
Santa Barbara County requires a leak detection system along an 8-mile portion of one of the pipelines that carries crude oil from Santa Barbara to Texas. The real reason for this requirement is that there are very expensive homes near this portion of the pipeline. The monitoring system has had numerous false alarms and when the section of the pipeline was unearthed, no leaks were found. The system also requires extensive maintenance which can lead to damage to the pipeline. Olympic also is concerned about false alarms and potential damage to the pipeline when it is unearthed.

Remote Leak Detection

The Cross Cascade Pipeline will use a Supervisory Control and Data Acquisition (SCADA) system to monitor pipeline leaks. Opponents argue that the SCADA system is primarily designed to allow operators to control movement of products through the pipeline efficiently and are not designed to detect leaks.

According to Olympic, their spill detection system can detect a spill in excess of 600 barrels per day in 15 minutes. Therefore, their system could detect a spill after only 263 gallons or 6.25 barrels had leaked from the pipeline. Should the leak be smaller than the level for monitoring, their inventory management system would detect a loss of 60 barrels from the system. Olympic also states that they are currently developing new software for their system to better manage inventory and thus identify small leaks.

Block Valve Operation

Opponents of the pipeline argue that block valves in sensitive or remote areas should be automatic valves that are designed to shut down without operator intervention when a pre-defined leaking condition is detected. Santa Barbara County has a similar requirement on pipelines in the county that require valves to "fail shut". Fail shut means that a valve needs continuous contact with
the operation center to stay open. Should the valve lose contact, it closes automatically.\textsuperscript{16}

Olympic responds that all of the block valves on the system will be remotely controlled from their operations center with a redundant communication system. Olympic argues against the "fail shut" approach because the pipeline could be operating perfectly for some reason not associated with the pipeline, the control center loses contact with a fail shut block valve and the valve shuts. The shutting of a valve while the pumps continue to operate could cause a rupture and a major spill. Olympic's policy when shutting down the system is to first shut down the pumps and then close the valves.\textsuperscript{17}

\textit{Block Valve Spacing}

There are no requirements regulating the distance between block valves. Opponents of the pipeline argue that block valves should be closely spaced, so should a leak occur, small segments of the pipeline would be isolated thus reducing the spill. According to opponents, a number of unnamed experts support block valves every four miles in populated areas and that valves be required on both sides of rivers or streams greater than 100 feet wide. Olympic argues that many block valves are not necessary and that the more valves you have in the system the greater the chance of a leak.\textsuperscript{17}

\textit{Check Valves}

Check valves are valves that only allow fluids to flow one way. Santa Barbara requires check valves on both sides of all rivers and stream crossings and at other site specific locations.\textsuperscript{17} Olympic has very few check valves in the new pipeline and those they have are located at pump stations. Olympic argues that a check valve will close automatically when pressure is reduced and thus may close during a drop in pressure due to operational actions -- not a leak. Should such a closure take place without a shutdown of the
pumps, a major rupture could occur.

Stream Crossings
The pipeline will cross several streams. Opponents of the pipeline argue that they should be required to drill under streams to avoid disruptions. Moreover, King County requires drilling for other types of development. Olympic is not planning to drill under streams.

Wall Thickness
Opponents of the pipeline argue that the pipeline should exceed the U.S. Department of Transportation (DOT) regulations for pipe thickness. The DOT regulations require 0.25 inches for 12-inch pipe up to 0.75 inches for 36-inch pipe. According to Olympic, the pipe thickness for the new pipeline will range from 0.281 to 0.312 inches.\(^\text{18}\)

Security
The current Olympic Pipeline as well as the Cross Cascade pipeline has above ground facilities. Many of these facilities, such as block valves, are un-manned facilities. They have 9-foot fences with barbed wire to keep out unauthorized individuals. However, according to neighbors near the block valves adjacent to the Cedar River, children frequently climb the fence. Opponents argue there should be remote camera's or sensors.
X. CONCLUSION

Safety

Both Tidewater and Olympic are well run safe companies. Both have spill rates that are lower than other petroleum transporting companies. While Tidewater has never had a major spill (their largest spill was nowhere near being considered a major spill), Olympic has had nine major spills—however their last major spill was six years ago. For the past ten years, where data is available for both companies, Olympic has spilled eight times more barrels than Tidewater per million barrels transported. Over the past five years 1990-1995, Tidewater has had a slightly higher spill rate, spilling three barrels for every two spilled by Olympic.

Table E - Olympic's Major Spills
(Spills Greater Than 10,000 Gallons)

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Gallons Spilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-07-90</td>
<td>Woodinville Station</td>
<td>12,600</td>
</tr>
<tr>
<td>08-23-88</td>
<td>Allen Station</td>
<td>168,000</td>
</tr>
<tr>
<td>09-30-86</td>
<td>Renton (Cedar River Crossing)</td>
<td>84,000</td>
</tr>
<tr>
<td>07-17-86</td>
<td>Mile Post 114 (Kent Valley)</td>
<td>34,400</td>
</tr>
<tr>
<td>11-24-85</td>
<td>Sea-Tac Airport</td>
<td>21,000</td>
</tr>
<tr>
<td>'08-23-85</td>
<td>Mile Post 46 (20-inch line)</td>
<td>31,060</td>
</tr>
<tr>
<td>08-14-83</td>
<td>Allen Station</td>
<td>42,798</td>
</tr>
<tr>
<td>03-13-79</td>
<td>?</td>
<td>71,400</td>
</tr>
<tr>
<td>08-08-75</td>
<td>Allen Station</td>
<td>23,940</td>
</tr>
</tbody>
</table>

Future Spills

If the Cross Cascade Pipeline is built it will likely have spills and Tidewater will likely have spills in the future too. However, under current management and operating procedures, I believe both companies will continue to have very low spill rates and it is
impossible to predict when, where, and how much either will spill.

**Supplying Eastern & Central Washington**

The real issue here is who will provide Eastern and Central Washington with petroleum. When Olympic began considering a cross-cascade pipeline the supply situation was much different than it is today. Olympic first began considering the new pipeline in early 1993. At the time Tidewater had not ordered their four double-hulled barges and their capacity was much lower, the amount shipped on the Chevron Pipeline from Salt Lake City was declining because reserves supplying Salt Lake City refineries was declining, and the Indian tribes in Montana would was not going to renew their lease with the Yellowstone Pipeline so there would be an interruption of service and the possibility service to Spokane would be discontinued. However, today, the problem with the Yellowstone Pipeline has been worked out, Salt Lake City will have adequate supplies of crude, and Tidewater has expanded their barge fleet with double-hull barges. Combined, by the year 2000, the there present sources to Eastern and Central Washington can supply more than three times the present demand in Central and Eastern Washington. Moreover, demand in Eastern and Central Washington is projected to increase only slightly over the next 10-15 years.

If the pipeline is built, and Central and Eastern Washington become completely dependent on the pipeline for all it's supplies, a severe shortage could happen in the future if other shippers discontinue service to the area.

The Yellowstone Pipeline is a problem. Historically the spill rate has been nearly five times the spill rate of the Olympic Pipeline. In addition, because they are now shipping around the reservation by rail, the number of spills may likely increase due to additional handling of the product.
From a regional perspective, it may be more environmentally sound to build the Cross Cascade Pipeline to replace the Yellowstone Pipeline. However, the economics would not work, if the Cross Cascade Pipeline simply replaced the 25-30,000 barrels shipped daily on the Yellowstone. Many believe the Cascade Pipeline needs to ship at least 100,000 barrels per day to break even -- which is more than the present demand in Eastern and Central Washington.

Business Aspects

In an business perspective, the Cross Cascade Pipeline and Tidewater probably cannot both exist, because they both need to be operating at peak capacity to survive. If the pipeline is built, and Tidewater finds it is economically unfeasible to continue to ship petroleum it will cause significant economic problems for the company because one-third of their revenue is from petroleum shipments. Should Tidewater stop shipping petroleum there is likely no market for their double-hull petroleum barges because they cannot be used off-shore and they are too big for the Mississippi River system. If the pipeline is not built, Tidewater will likely see their revenues increase as demand for petroleum increase in Central and Eastern Washington.
XI. Recommendation

It is too early to make a decision on this project. Additional information and studies are needed. Specifically with regard to the EFSEC process I believe King County, in conjunction with other counties in Eastern and Central Washington should:

1. Make sure the EFSEC process includes a cost benefit analysis and risk analysis of various modes transporting petroleum products;

2. Make sure the EFSEC process includes an analysis of petroleum supply and demand and price implications throughout the State of Washington with and without the pipeline;

3. Hire Ed Wenk from the University of Washington to evaluate the EIS and other documents in respect to pipeline design, construction, quality control and other routine inspection and maintenance procedures, spill detection, and proposed operation procedures;

4. Hire Jim Crutchfield of the University of Washington and Natural Resource Consultants to evaluate the EIS in respect to the effect on fishery and wildlife habitat, the economic effect of spills by either Tidewater or the pipeline, the cost benefit analysis, and the risk analysis; and

5. Hire a petroleum marketing and supply/demand consultant to evaluate the EIS in respect to long range petroleum supply and demand as well as the affect on prices in the State of Washington with and without the pipeline.
In addition, on a regional basis, King County should be encouraging the State of Washington to work with the states of Idaho, Montana, and Oregon to develop a regional approach to petroleum transportation in the Northwest. On a regional basis, the state and King County should be working to develop the safest, most cost effective, and the most efficient method of supplying petroleum to the region.
NOTES:
1. Tidewater Publication -- "Emergency Action Plan".
2. Conversation with Martin K. Pepper, Tidewater Barge Lines.
3. Tidewater data provided by Martin Pepper and Olympic data provided by Olympic.
5. Tidewater data provided by Martin Pepper. Date for rail, vessels, pipelines, and trucks from IMO.
8. Personal inspection of Tidewater by Stephen Finley.
9. Martin Pepper.
10. Frank Hopf, Vice President and General Manager, Olympic Pipeline Company.
11. Table 2.9-1 Petroleum Release History, Cross Cascade Pipeline, EFSEC Application 96-1.
15. Jerry Lynch.
16. EFSEC application, Page 2.9-4.
17. Jerry Lynch.
18. Interviews of residents by Stephen Finley.
20. Martin Pepper.
22. A. Horsfield, AMDCO, Salt Lake City, UT.
23. Frank Hopf.
25. Martin Pepper.
27. Martin Pepper.
32. Comments by AMDCO, CONOCO, and Chevron
33. Tim Hamilton, Executive Director, Automotive United Trades Organization.
34. Tim Zenk, the Rockey Company.
35. Tom Markin, Manager, Northwest External Affairs, ARCO.
36. Martin Pepper.
37. Tim Hamilton.
38. Tim Hamilton.
40. Tom Markin.
42. Olympic Pipeline Company publication, "Cross-Cascade Pipeline: An Overview."
43. Jerry Lynch.
44. Bob Colbo, UTC.
45. Mike Sinsky, Civil Division, King County Prosecutor's Office.
46. Randy Sandin, King County DDES.
47. Jerry Lynch.
48. Jeff Keeler, EPA.
49. Bill Douras, Santa Barbara County.
50. Bill Douras.
51. Jerry Lynch.
52. Jerry Lynch, Olympic Pipeline Company.
53. Jerry Lynch.
54. Bill Douras.
55. Jerry Lynch.
56. Jerry Lynch.
57. Bill Douras.
58. Joann Hamick, Consultant, Olympic Pipeline.
6. Coordination with the states of Idaho, Montana, and Oregon to develop a regional approach to petroleum transportation in the Northwest to determine which is the safest, most cost effective, most efficient, and reliable sources of refined petroleum products to the State of Washington and the region.

I am enclosing a copy of my preliminary staff report which discusses why these issues are important.

Thank you for considering this request. I am looking forward to working with you and other members of the EFSEC Board and staff on these issues.

Sincerely,

Cynthia Sullivan
Councilwoman, District Two
Metropolitan King County Council

CS\hz
Enclosure
September 16, 1996

Frederick S. Adair, Chairman
Energy Facility Site Evaluation Council
P.O. Box 43172
Olympia, WA 98504-3172

Dear Mr. Adair:

RE: Cross Cascades Pipeline (EFSEC application 96-1)

I am writing concerning issues and studies that will be considered and required by the Washington State Energy Facility Site Evaluation Council (EFSEC) concerning the proposed Cross Cascades Pipeline (the pipeline) which is currently being considered by EFSEC.

My major concern is that EFSEC may be considering the application for the pipeline as an isolated project and EFSEC is not looking into the project from a state wide or regional perspective. I believe the decision whether to build the pipeline affects not only the counties through which the pipeline is built, but the entire state and region.

Therefore, I am requesting as part of the permitting process EFSEC include the following:

1. A cost benefit analysis of building the proposed pipeline as well as other methods of supplying refined petroleum products to Central and Eastern Washington;

2. A risk analysis of various modes transporting petroleum products to Central and Eastern Washington;

3. An analysis of future petroleum supply and demand and price implications throughout the State of Washington with or without the proposed pipeline;

4. Analysis of any anti-competitive or monopolistic situations that could arise with or without the proposed pipeline;

5. The affect the proposed pipeline may or may not have on independent petroleum wholesalers and dealers in Central and Eastern Washington; and

Room 1220, King County Courthouse, 518 Third Avenue, Seattle, WA 98104-3272
(206) 296-1002 TTY/TDD (206) 296-1024 FAX (206) 296-0198
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